ANALOGIES OF PSYCHOLOGY

Michael McLane
## Table of Contents

<table>
<thead>
<tr>
<th>Chapter 14: History of Psychology pgs. 1-28</th>
<th>Chapter 1: Research Methods pgs. 29-59</th>
<th>Chapter 2: Biological Psychology pgs. 60-104</th>
<th>Chapter 3: Developmental Psychology pgs. 105-152</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1: pgs. 10-18</td>
<td>Section 1: pgs. 39-47</td>
<td>Section 1: pgs. 73-81</td>
<td>Section 1: pgs. 120-129</td>
</tr>
<tr>
<td>Section 2: pgs. 19-24</td>
<td>Section 2: pgs. 48-53</td>
<td>Section 2: pgs. 82-90</td>
<td>Section 2: pgs. 130-139</td>
</tr>
<tr>
<td>Review: pg. 25-28</td>
<td>Review: pgs. 54-59</td>
<td>Section 3: pgs. 91-99</td>
<td>Section 3: pgs. 140-146</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review: pgs. 100-102</td>
<td>Review: pgs. 147-152</td>
</tr>
</tbody>
</table>

**Midterm #1**: pgs. 153-169

<table>
<thead>
<tr>
<th>Chapter 4: Cognition pgs. 170-230</th>
<th>Chapter 9: Testing &amp; Individual Differences pgs. 231-258</th>
<th>Chapter 5: Motivation, Emotion, &amp; Stress pgs. 259-312</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1: pgs. 189-196</td>
<td>Section 1: pgs. 240-245</td>
<td>Section 1: pgs. 274-280</td>
</tr>
<tr>
<td>Section 2: pgs. 197-205</td>
<td>Section 2: pgs. 246-254</td>
<td>Section 2: pgs. 281-289</td>
</tr>
<tr>
<td>Section 4: pgs. 216-224</td>
<td></td>
<td>Section 4: pgs. 297-306</td>
</tr>
</tbody>
</table>

**Midterm #2**: pgs. 313-332

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History of Psychology

1. What are the two components of the definition of psychology?
   
   A. Identify the two roots for the definition of psychology?

2. Who believed that the mind and body are separate; supported the nature side of the argument?
   
   A. How did Aristotle disagree with Socrates and Plato?

   B. Who stated, “that the mind is but a white paper that we write experiences on?”

   1. Which argument did this support?

   C. Who mediated and said the mind and body do interact and what his approach called?

3. Define Nature:
   
   A. Define Nurture:

   *Read the following passage: Highlight the part of the passage that specifically indicates the nature component and highlight in another color the section that assumes a nurture justification.*

   Richard comes from a very talented athletic family. His father and mother were great athletes and it seems as though Richard has inherited their talents. Mary, on the other hand, showed not athletic talent early in life but over time has worked very hard and thus became a great tennis players.

4. Which term refers to the premise that science should be based on the idea that knowledge should come from direct experience or observation?

   A. What did this idea separate psychology from?
Chapter 14  Analogies of Psychology

Contributions of Wilhelm Wundt

5. How did Wilhelm Wundt separate psychology from philosophy?
   A. What was the name of the book that helped to explain this notion?
   B. What was Wundt’s educational background?
   C. In what year and where did Wundt begin lay the foundation for the birth place of psychology?
   D. Define introspection:

School of Structuralism

6. Who was a student of Wilhelm Wundt’s and initiated the school of Structuralism?
   A. Why is the school considered important?
   B. What was the rationale to the school of structuralism?
   C. What was a problem with the methods they used to study conscious experience?

Gestalt Psychology

7. Who studied how we perceive or organize mental processes?
   A. How did the Gestalts disagree with the Structuralists?
   B. What did they believe about perception?

William James and the School of Functionalism

8. Where did William James study and what was his educational background?
   A. What was the title of his book that helped to popularize psychology in America?
B. Define James’s school of Functionalism:

C. How did Charles Darwin influence the school of Functionalism?

D. Structuralism implemented introspection; what did the Functionalism rely on?

Read the following passage highlight in one color the section that supports Structuralism and in another color the section that indicates a Functionalism argument.

Jenny has been discussing her relationship with her friends and she believes that there is something missing from her relationship. Her friends inquire what and Jenny responds that we talk and have fun but in the end a certain part to a healthy relationship is missing; like I can’t trust him. Her friends add you have to remember he has been through a lot the last few months and to remember how much he has overcome and how he has adapted to his new living arrangements.

**Legacy of William James**

9. Identify some of the achievements of G. Stanley Hall.

10. Why should Mary Whiton Calkins be upset and disappointed with the field of psychology?

   A. What were some of her accomplishments later in career?

11. How was Margaret Floy Washburn treated differently than Mary Whiton Calkins?

   A. How did she influence the school of behaviorism?
Sigmund Freud

12. How did Freud believe personality and behavior; normal and abnormal could be explained?

A. Define the unconscious:

B. How can the unconscious be accessed?

C. What did Freud’s study of the unconscious lead to?

D. Identify the name of Freud’s viewpoint that all behavior can be traced to the unconscious and early childhood experiences?

John B. Watson and Behaviorism

13. In the early 1900s how did the study of psychology shift?

A. Define overt behavior:

B. Whose work did the Behaviorist based their work on?

C. Who in American championed the ideas of Behaviorism and what did he focus on?

D. What was B.F. Skinner’s role in furthering the ideas of Behaviorism?

Carl Rogers and Abraham Maslow the Humanistic Approach

14. When did the Humanistic approach emerge? And what is it referred to?

A. What was the focus of the Humanistic approach?
B. What did Carl Rogers and Maslow believe?

C. From working with Freud, how did Rogers disagree with him concerning their work?
D. How did Rogers differ from the Behaviorists?

E. What did Abraham Maslow support?

Read the following passage and highlight the wording that supports A. the psychodynamic perspective, B. the Behaviorists point of view, and C. the Humanistic point of view.

Lucy has been experiencing bouts of anxiety on various occasions. Her one friend believes that this anxiety stems from a traumatic experience she encountered as a little girl. On the other hand, some think that Lucy has learned this anxiety tendencies from observing her older sister face situations with similar anxiety reactions. While another friend believes that she believes in herself and her potential she can overcome these anxious moments.

**Psychological Perspectives**

15. What is a psychological perspective?

A. Identify the buzz words for the following psychological perspectives:
   a. Biological:
   b. Behavioral-genetics:
   c. Psychodynamic:
   d. Behaviorism:
   e. Humanistic:
   f. Cognitive:
   g. Cross-cultural:
   h. Evolutionary:
Different area and Specializations in Psychology

16. What is the main difference between basic research and applied research?

A. Which type of psychologists examines how people change over their lifetime?

B. Which type of psychologists would be interested in improving people’s health, for example in stressful situations?

C. Which type of psychologists looks at maximizing the workplace and helping people work better at their job through finding methods that help them work better with technology and human factors?

D. What is the difference between a clinical psychologist and a psychiatrist?

E. What is psychometrics?

F. What is the main initiative of community psychologists?

Read the following passage identify and highlight the parts that would describe someone who is A. health psychologists, B. an industrial-organizational psychologist, C. a psychiatrist, and D. a community psychologists.

Larry has been studying the effects of stress and how it affects a person’s immune system.

Mitchel does consulting for a firm that helps employees feel better about the work they do at their job. Suzanne has a medical degree that allows her to treat people with disorders that require medication. Every weekend Jenny sets up rallies and tents in impoverished areas that ensure residents are getting the proper care they need.
## Chapter Summation “Buzz” Word(s)

<table>
<thead>
<tr>
<th>Term</th>
<th>“Buzz word(s)”</th>
<th>Term</th>
<th>“Buzz word(s)”</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Locke</td>
<td>Tabula rasa, blank slate</td>
<td>Rene Descartes</td>
<td>Interactive dualism</td>
</tr>
<tr>
<td>Nature</td>
<td>Genetics, natural</td>
<td>Nurture</td>
<td>Environment, work, learn</td>
</tr>
<tr>
<td>Wilhelm Wundt</td>
<td>Experimental, Germany</td>
<td>Structuralism</td>
<td>Parts, Titchener</td>
</tr>
<tr>
<td>Introspection</td>
<td>Inward, unreliable</td>
<td>William James</td>
<td>American, Functionalism</td>
</tr>
<tr>
<td>Functionalism</td>
<td>Adapts, functions</td>
<td>Natural selection</td>
<td>Darwin, survival, nature, instincts</td>
</tr>
<tr>
<td>G. Stanley Hall</td>
<td>First Ph.D., president APA</td>
<td>Mary Whiton Calkins</td>
<td>No Ph.D. woman</td>
</tr>
<tr>
<td>Margaret Floy Washburn</td>
<td>Ph. D. first woman</td>
<td>Sigmund Freud</td>
<td>Unconscious, early childhood</td>
</tr>
<tr>
<td>Psychodynamic</td>
<td>Perspective, Freud, unconscious</td>
<td>Psychoanalysis</td>
<td>Treatment, unconscious</td>
</tr>
<tr>
<td>Behaviorism</td>
<td>Overt, observable behavior</td>
<td>John B. Watson</td>
<td>American Behaviorist</td>
</tr>
<tr>
<td>Humanistic perspective</td>
<td>Free will, human potential</td>
<td>Carl Rogers</td>
<td>Humanistic, self-worth</td>
</tr>
<tr>
<td>Abraham Maslow</td>
<td>Self-actualization-potential</td>
<td>Cognitive perspective</td>
<td>Thinking, remembering</td>
</tr>
<tr>
<td>Biological perspective</td>
<td>Brain, nervous system</td>
<td>Behavioral-genetics</td>
<td>Nature vs. nurture</td>
</tr>
<tr>
<td>Evolutionary</td>
<td>Darwin, survive, mating, instincts</td>
<td>Community psychologists</td>
<td>Need, impoverished</td>
</tr>
<tr>
<td>Industrial-organizational psychologist</td>
<td>Workplace, job satisfaction</td>
<td>Psychiatrists</td>
<td>Medical degree, prescriptions</td>
</tr>
</tbody>
</table>
1. Believed in interactive dualism, that the mind and body are different but do interact and influence each other.
   A) Socrates  
   B) Aristotle  
   C) Rene Descartes  
   D) Wilhelm Wundt  
   E) William James

2. ______________________ was a school of psychology that was based in America, which focused on how organisms adapt and function.

3. Nature refers to genetic background and nurture refers to how the environment influences the development of an organism.
   A) True  
   B) False

4. ______________________ is the belief that knowledge comes from experiences; either direct observation or experimentation.

5. An area of psychology founded by John B. Watson, which focuses on the process of learning through rewards, consequences, and observational learning.
   A) Empiricism  
   B) Behaviorism  
   C) Structuralism  
   D) Interactive dualism  
   E) Humanistic

6. A perspective of psychology that studies the role of nature vs. nurture.
   A) Humanistic  
   B) Biological  
   C) Cognitive  
   D) Behavior-genetics  
   E) Psychodynamic

7. Carl Rogers and Abraham Maslow were supporters of the Evolutionary perspective.
   A) True  
   B) False

8. A perspective of psychology that focuses on the role of the brain, nervous system, and endocrine system.
   A) Biological  
   B) Cognitive  
   C) Psychodynamic  
   D) Humanistic  
   E) Behavioral

9. Was considered the father of psychology through his implementation of experimental design thus separating psychology from philosophy.

10. Psychology originated from philosophy and physiology.
     A) True  
     B) False
History of Psychology

1. Who believed in dualism, that the mind and body are separate through ideas being innate or a person being born with? Socrates and Plato
   
a. Who believed that the mind was connected to the body and that ideas came from experience? Aristotle
   
b. Rene Descartes believed that the mind and body are separate entities, but do interact to produce conscious experiences, which is referred to as Interactive Dualism

2. The modern debate of are we products of heredity or products of our environment is referred to as the nature vs. nurture/ nature meaning genetics and nurture meaning environment.
   
a. If a person was born with an addiction to alcohol this would support which side of the debate? Nature
   
b. If a person drank alcohol with his buddies every night and as a result developed an addiction to alcohol this would then support which side of the debate? Nurture

3. Who was considered one of the founders of modern science and believed that research should be based on experimental design and experience? Francis Bacon
   
a. According to John Locke, science should be based on knowledge that comes from experience and observation referred to as empiricism rather than intuition and speculation
   
b. According to Locke, the mind was a blank slate on which people “wrote” their experiences as they lived them referred to as ________________

Contribution of Wilhelm Wundt

4. Who was a German physiologist, credited as the founder of modern psychology as he was one of the first researchers to apply laboratory techniques that helped psychology separate from philosophy in 1879 through his opening of the first psychology laboratory in Leipzig, Germany?
   
a. What technique did Wilhelm Wundt use to look inward into a person’s mind where he observed and measured people’s conscious experience to the presentation of stimuli?
   
b. What was the name of Wundt’s book, which suggested psychology should be separated from philosophy? Principles of Physiological Psychology
School of Structuralism

5. Which Wilhelm Wundt student started the school of structuralism? Edward Titchener

a. A school of thought that was based on the idea that conscious experiences could be broken down into structures or parts was called ____________________________

b. What problems did the technique of introspection present? Introspection did not prove reliable—subjects reported different responses to the same stimulus, could not be used with children or animals

William James and the School of Functionalism

6. William James began his career as a physiology teacher at Harvard University, but later concentrated on aspects of psychology. What was the name of James’s influential psychology book that helped to popularize psychology in America?

Principles of Psychology

a. James’s ideas and beliefs were important to the formulation of a new school of thought called ____________________________

7. The study of how an organism functions and adapts to its environment was studied in the school of Functionalism. This school’s emphasis on observation techniques was different than the school of structuralism, which relied on introspection that turned out to be unreliable because subjects often reported different perceptions (did not take into consideration people’s moods and mentally challenged people did not understand what they looked at.)

a. Functionalism relied on naturalistic observation and could be applied to several areas of interest: school, work, family

Legacy of William James

8. Which William James student became the first person in the United States to earn a Ph.D. in psychology, initiate the first psychological journal—American Journal of Psychology, and started the American Psychology Association?

G. Stanley Hall

a. Which other James student was denied her Ph.D. in psychology, even though she did finish all of the requirements, but later become the first woman president of the APA?

b. Which Edward Titchener student actually became the first woman to earn her Ph.D. in psychology, and later become the second president of the APA?
**Sigmund Freud**

9. As new ideas challenged the schools of structuralism and functionalism, who believed that personality and behavior could be explained through the role of the unconscious - the part of person that he or she is unaware of, but affects personality behavior?

   a. Freud’s theories led to the development of **psychoanalysis**, which studied the origins and influences of personality, mental disorders, and the treatment of disorders.

**John B. Watson**

10. Behaviorism dismissed the role and study of consciousness (structuralism and Freud) but instead focused on overt behavior - behavior that could be observed and objectively measured. Whose work with the digestive system of dogs and later development of classical conditioning helped lead to the development of behaviorism?

   Ivan Pavlov

   a. Who, in America, extended the ideas of Ivan Pavlov, and focused on how behavior developed by behaviors that could be modified through environmental stimuli?

   b. Who agreed with Watson that behavior should be studied overtly, and also that reinforcement and punishment could affect a person’s motivation and behavior?

   B.F. Skinner

**Carl Rogers and Abraham Maslow**

11. Behaviorism and psychoanalysis dominated psychology during the early 1900s, but what new school of thought emerged in the 1950s, referred to as the “third force of psychology,” and believed that not all human behavior and mental processes could be explained by associations, rewards and punishments, or unconscious conflicts?

   a. Who influenced the development of the humanistic thought?

   b. **Carl Rogers** developed his theory of personality development through his work with his patients, which led him to disagree with Freud’s viewpoints of the role of the unconscious, and emphasize more of conscious experiences such as a person’s unique potential and psychological growth. As a result, he focused instead on how self-determination and free will affect a person.

   a. Which Humanistic psychologist developed a theory of motivation that underlined psychological growth through a person’s pursuit of self-actualization or self mastery?
1. Which of the following statement best describes empiricism? *RC: E for evidence E for experience*
   A) Research that is based on speculation and opinions.
   B) Research that draws upon replication rather than retention.
   C) Research that is based on knowledge and experience through observation.
   D) Research that is based on what other researchers have speculated.
   E) Research that makes use of pseudoscientific facts

2. Who was credited with separating psychology from philosophy through setting up an experimental design in Germany? *RC: Look for a German name*
   A) William James
   B) Mary Whiton Calkins
   C) Edward Titchener
   D) Wilhelm Wundt
   E) Sigmund Freud

3. Which of the following was one of the first psychological techniques to be used to study mental processes; but let to be an unreliable measure? *RC: Remember in means to look inward*
   A) Introspection
   B) Lesioning
   C) Masking
   D) Empiricism
   E) Inquiring

4. Who was responsible for initiating the field and study of Behaviorism in America? *RC: remember the B stands for Behaviorism*
   A) Wilhelm Wundt
   B) Sigmund Freud
   C) William James
   D) Ivan Pavlov
   E) John B. Watson

5. Who was denied a Ph.D. in psychology because of her gender even though she completed the requirements? *RC: Remember "Whi didn’t I get my Ph.D.!"
   A) Margaret Washburn
   B) Anne Frank
   C) Mary Whiton Calkins
   D) Anna Freud
   E) Betsy Ross
<table>
<thead>
<tr>
<th>Key Terms</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology</td>
<td>The scientific study of mental processes and behavior</td>
<td>Psychology's roots are from philosophy and physiology</td>
</tr>
<tr>
<td>Science</td>
<td>The utilization of systematic methods to study and conclude behavior and phenomenon</td>
<td>What separated psychology from philosophy - scientific proof rather than just ideals</td>
</tr>
<tr>
<td>Behavior</td>
<td>Information that can be directly observed</td>
<td>Overt behavior is behavior that can be measured and observed</td>
</tr>
<tr>
<td>Mental processes</td>
<td>Thoughts, feelings, and motivations that cannot be directly observed</td>
<td>What you CANT observe/ psychology started out just as the study of mental processes</td>
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<tr>
<td>Plato and Socrates</td>
<td>Supported dualism belief mind and body are separate and distinct</td>
<td>Led to the nature vs. nurture debate</td>
</tr>
<tr>
<td>Aristotle</td>
<td>Believed that the mind and body are same</td>
<td></td>
</tr>
<tr>
<td>Nature vs. Nurture</td>
<td>Nature refers to genetics and nurture refers to environment</td>
<td>Nature= NATURAL Behaviors did not have to learn NURTURE stands for U R a product of what happens to you in the environment</td>
</tr>
<tr>
<td>Rene Descartes</td>
<td>Believed in “interactive dualism” that the mind and body are separate but interact to produce conscious experiences</td>
<td>Nature and nurture are responsible for who you are and what you do</td>
</tr>
<tr>
<td>John Locke</td>
<td>Supported “tabula rasa” the notion that the mind is but a white paper on which people add experiences</td>
<td>Supported nurture side of the argument- a blank book that you are born with and each day fills up the pages</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>Thinking that is not limited to speculation or assumptions, but the consideration of all factors</td>
<td>Backbone for scientific thought</td>
</tr>
<tr>
<td>Empirical data</td>
<td>Belief data come from direct observation or experimentation</td>
<td>You don't believe your friends until provide you PROOF</td>
</tr>
<tr>
<td>Wilhelm Wundt</td>
<td>Considered the “father of psychology” credited with opening first psychology laboratory in Leipzig, Germany in 1879, authoring <em>Principles of Physiologically Psychology</em>, and separate philosophy from psychology</td>
<td>Separated psychology from philosophy through providing EMPIRICAL EVIDENCE through his EXPERIMENTATION of reaction time to sensory stimuli</td>
</tr>
<tr>
<td>Edward Titchener</td>
<td>A student of Wundt, initiated the school of Structuralism</td>
<td></td>
</tr>
<tr>
<td>Structuralism</td>
<td>An early school of psychology that stressed conscious experiences could be broken into parts or structures</td>
<td>A good day can be broken down into happy emotions, interpretation, people/ similar to PIECES of a puzzle</td>
</tr>
<tr>
<td><strong>Introspection</strong></td>
<td>A technique used by structuralists to look inward and study the elements of consciousness</td>
<td>Was not reliable because each day participants saw the stimuli different because each day they felt different which affected what they observed</td>
</tr>
<tr>
<td><strong>William James</strong></td>
<td>Credited with “father of American Psychology,” wrote the book, <em>Principles of Psychology</em>, and influenced the ideals of the school of Functionalism</td>
<td>Think of “Jamestown” as the first American colony and William James the first American psychologist</td>
</tr>
<tr>
<td><strong>Functionalism</strong></td>
<td>An early American school of psychology that focused on how organisms function and adapt to their environment</td>
<td>Americans have always emphasized what you DO or FUNCTION rather than what you KNOW or HOW you know it- Structuralists’ point of view</td>
</tr>
<tr>
<td><strong>Natural selection</strong></td>
<td>Charles Darwin’s belief that nature selects organisms that are best suited to survive in a particular environment</td>
<td>We are in a place for a reason</td>
</tr>
<tr>
<td><strong>G. Stanley Hall</strong></td>
<td>A student of William James, he was the first American to earn his Ph.D., and initiated the American Psychological Association (APA), and American Journal of Psychology</td>
<td></td>
</tr>
<tr>
<td><strong>Mary Whiton Calkins</strong></td>
<td>Was the first woman to finish all of her requirements for her Ph. D but was not awarded because of her gender, did later become the first woman president of the APA</td>
<td>Think of Mary stating, “Y (Whiton) did I not get my Ph.D.?”</td>
</tr>
<tr>
<td><strong>Margaret Floy Washburn</strong></td>
<td>First woman to receive her Ph. D and became the second woman president of the APA</td>
<td>Margaret experience JOY (FLOY) because she did get her Ph.d!</td>
</tr>
<tr>
<td><strong>Sigmund Freud</strong></td>
<td>Initiated the psychodynamic perspective focusing on the effects of early childhood and unconscious determinants through the use of case studies</td>
<td>UNCONSCIOUS EARLY CHILDHOOD</td>
</tr>
<tr>
<td><strong>John B. Watson</strong></td>
<td>A Behaviorists who focused on measurable and overt behavior</td>
<td>Sherlock Holmes and WATSON looked for OBSERVED clues</td>
</tr>
<tr>
<td><strong>Carl Rogers</strong></td>
<td>A Humanistic psychologist who disagreed with Freud’ emphasis on the unconscious and rather in a person’ unique characteristics and growth</td>
<td>Think of Mr. ROGERS- he wanted to make people FEEL GOOD on his talk show</td>
</tr>
<tr>
<td><strong>Abraham Maslow</strong></td>
<td>Humanistic psychologist who believed people motivated to reach self-actualization</td>
<td>Think of Abraham Maslow’s initials AB- we are always trying to get As and Bs</td>
</tr>
</tbody>
</table>
1. Psychology originated from which two areas of study.
   A) Empiricism

2. John Locke's belief that the "mind is but a white paper that we write experiences on."
   B) John B. Watson

3. A technique used by Structuralists that means to look inward at conscious experiences.
   C) Margaret Floy Washburn

4. The belief that science should be based on knowledge taken from experience or observation.
   D) Sigmund Freud

5. William James's ideals led to which school of thought that emphasizes how an organism functions and adapts to its environment.
   E) Natural selection

   F) Functionalism

7. The first woman to finish the requirements for a Ph.D. in psychology but was not awarded because of her gender.
   G) Tabula rasa

8. The first woman to actually be awarded her Ph.D. in psychology.
   H) Philosophy and Physiology

9. Emphasized the role of the unconscious and early childhood experiences in the development of personality and psychological disorder.
   I) Mary Whiton Calkins

10. Believed that psychology should focus on overt or observable behavior which led to the school of Behaviorism.
    J) Introspection
A. Psychology’s Roots
1. Plato and Socrates
   a. Ideas are inborn/ mind distinct from body- mind continues after body dies
2. Aristotle
   a. Mind and body are the same/ knowledge comes from experience
3. Descartes
   a. Believed in interactive dualism- soul (consciousness) different than brain/ but can interact
       a. Materialism- mind and body are the same
4. John Locke
   a. Mind but a “white paper”
       a. Tabula rasa- a blank slate to write life experiences
   b. Mind acts on what comes through senses
   c. Gave rise to empiricism- knowledge comes from experience/ relies on observation/experimentation
5. Wilhelm Wundt
   a. Father of Psychology
   b. German philosopher/ physiologist
   c. Opened first psychology laboratory 1879
   d. Used the technique of introspection- to look inward to basic elements that make up conscious experience (very unreliable)
       i. Set up experimental design to study sensory reactions to stimuli- helped to separate from philosophy from psychology
6. E.B. Titchener (Wundt’s Student)
   a. Introduced Structuralism (first system for organizing psychological beliefs) based on studying structures of consciousness
7. Gestalt Psychology
   a. Max Werthheimer- study of organization of mental processes
   b. Opposed analyzing elements of consciousness (Structuralism)
   c. Believed that the, “Whole is greater than sum of parts”
8. William James
   a. Wrote “Principles of Psychology”
   b. Disagreed with Structuralism
   c. First American Psychologist- started first American Psychology lab at Harvard
   d. Developed Functionalism- function of consciousness- how we adapt and adjust in the environment/ based off of Charles Darwin’s theory of evolution
9. Sigmund Freud
   a. Austrian physician
   b. Psychoanalytical approach
       1. Focused on abnormal behavior- comes from unconscious conflicts from childhood
       2. Relied on personal observation (case studies)
10. Ivan Pavlov
    a. Russian physiologist
    b. Studies of animal learning gave rise to observable study
    c. Classical Conditioning
11. John B. Watson  
   a. Founded Behaviorism  
   b. Focus on learning through rewards/consequences and observable behavior  
      1. B.F. Skinner - Operant Conditioning  
      2. Albert Bandura - Observational Learning
12. Humanistic Psychology  
   a. “Third Force of Psychology”  
   b. Emphasized conscious experience through free will and human potential  
   c. Abraham Maslow/ Carl Rogers  
   d. Rejected principles of behaviorism-rewards/punishment
13. Jean Piaget  
   a. Worked with assessing a child’s thinking ability
14. G. Stanley Hall  
   a. First person to receive Ph.D. in psychology
15. Mary Whiton Calkins  
   a. Elected President of the APA  
   b. First woman to finish requirement of Ph.D. but did not receive
16. Margaret Flow Washburn  
   a. Titchener’s first graduate/ and first to receive Ph.D.
17. Francis Cecil Sumner  
   a. First African-American to receive Ph.D.
### Psychological Perspectives

1. Identify the following characteristics pertaining to certain psychological perspectives (viewpoints that explain behavior and thinking)

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Origins of Influences</th>
<th>Area of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological (Neuroscience)</td>
<td>Physiology</td>
<td>Interaction between physical bases - brain, nervous system, endocrine system and human behavior</td>
</tr>
<tr>
<td>Nature versus nurture debate</td>
<td>Sigmund Freud</td>
<td>Importance of unconscious influences, early life experiences affecting the unconscious and personality development and therapeutic methods designed to show and resolve unconscious conflicts and motivations known as psychoanalysis</td>
</tr>
<tr>
<td>John B. Watson</td>
<td>Focus on observable behavior through observation and measurement</td>
<td></td>
</tr>
<tr>
<td>B.F. Skinner</td>
<td>Study how behavior develops and how modified through behavioral techniques such as reinforcement and punishment</td>
<td></td>
</tr>
<tr>
<td>Ivan Pavlov</td>
<td>Carl Rogers</td>
<td>Importance of the self-concept and how the self-concept develops through free will, self-determination, and reaching one’s potential</td>
</tr>
<tr>
<td>Albert Bandura</td>
<td>Jean Piaget</td>
<td>Importance of mental processes that include thinking, language development, problem-solving strategies, and memory</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Noam Chomsky</td>
<td>Cross-cultural (Sociocultural)</td>
</tr>
<tr>
<td>Emerged in the 1980s as psychologists became increasingly interested in the role of diversity</td>
<td>Focus on how thinking and behavior are affected by cultural and environmental factors such as poverty or environmental factors such as poverty or environmental settings</td>
<td></td>
</tr>
<tr>
<td>Charles Darwin’s book, On the Origins of Species by means of Natural Selection</td>
<td>How natural selection, innate necessary characteristics passed from generation to generation that enable survival</td>
<td></td>
</tr>
</tbody>
</table>
### Different areas of Specialization in Psychology

2. Identify the subfields of psychology:

<table>
<thead>
<tr>
<th>Specialty Subfield of Psychology</th>
<th>Area of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological psychologist</td>
<td>Relationship between the brain and nervous system, how biological affect behavior</td>
</tr>
<tr>
<td>Cognitive psychologist</td>
<td>Mental processes- thinking, language, problem-solving, memory</td>
</tr>
<tr>
<td>Experimental psychologist</td>
<td>Research on psychological topics such as learning, emotion, memory, etc</td>
</tr>
<tr>
<td>Developmental psychologist</td>
<td>Physical, social, and psychological changes over a lifetime</td>
</tr>
<tr>
<td>Personality psychologist</td>
<td>Origins of personality and why people are alike and different</td>
</tr>
<tr>
<td></td>
<td>Psychological factors that affect a person’s health, immune system; treatment strategies aimed at improving person’s lifestyle</td>
</tr>
<tr>
<td>Educational/ school psychologist</td>
<td>How people of all ages learn and how a proper educational environment can lead to improved learning</td>
</tr>
<tr>
<td></td>
<td>Proper matching of employees with specific jobs; how to improve working conditions using psychological concepts</td>
</tr>
<tr>
<td>Social psychologist</td>
<td>How certain social and cultural settings affect thinking- behavior</td>
</tr>
<tr>
<td>Clinical psychologist</td>
<td>Identifying causes of psychological disorders, and providing psychological treatments and prevention strategies</td>
</tr>
<tr>
<td>Counseling psychologist</td>
<td>Helping people improve everyday functioning by providing productive and positive thinking and acting skills</td>
</tr>
<tr>
<td></td>
<td>Identifying causes of psychological disorders, and providing treatments and prevention strategies- they have medical degrees in addition to training in psychology/ clinical psychologists don’t have medical degrees so they can’t prescribe medication</td>
</tr>
<tr>
<td></td>
<td>Working to make sure that people who are unable or unwilling to seek psychological treatment receive it</td>
</tr>
</tbody>
</table>
1. Which perspective in psychology stressed the role of the unconscious and early childhood determinants? *RC: Think Freud*

   A) Behaviorism  
   B) Psychodynamic  
   C) Humanistic  
   D) Cross-cultural  
   E) Evolutionary

2. Carl Rogers and Abraham Maslow were supporters of which of the following psychological perspectives? *RC: Think about being the best HUMAN you can be*

   A) Behaviorism  
   B) Psychodynamic  
   C) Humanistic  
   D) Cross-cultural  
   E) Gestalt

3. Which of the following perspectives did Charles Darwin's research, described in the, *Origins of Species*, help to initiate? *RC: Think of Natural Selection- Nature selects*

   A) Behaviorism  
   B) Cognitive  
   C) Psychodynamic  
   D) Evolutionary  
   E) Functionalism

4. Which type of psychologist focuses on improving working conditions, making machinery and technology more applicable for people, and helping employees reach their potential and perform at an optimum level? *RC: How you organize an industry affects the way the industry runs*

   A) Health psychologist  
   B) Psychiatrist  
   C) Community psychologist  
   D) Cognitive psychologist  
   E) Industrial-organizational psychologist

5. Which type of therapist possesses a medical degree and is thus able to prescribe medications to his or her patients? *RC: Think of which profession requires the most amount of schooling*

   A) Clinical psychologist  
   B) Social psychologist  
   C) Psychiatrist  
   D) Community psychologist  
   E) I/O psychologist
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perspective of psychology</td>
<td>A particular viewpoint and approach to studying various phenomenon and behavior</td>
<td>Everyone has a perspective or opinion of how things happen</td>
</tr>
<tr>
<td>Cognitive perspective</td>
<td>Focused on the study of how the brain processes, stores, and retrieves information</td>
<td>Thinking</td>
</tr>
<tr>
<td>Biological perspective</td>
<td>The study of the nervous systems, parts and functions of the brain, and neural communication’s via their influences on behavior</td>
<td>Brain and Body</td>
</tr>
<tr>
<td>Social-cultural perspective</td>
<td>The study of how social and cultural factors affect people’s behavior and viewpoints</td>
<td>Where you live and cultural heritage</td>
</tr>
<tr>
<td>Psychodynamic perspective</td>
<td>The study of how early childhood events and unconscious determinants affect people’s thoughts, feelings, and behavior</td>
<td>Unconscious and Early Childhood</td>
</tr>
<tr>
<td>Behavioral perspective</td>
<td>The focus of overt or observable behavior and how that is affected by learning and social situations</td>
<td>How you act or behave from what you learn</td>
</tr>
<tr>
<td>Evolutionary perspective</td>
<td>The study of how species adapt and survive in particular environments</td>
<td>Natural Selection and Charles Darwin</td>
</tr>
<tr>
<td>Humanistic perspective</td>
<td>The beliefs that behavior is affected by free will and decision-making, and the pursuit of human satisfaction and potential</td>
<td>Be the best HUMAN you can be</td>
</tr>
<tr>
<td>Behavioral-genetics perspective</td>
<td>Studied the role of nature vs. nurture and the effects it has on development</td>
<td>Nature vs. Nurture</td>
</tr>
<tr>
<td>Positive psychology</td>
<td>The focus of human strengths and potential</td>
<td>Feel good- Do good</td>
</tr>
<tr>
<td>Industrial-organizational psychology</td>
<td>A field of psychology that focuses on improving worker performance and productivity at the workplace</td>
<td>Also called consultants and human resources or personnel directors</td>
</tr>
<tr>
<td>Health psychologist</td>
<td>A field of psychology that studies how to improves the lives of others</td>
<td></td>
</tr>
<tr>
<td>Psychiatrists</td>
<td>Treat people often with psychotic disorders utilizing medications-which they are qualified to prescribe</td>
<td></td>
</tr>
</tbody>
</table>
___ 1. A perspective of psychology that emphasizes the brain, nervous system, and the endocrine system.  
A) Biological

___ 2. A perspective of psychology that examines the role of nature vs. nurture on development.  
B) Behavioral genetics

___ 3. A perspective of psychology that Carl Rogers and Abraham Maslow focused on human potential and free will.  
C) Evolutionary

___ 4. A perspective of psychology that examines mental processes, thinking, and problem-solving.  
D) Psychiatrist

___ 5. A perspective of psychology developed by Sigmund Freud that focused on the unconscious and early childhood experiences.  
E) Industrial-organizational psychologist

___ 6. A perspective of psychology that emphasized the study of overt or observable behavior.  
F) Psychodynamic

___ 7. A perspective of psychology that emphasized the ideals of Charles Darwin and focused on the survival of species.  
G) Behavioral

___ 8. A type of psychologist that focuses on the improvement of working conditions and work productivity.  
H) Cognitive

___ 9. A type of psychologist who can prescribe medications for psychological disorders.  
I) Health psychologist

___ 10. A type of psychologists that focuses on improving the well-being and health of people.  
J) Humanistic
A. Psychological Perspectives- Schools of thought and psychological approaches- opinions and viewpoints on behavior and mental processes
   1. Cognitive Perspective- Viewing behavior based on how brain takes in information, creates perceptions, forms retrieves memories, processes information and generates actions
   2. Biological Perspective- Biological structures, such as brain, nervous system, neural communication that underlie behavior
   3. Social-Cultural Perspective- How thinking and behavior change in situations
   4. Evolutionary Perspective- How natural selection of traits affects behavior to promote adaptation and survival
   5. Behavior Genetics Perspective- Genes and our environment influence individual differences
   6. Psychodynamic Perspective- Freud’s view of wow behavior, thoughts, and feelings from the unconscious
   7. Behavioral Perspective- Human behavior is determined mainly by what a person has learned- for example- rewards and punishments
   8. Humanistic Perspective- Views behavior as controlled by the decisions that people make about their lives based on perceptions of the world through free will and conscious choice

B. Careers in Psychology
   1. Basic research- goal to increase knowledge of psychology
      a. Biological psychologists- explore physiological roots and results of behavior
      b. Social psychologists- study influence of others and situations on our behavior
      c. Developmental psychologists- growth and development over a lifetime
      d. Cognitive psychologists- study thought processes and how it affects behavior
      e. Quantitative psychologists- develop and use statistical tools to analyze research data
   2. Applied research- aim to solve practical problems
      a. Educational psychologists- apply psychology to classroom
      b. Clinical psychologists- treat troubled people
      c. Psychiatry- physicians use medial and psychotherapy- prescribe medications
      d. Community psychologists- who work to obtain psychological services for people in need of help and prevent psychological disorders
      e. Engineering psychology- study human factors in the use of equipment and help designers create better versions of equipment
      f. Sports psychologists- explore the relationships between athletic performance and such psychological variables as motivation and emotion
      g. Forensic psychologists- who assist in jury selection, evaluate defendants’ mental competence to stand trial
      h. Environmental psychologists- study the effects of physical environment on behavior and mental processes
         a. Industry/ Organizational psychologists- use psychology to help businesses and hire people
1. Psychology originated from philosophy (Socrates, Plato, Aristotle) and physiology (brain and body)
2. **Behavior genetics** - perspective of psychology studied influences of *nature* (genetics) vs. *nurture* (environment)
3. **Behaviorism** - observable (overt) behavior - in order to be studied behavior must be based on observable and identifiable behavior - John B. Watson (founder of American behaviorism)
4. **Structuralism** - Wilhelm Wundt and Edward Titchener - first school of psychology that believed conscious experiences could be broken down into simplest components like feelings, thoughts/introspection - technique used by structuralists to look inward at the parts of consciousness but proved to be unreliable as subjects reported different answers on different occasions.
5. **Empiricism** - knowledge has to come from experience or direct observation supported by John Locke who stated the mind is a blank slate (tabula rasa) that we write our experiences on - supports *nurture* side of the argument. **Critical thinking** - thinking that includes scientific reasoning or empirical evidence (provided by Wilhelm Wundt who introduced experimental design separating psychology from philosophy in 1879 in Leipzig Germany, and questioning - not assuming or speculating
6. Mary Whiton Calkins - first women to finish requirements for PhD. but was denied by Harvard
7. Margaret Floy Washburn - first women to be awarded PhD
8. Francis Sumner - first African American to be awarded PhD
9. William James - supporter for **Functionalism** - first American school of psychology that applied Darwin’s thoughts in terms of how an organism adapts (natural selection) and functions in its environment. Evolutionary perspective - viewpoint that suggests all organisms will do whatever necessary to survive which include mating and defending their young or offspring.

<table>
<thead>
<tr>
<th>Behaviorism - study of observable or overt behavior through direct observation or empiricism or evidence/ John B. Watson</th>
<th>Structuralism - study of mental components that make up consciousness through introspection a technique to look inward- Wilhelm Wundt and Edward Titchener</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature- our genetic tendencies- supported through Charles Darwin’s view of natural selection- nature selects organisms best suited for survival</td>
<td>William James’s school of functionalism- the study of how we adapt to our environment supporting the nurture side of the argument</td>
</tr>
<tr>
<td>Mary Whiton Calkins- first woman to finish her Ph.D. but was not awarded due to being female</td>
<td>Mary Washburn- the first woman to be awarded her Ph.D</td>
</tr>
<tr>
<td>Humanistic perspective- Carl Rogers and Abraham Maslow- suggested that human potential, uniqueness and free will contribute to being self-actualized</td>
<td>Psychodynamic perspective- Sigmund Freud- focused on early childhood and the influence of the unconscious</td>
</tr>
</tbody>
</table>
1. The origins of psychology can be traced to
(A) the unconscious mind
(B) philosophy and physiology
(C) botany and kinesiology
(D) working to reach one’s potential
(E) speculation and hindsight

2. Empiricism refers to
(A) scientific methods based on information and knowledge derived from direct observation or experience
(B) scientific methods based on speculation and intuition
(C) the wishes and motivations embedded in the unconscious
(D) reaching and achieving self-actualization
(E) how nature selects organisms best suited for survival in a particular environment

3. The method Wilhelm Wundt used to study the elements of the mind was called
(A) observation
(B) case study
(C) introspection
(D) dream analysis
(E) resistance

4. Sigmund Freud believed that
(A) research should be based on observable and measurable data
(B) reaching one’s potential by developing a positive self-concept was important
(C) nature selects organisms best suited for an environment
(D) cultural and social backgrounds play a crucial role in development
(E) unconscious motivations and wishes affect personality and psychological well-being

5. Behaviorism was built around the idea that
(A) research should be based on observable and measurable data
(B) reaching one’s potential by developing a positive self-concept is important
(C) nature selects organisms best suited for an environment
(D) cultural and social backgrounds play a crucial role in development
(E) unconscious motivations and wishes affect personality and psychological well-being

6. Who contributed to the ideas of the evolutionary perspective by suggesting that nature selects organisms best suited for survival in a given environment?
(A) Charles Darwin
(B) Sigmund Freud
(C) John B. Watson
(D) William James
(E) Wilhelm Wundt

7. Which school of thought focused on how an organism adapts to the environment rather than on the study of mental components or parts?
(A) Structuralism
(B) Gestalt
(C) Psychoanalysis
(D) Behaviorism
(E) Functionalism

8. The belief that the brain and nervous system affect behavior is fundamental to which perspective of psychology?
(A) Evolutionary
(B) Psychodynamic
(C) Behavioral
(D) Cognitive
(E) Biological

9. Faris has been conducting research that may help people improve their ability to process and retrieve explicit memories. Which perspective does Faris’ inquiry support?
(A) Evolutionary
(B) Psychodynamic
(C) Behavioral
(D) Cognitive
(E) Biological

10. A researcher supporting which psychological perspective might recite the following quotation: “I believe that the memories and events of early childhood contribute to unconscious development affecting personality”?
(A) Evolutionary
(B) Psychodynamic
(C) Behavioral
(D) Cognitive
(E) Biological
11. Carl Rogers and Abraham Maslow were influential with the emergence and development of which psychological perspective?
   (A) Evolutionary
   (B) Psychodynamic
   (C) Behavioral
   (D) Cognitive
   (E) Humanistic

12. The ideas of William James agreed with and founded which psychological school of thought?
   (A) Structuralism
   (B) Functionalism
   (C) Gestalt
   (D) Psychodynamic
   (E) Behaviorism

13. For the past several years Jerry has been conducting research on teenage smoking and the possible long-term effects that could later occur in adulthood. Jerry’s research would coincide with which subfield’s goals and ideals?
   (A) Cognitive psychology
   (B) Clinical psychology
   (C) Psychiatry
   (D) Biological psychiatry
   (E) Developmental psychology

14. When describing her job, Jenny says she makes sure that people who need psychological care receive it. Jenny is what type of psychologist?
   (A) Cognitive psychologist
   (B) Industrial psychologist
   (C) Community psychologist
   (D) Biological psychologist
   (E) Developmental psychologist

15. Which subfield of psychology would study how a stroke could affect the functions of certain parts of the brain?
   (A) Cognitive psychology
   (B) Educational psychology
   (C) Community psychology
   (D) Biological psychology
   (E) Psychometrics
1. **Answer: B.** The development of psychology was influenced by questions and beliefs of philosophy and the scientific approach and underlying principles of physiology

2. **Answer: A.** Empiricists believed in tabular rasa that the mind was a blank sheet on which experiences were “written” and, as a result, should be based on actual experience and observations. This idea went against the beliefs of the older philosophers

3. **Answer: C.** Introspection meant to “look inward” and was a technique relied on by Wundt and the structuralists

4. **Answer: E.** Sigmund Freud believed that the unconscious contributes to personality development by providing inner conflicts that must be resolved

5. **Answer: A.** Behaviorism was developed around the idea that research should be based only on data that could be observed and measured

6. **Answer: A.** Charles Darwin theorized natural selection, which is the premise that nature selects organisms best suited for survival in an environment

7. **Answer: E.** Functionalism, a school of thought championed by William James, was predicated on the consideration of how organisms adapt to the environment

8. **Answer: E.** The biological perspective stated that the brain and nervous system affect the behavior of an organism

9. **Answer: D.** The cognitive perspective is based on research that examines how cognitive processes, such as thinking, remembering, and communicating, occur

10. **Answer B.** Those supporting the psychodynamic perspective believed that events in early childhood affect the development of the unconscious, which in turn affects how personality develops

11. **Answer: E.** Carl Rogers and Abraham Maslow believed in free will, self-determination, and the importance of the self-concept, which gave rise to the humanistic perspective

12. **Answer: B.** Functionalism was a school of thought that focused on how an organism adapted to enhance its survival in a particular environment. William James rejected the ideas of structuralism and instead concentrated his studies on how organisms adapt and function

13. **Answer: E.** Developmental psychologists study ways in which psychological and physical changes occur over a lifetime

14. **Answer: C.** Community psychologists make sure that people who either cannot seek help or are unwilling to do so receive psychological care

15. **Answer: D.** Biological psychology studies the functioning of the brain and nervous system and how that affects functioning and behavior
Critical Thinking

1. What is considered the first stop of research—making an educated guess?

2. What is the role of an operational definition?

   A. Why are operational definitions required in order for it to be considered an experiment?

3. How are theories different from hypotheses?

Research Methods in Psychology

4. What are the four goals for research?

5. What are the goals of descriptive studies?

Types of Research Methods

6. When is naturalistic observations used?

   A. What are disadvantages associated with using naturalistic observations?

7. When would a researcher use a case study?

   A. What are the disadvantages of using a case study?

8. What is an advantage of using a survey?

   A. Why may people lie when taking a survey?

   B. How do researchers influence the answering of participants’ responses?
9. What is the design of correlational studies?

A. What is the main disadvantage of correlational studies?

10. How are experiments designed?

A. Why do researchers use experimental design?

B. Identify two possible disadvantages for conducting experimental design?

Read the following passage; identify which type of research methods would be suit the researcher’s intentions and high light the word(s) that indicate this type of research method.

• Dr. Sampson would like to determine if a family income is related to types of degrees that people acquire in their educational career._____________________________

• A graduate student is conducting research on how long students study during high school; she plans to question the several local high school’s populations._________________________________

• Dr. Miller is interested in observing the protective instincts displayed by geese concerning their young. ____________________________

• A sporting goods company hired an independent research team to determine which particular brand of running shoes would improve a person’s speed in a mile. ____________________________

• A doctor has a special patient that is displaying symptoms and behaviors never seen before. The doctor has dedicated his practice to studying this patient. ____________________________

Experiments: An in-depth look

11. What is the only way to prove cause/effect?

12. Identify the variable that is considered the variable of change or manipulation?
13. What is the variable that show the measurement or the effects of the independent variable?

14. When does a null hypothesis occur?

A. Identify the variables that can’t be controlled by the researcher and could affect the measurement of the dependent variable?

15. What do participants in the experimental group receive?

A. Explain the purpose of the control group and what constitutes a control group condition?

16. How can research participants contribute to confounding variables? What is this called?

17. How can experimenter or researcher cause experimenter bias?

A. What is hindsight bias?

B. How can overconfidence lead to experimenter bias?

18. How can a double-blind research design help to eliminate confounding variables?

19. What is the purpose of a placebo group or placebo effect?

Selecting Human Participants

20. What is referred to when the selection of participants only includes the targeted population?


22. What is a stratified sample?

23. When is a cross-sectional sample applied?
A. Give an example of a cross-sectional study?

24. When is a longitudinal study used?
   A. What are the disadvantages of using a longitudinal study?

25. Describe the random sampling process?
   A. When does a sampling bias occur?

26. When is random assignment used?
   A. How is random assignment different from random sampling?

Statistical Analysis of Research

27. What are two methods that allow a researcher to formulate a statistical conclusion?

28. What are descriptive statistics?

Statistical Analysis of Research: Descriptive Statistics

29. What is the process of developing a frequency distribution?

30. Define the three types of central tendency?
   A. Mean:
   B. Median:
   C. Mode:

31. Describe a normal distribution.
   A. When is a percentile score used?
B. How is a standard score used?

32. What defines a range?
   A. What does standard deviation indicate?
   B. When does a skewed distribution occur?

33. How is the strength or value of a relationship determined in a correlational study?
   A. Numerically what determines a strong relationship?

34. Define positive correlation:
   A. Give an example of a positive correlation?

35. Define negative correlation:
   A. Give an example of a negative correlation?

36. When does an illusory correlation occur?
   A. Give an example of an illusory correlation?

**Statistical Analysis of Research: Inferential Statistics**

37. When are inferential statistics used by researchers?

38. When is data or the results considered statistically significant?
Ethical Guidelines for Psychologists

39. According to APA’ Ethical Principles explain the following guidelines:

A. Informed Consent:

B. Debriefing:

C. Confidentiality

D. Parental Permission

E. Prevention of harm

Read the following experiment and identify the following parts of an experimental design.

Circle the targeted population/ underline the process of random sampling/ put vertical lines around the hypotheses/ highlight the independent variable/ highlight in another color the dependent variable/ place dashes underneath the process of random assignment/ place parenthesis around the control group/ put dashes around the experimental group/ place asterisks around any confounding variables

Dr. James is very interested in testing the effects of highlighting when reading and their retention of the course material. He believes if students highlight the main terminology in the chapter then their test scores will improve. He has chosen to study AP Psychology students and as a result develops a computer program that will randomly pick 50 AP Psychology students. The 50 students’ names were put into a hat and 25 names were randomly drawn and placed into the A group which would highlight the terminology as they read the material. The other 25 students were placed into group P and would be instructed to just read the chapters as normal. After two weeks of implantation of these methods all 50 students were given a standard test on the chapter material. To prevent participant and experimenter bias a double-blind procedure was used where students did not know they were going to be tested and the researcher was not aware of which students highlighted versus just read the material. However, several students did not get very much sleep the night before the chapter test.
### Chapter Summation “Buzz Word(s)”

<table>
<thead>
<tr>
<th>Term</th>
<th>“Buzz Word(s)”</th>
<th>Term</th>
<th>“Buzz Word(s)”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis</td>
<td>Guess</td>
<td>Theory</td>
<td>Explanation</td>
</tr>
<tr>
<td>Operational definition</td>
<td>Directions, replication, requirement</td>
<td>Descriptive studies</td>
<td>Describe</td>
</tr>
<tr>
<td>Naturalistic observation</td>
<td>Natural, animals</td>
<td>Case study</td>
<td>In-depth, atypical</td>
</tr>
<tr>
<td>Surveys</td>
<td>Quickly, large groups</td>
<td>Social desirability effect</td>
<td>Perfect, guilt feelings</td>
</tr>
<tr>
<td>False consensus effect</td>
<td>Assuming, agreeing</td>
<td>Correlational study</td>
<td>Relationships, prediction, no causation</td>
</tr>
<tr>
<td>Experiments</td>
<td>Causation, manipulation</td>
<td>Independent variable</td>
<td>Interest, change, manipulation</td>
</tr>
<tr>
<td>Dependent variable</td>
<td>Measurement, outcome</td>
<td>Confounding variables</td>
<td>No control</td>
</tr>
<tr>
<td>Experimental group</td>
<td>Interest, given the change</td>
<td>Control group</td>
<td>Comparison, no change</td>
</tr>
<tr>
<td>Null hypothesis</td>
<td>No effect</td>
<td>Participant bias</td>
<td>Opinions, knowledge</td>
</tr>
<tr>
<td>Experimenter bias</td>
<td>Expectations</td>
<td>Double-blind procedure</td>
<td>Nobody knows</td>
</tr>
<tr>
<td>Placebo group</td>
<td>Fake</td>
<td>Hindsight bias</td>
<td>“I knew it”</td>
</tr>
<tr>
<td>Overconfidence</td>
<td>Arrogant</td>
<td>Representative sample</td>
<td>Represents population</td>
</tr>
<tr>
<td>Population</td>
<td>Targeted group</td>
<td>Stratified sample</td>
<td>Specific part</td>
</tr>
<tr>
<td>Cross-sectional study</td>
<td>Comparison</td>
<td>Longitudinal study</td>
<td>Long-term</td>
</tr>
<tr>
<td>Random sampling</td>
<td>Equal chance</td>
<td>Random assignment</td>
<td>Assigned groups</td>
</tr>
<tr>
<td>Descriptive statistics</td>
<td>Numerical descriptions</td>
<td>Frequency distribution</td>
<td>Graphs</td>
</tr>
<tr>
<td>Mean</td>
<td>Average</td>
<td>Mode</td>
<td>Most</td>
</tr>
<tr>
<td>Median</td>
<td>Middle</td>
<td>Normal distribution</td>
<td>Normal curve</td>
</tr>
<tr>
<td>Range</td>
<td>High-low</td>
<td>Standard deviation</td>
<td>Varies from average</td>
</tr>
<tr>
<td>Skew distribution</td>
<td>Lopsided</td>
<td>Correlation coefficient</td>
<td>Closest to 1.00</td>
</tr>
<tr>
<td>Positive correlation</td>
<td>Same direction</td>
<td>Negative correlation</td>
<td>Opposite direction</td>
</tr>
<tr>
<td>Illusory correlation</td>
<td>Fake relationship</td>
<td>Scatterplot</td>
<td>Correlation data</td>
</tr>
<tr>
<td>Inferential correlation</td>
<td>Understandable data</td>
<td>Statistically significance</td>
<td>No chance, numbers</td>
</tr>
<tr>
<td>Informed consent</td>
<td>Permission</td>
<td>Debriefing</td>
<td>After, no deception</td>
</tr>
</tbody>
</table>
1. __________________ studies focus on an individual or group of people over an extended period of time.

___ 2. Correlational studies provide an explanation or causation for how factors influence each other.  
   A) True  B) False

___ 3. Positive correlations occur when the data moves in the same direction on a scatter plot; either up or down.  
   A) True  B) False

4. __________________ occurs when a researcher believes there is a relationship, but in actuality the relationship does not exist; due to the researchers eagerness to prove a relationship.

___ 5. Occurs when a researcher believes that subjects will agree with or her on certain issues and often influences the way a researcher words questions on a survey.  
   A) Wording effect  D) Illusory correlation  
   B) False consensus effect  E) Positive correlation  
   C) Social desirability effect

___ 6. The study of a single individual due to the individual being unique; a study often used by Sigmund Freud.  
   A) Survey  D) Correlational study  
   B) Naturalistic observation  E) Cross-sectional study  
   C) Case study

___ 7. An actual testable prediction taken from a theory.  
   A) Theory  D) Random assignment  
   B) Hypothesis  E) Population  
   C) Random sample

8. __________________ allows each person an equal chance of being chosen for an experiment.
9. The process of allowing subjects an equal chance to be assigned to either the control or experimental group of an experiment.
   A) Random sampling  D) Operational definition
   B) Representative sample  E) Variable
   C) Random assignment

10. Operational definitions are precise instructions concerning how each variable will be used in an experiment for the purpose of the experiment being replicated.
   A) True  B) False

11. Jimmy wants to prove if taking a vitamin before a test will improve a person's test score. In this example the consumption of a vitamin is referred to as the
   A) Dependent variable  D) Theory
   B) Independent variable  E) Hypothesis
   C) Confounding variable

12. Jimmy wants to prove if taking a vitamin before a test will improve a person's test score. In this example a person's test score is referred to as the
   A) Independent variable  D) Population
   B) Confounding variable  E) Random sample
   C) Dependent variable

13. The _____________________ group is the group that receives the independent variable.

14. Confounding variables are variables that could affect the outcome of the dependent variable that were not considered or known by the experimenter.
   A) True  B) False

15. _________________ procedure would prevent researcher or participant bias from occurring through the researcher or the participants not knowing which group is which or who has received the independent variable.
Research Methods

Critical thinking

1. Researching with factual information in order to arrive at a valid conclusion refers to critical thinking

   a. An educated guess of a specific or testable prediction, is considered the first step in research and refers to a hypothesis

   b. The definition of how the research will be tested, including the precise definitions of how each variable will be used refers to ________________

   c. Operational definitions clarify how the researcher plans to test his or hypothesis through identifying variables. Any factor that may influence the outcome is called a variable

2. A theory is an explanation of the recorded data used to explain what is being studied or a phenomenon. What is the main difference between a theory and a hypothesis?

   Theories not created as a hypothesis is; rather an explanation of the results of hypothesis

Research Methods in Psychology

3. Psychologists aim to meet four goals when conducting research: describe a phenomenon, predict future or past behavior, control current or past behavior, and explain how and why a phenomenon occurred. As a result, researchers rely on different methods to accomplish these goals. Discuss the following methods in terms of their advantages and disadvantages.

<table>
<thead>
<tr>
<th>Research Method</th>
<th>Definition</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involves watching participants in their natural environment</td>
<td>Can observe the subject in natural environment</td>
<td>May have to infer information based on observations Can’t control environment</td>
<td></td>
</tr>
<tr>
<td>An in-depth examination of a rare phenomenon that occurred with an individual, small group, or a situation</td>
<td>Can examine, in depth, rare occurrences</td>
<td>Can’t generalize findings to entire population Situation may never occur again- hard to theorize</td>
<td></td>
</tr>
<tr>
<td>Administration of questionnaires or interviews used to identify attitudes, beliefs, opinions</td>
<td>Can obtain information from large number of subjects</td>
<td>Subjects may lie Subjects may not represent entire population</td>
<td></td>
</tr>
<tr>
<td>Research Method</td>
<td>Definition</td>
<td>Advantages</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------</td>
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<td>---------------</td>
</tr>
<tr>
<td></td>
<td>Examines the relationships between two or more variables</td>
<td>Researcher can see whether variables are related</td>
<td>Just because related does not mean causation or one variable caused another variable/ there could always be a third variable</td>
</tr>
<tr>
<td></td>
<td>Attempt to prove causation by allowing the researcher to manipulate one or more variables and measure their outcome</td>
<td>Can prove whether one variable causes the outcome</td>
<td>Can’t always account for confounding variables Laboratory setting is different than real world experiences</td>
</tr>
</tbody>
</table>

4. Which of the above methods are considered descriptive methods that describe phenomenon, behavior, or attitudes?
   Naturalistic observation, case studies, surveys

**Experiments: An In-depth Look**

5. What is the only accurate method to prove cause-and-effect phenomenon?

   ______________________

   a. In an experiment, what is the variable that is manipulated by the experimenter?

   ______________________

   b. Which is the measurable outcome or resulting effect of the manipulated variable?

   ______________________

   a. Variables that cannot be controlled by the researcher but may influence the results are called ______________________

   C. Which group in an experiment receives the treatment or is exposed to the independent variable?

   ______________________

   a. Which group in an experiment does not receive any treatment or exposure to the independent variable and is used for comparison to conditions and effects of the experimental group?

   ______________________

6. Confounding variables are variables that could affect the outcome or dependent variable of an experiment. Subjects who act as they believe the experimenter wants them to act refers to participant bias. The experimenter’s actions that could influence the outcome of the experiment is called experimenter bias/ expectancy.
7. An experiment design in which neither the experimenter nor the subjects know who is in the experimental group or control group refers to a ____________ and could reduce participant/ experimenter bias.

Selecting Human Participants

8. Selecting participants from the population that closely match the population being studied is called the ____________________

9. Categorizing the desired target population and selecting participants that best represent a particular category of interest is referred to as a stratified sample.
   
   b. Selecting participants from a population that the experimenter wishes to study refers to ____________. Selecting participants in a manner that ensures each member of the population has the same possibility of being selected is called ____________________
   
   b. Selecting participants in a manner that does not allow for all potential subjects to have an equal chance of being selected refers to sampling bias.

10. After participants are chosen through random sampling, researches use the method of ____________________ allowing all participants the same opportunity of being placed in a participation- control or experiment group.
1. A procedure that describes how research will be conducted that also allows other researchers to be able to replicated the same research. *RC: How research operates depends on how you define the procedure*
   A) Case study  D) Random assignment
   B) Correlational data  E) Random sampling
   C) Operational definitions

2. Dr. Hue is considering studying the effects of Vitamin on students' ability to answer questions correctly on a test. In this particular hypothesis, what type of variable is Vitamin B considered? *RC: Think of what the researcher is IN-terested in testing.*
   A) Dependent variable  D) Randomization
   B) Independent variable  E) Correlational coefficient
   C) Confounding variable

3. Forty-five students took part in a four-month study that looked at how imagery could help people retain numbers displayed on a screen for a brief amount of time. The study revealed that imagery did help people remember more numbers from the list thus validating the hypothesis. In this particular study what was identified as the dependent variable? *RC: Remember The outcome DEPENDS on how you measure it*
   A) Time allowed to answer a question  D) People in the study
   B) The imagery  E) The person's intellectual ability
   C) Numbers remembered

4. What is potentially one flaw when utilizing a correlational study? *RC: Remember there can always be other factors responsible for a relationship*
   A) Correlational studies require a lot of time to see an actual relationship.
   B) Correlational studies require manipulating more than one variable.
   C) Correlational studies do not make predictions.
   D) Correlational studies require multiple researchers simultaneously working together.
   E) Correlational studies may hint but do not provide causational evidence.

5. Which of the following procedures would ensure that each member in a research design is given the same opportunity to be part of the experiment or control condition? *RC: Remember you have to randomly ASSIGN people to different experimental conditions*
   A) Random sampling  D) Hindsight bias
   B) Random assignment  E) Operational definition
   C) Correlational design
<table>
<thead>
<tr>
<th>Key term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied research</td>
<td>Research that can be applied to the general population</td>
<td>You APPLY the paint (theory) to the house changing the color of the house</td>
</tr>
<tr>
<td>Basic research</td>
<td>Research used to build or gain knowledge</td>
<td>Basic research adds more pages to a book</td>
</tr>
<tr>
<td>Variable</td>
<td>Factor or feature that is being measured or manipulated</td>
<td>Variables are going to VARY by either being manipulated or changed/ measured</td>
</tr>
<tr>
<td>Theory</td>
<td>Explanation makes predictions/ observations</td>
<td>A theory is the title page of a book tells reader what the book is going to be about</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>A testable prediction or educated guess</td>
<td>A hypothesis are the pages that follow the title page that tell the story</td>
</tr>
<tr>
<td>Operational definition</td>
<td>Precise instructions define how variables will be measured or manipulated, allows replication by other researchers</td>
<td>Operational definitions DEFINE how the experiment is going to OPERATE or run</td>
</tr>
<tr>
<td>Meta-analysis</td>
<td>An analysis that includes many types of research</td>
<td>Meta means MANY- many types of research</td>
</tr>
<tr>
<td>Descriptive research</td>
<td>Research that describes behavior and phenomenon</td>
<td>Descriptive means to DESCRIBE something</td>
</tr>
<tr>
<td>Naturalistic observation</td>
<td>Observing people/ species in a natural habitat</td>
<td>In order to be NATURALLY observed the researcher CANNOT be seen</td>
</tr>
<tr>
<td>Surveys</td>
<td>Self-reported inventories often given to large groups</td>
<td>“I am going to survey or ask my friends to see what they want to do tonight”</td>
</tr>
<tr>
<td>Wording effect</td>
<td>How words or questions can influence opinions on a survey</td>
<td>Harmful versus detrimental means the same but reads different to people taking</td>
</tr>
<tr>
<td>False-consensus effect</td>
<td>A researcher’s belief participants share the same attitudes or beliefs</td>
<td>You Falsely believe everyone thinks like you that is why you are surprised when people disagree with you</td>
</tr>
<tr>
<td>Social desirability bias</td>
<td>Participants desire to answer or perform in a favoring way</td>
<td>Most people have a DESIRABLE opinion don’t want to admit to negative behavior</td>
</tr>
<tr>
<td>Case study/ case history</td>
<td>Detailed explanation of a single individual or rare phenomenon- cannot be applied to general population</td>
<td>CASE means ONE- nobody would buy a yearbook if it were a case study because there are no pictures of them- can’t relate to it</td>
</tr>
<tr>
<td>Correlational research</td>
<td>Research designed to look for possible relationships among variables, but does not offer cause-effect explanations</td>
<td>You cannot assume sports drinks will make you run faster because other factors make you also run faster- sports drinks MAY POSSIBLY make you run faster</td>
</tr>
<tr>
<td>Experiment</td>
<td>Research manipulates or changes one variable to see effects on another variable by holding constant</td>
<td>Experiment means to change like you are going to change the way you study to see if it improves your grades- Cause-and-effect</td>
</tr>
<tr>
<td>Confederate</td>
<td>Instructed by researcher to act a role to during experiment</td>
<td>A confederate is like an actor or actress- PLAYING a part assigned to them</td>
</tr>
<tr>
<td><strong>Independent variable</strong></td>
<td>A variable that is manipulated or changed and is the main interest of the researcher</td>
<td>IN-dependent variable is what the researcher is IN-trested in/ “I am Interested in the Independent variable”</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Dependent variable</strong></td>
<td>Variable shows measurement influenced by Independent</td>
<td>The dependent variable DEPENDS on how you measure it</td>
</tr>
<tr>
<td><strong>Control group</strong></td>
<td>The group that is held constant and not exposed to the independent variable</td>
<td>Comparison to see how much change occurs in experimental group “The experimental group’s scores went up 9%”</td>
</tr>
<tr>
<td><strong>Experimental group</strong></td>
<td>Group manipulated; exposure to independent variable</td>
<td>The experimental group is being EXPERIMENTED WITH by change</td>
</tr>
<tr>
<td><strong>Confounding or extraneous variable</strong></td>
<td>Variables, not considered by researcher, that could affect measurement of dependent variable/ motivation, weather</td>
<td>People’s time in a mile (dependent variable) may be affected by weather- windy and rainy the day of the timing (confounding variable)</td>
</tr>
<tr>
<td><strong>Experimenter bias</strong></td>
<td>Researchers who work towards a predetermined goal or outcome</td>
<td>AP teachers are not allowed to be in AP testing room because their presence could make the students try harder on the test</td>
</tr>
<tr>
<td><strong>Hindsight bias</strong></td>
<td>Belief the researcher foreseen the conclusion or knew the outcome the entire time</td>
<td>People often say AFTER the game they knew who was going to win, which shows that they were hoping for that team to win</td>
</tr>
<tr>
<td><strong>Research participant bias</strong></td>
<td>Participants act or perform in a to achieve desired outcomes</td>
<td>If you told a sports drink will make you run faster you might try harder in the race</td>
</tr>
<tr>
<td><strong>Null hypothesis</strong></td>
<td>Belief independent variable will have no effect on the dependent variable</td>
<td></td>
</tr>
<tr>
<td><strong>Placebo</strong></td>
<td>Non-active or fake substance that helps to eliminate research participant bias</td>
<td>To see if people are acting versus the actual effects of alcohol is to serve nonalcoholic drinks and observe</td>
</tr>
<tr>
<td><strong>Double-blind procedure</strong></td>
<td>A procedure where the researcher does not know which participants are in control or experimenter group and the research participants do not know the purpose/ measurement of the experiment/Double blind nobody knows</td>
<td></td>
</tr>
<tr>
<td><strong>Longitudinal design</strong></td>
<td>A long-term study that examines the same people or phenomenon over an extended period of time- very expensive</td>
<td>If you theorize not being held as a baby will affect hugging another person as adult would have to follow that person from baby to adulthood- LONG TIME</td>
</tr>
<tr>
<td><strong>Cross-sectional study</strong></td>
<td>Examines and compares two diverse groups at same time- male/female</td>
<td></td>
</tr>
<tr>
<td><strong>Random sampling</strong></td>
<td>Providing an equal chance or opportunity for every subject to be chosen for study</td>
<td>Your class schedule using random sampling every class offered at your school would have an equal chance</td>
</tr>
<tr>
<td><strong>Random assignment</strong></td>
<td>Randomly assigning or giving participants an equal chance of being assigned to the experimental or control group</td>
<td>You randomly ASSIGN people to the experimental or control group- if you handpicked may be tempted to pick certain people to be experimental group-</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>Desired group to be study</td>
<td>If studying high school seniors then your population would be high school seniors</td>
</tr>
<tr>
<td><strong>Representative sample</strong></td>
<td>A sample that was chosen from the desired population</td>
<td>Your sample REPRESENTS your population</td>
</tr>
</tbody>
</table>
1. Indicates how research and variables will be defined, tested, and measured allowing other researchers to replicate the study.

A) Case study

2. An in-depth study of a rare phenomenon or person that often cannot be generalized or related to a population.

B) Operational definitions

3. A research method that infers cause-and-effect relationships through the manipulation of a variable and the effects or measurement of another variable.

C) Experimental method

4. The variable being manipulated or variable of an interest to the experimenter.

D) Random assignment.

5. The variable that shows the measurable outcome or resulting effect of the independent variable.

E) Double-blind design

6. Variables that were not considered by the experimenter that often will affect the measurement of the dependent variable.

F) Confounding variable

7. The group in an experiment that is held constant or not administered the independent variable.

G) Independent variable

8. The experimental design that does not allow the researcher or the participants to know the measurement or which group the participants are assigned guarding against participant or experimenter bias.

H) Representative sample

9. The result of using random sampling that chooses participants that closely match the population or group being studied.

I) Control group

10. Allowing participants within the study an equal chance of being chosen for either the experimental or control group.

J) Dependent variable
A. Research Strategies
   a. Scientific Method - a set of assumptions, attitudes, and procedures that guide researchers in creating questions to investigate, in generating evidence, and in drawing conclusions
   1. Theory - an integrated explanation that makes predictions and observations
   2. Hypothesis - a testable prediction taken from a theory
   3. Operational definitions - precise procedures used to define variables that others can replicate or repeat
   4. Variable - factor or characteristic that is manipulated or measured

B. Critical Thinking - Thinking that does not eliminate hidden values and takes all factors into account
   1. Researcher bias - researchers that avoid thinking that does not support their conclusion
   2. Participant bias - participants respond in certain ways because they know they are being observed
   3. Hindsight bias - "I knew it all along" - you foreseen the answer
   4. Overconfidence - over confident towards results - less likely to listen to others

C. Descriptive Studies - describing the way others act through observation
   1. Case study - one person studied in-depth
      a. Sigmund Freud
      b. Tends to be atypical - not good representation of general public
   2. Naturalistic observation - observing someone in their natural environment
      a. Researcher can’t be seen or participant knows being observed
   3. Surveys - self-reported attitudes or behaviors through random samples - good for large groups of people
      a. False-consensus effect - overestimating how others share our beliefs and behaviors
      b. Wording effect - how you word questions influence answers
      c. Social desirability bias - participants feel obligated to answer questions with socially favorable opinions
      d. Population - all the cases in a group from which samples drawn

D. Sampling - process of selecting participants who are members of the population
   1. Representative sample - group of research participants whose characteristics accurately represent population
      e. Random sample - research participants from population who had an equal chance of being selected
      f. Biased sample - research participants from population who did not have an equal chance of being selected

E. Longitudinal Study
   1. Follows the same group over a period of many years
   2. Very expensive and time consuming

F. Cross-Sectional Study - compares diverse groups - gender, age, background at one time

G. Experiments
   1. Researcher manipulates one or more factors to observe effect on another variable by holding it constant
   2. Independent variable - researcher actively manipulates - researchers main interest
      a. Variable whose effect is being studied
3. Dependent variable - variable that is influenced by the independent variable
   a. Variable that shows the measurement
      a. Does smoking (independent variable) cause a runner to go slower (dependent variable)

4. Null hypothesis - the assertion that the independent variable manipulated by the experimenter will have no effect on the dependent variable measured by the experimenter

5. Experimental group - those exposed to the independent variable - smoking

6. Control group - those not exposed to the independent variable / held for comparison - don’t smoke

7. Confounding variables - a variable other than independent variable that could affect the dependent variable - variables the researcher does not count on - previous time in mile
   1. Controlling confounding variables
      a. Double-blind procedure - researcher and participants don’t know whose getting the independent variable
      b. Placebo - non-active substance or condition administered instead of independent variable
Statistical Analysis of Research

Descriptive studies

1. Data that are used to numerically summarize or describe the results for the targeted population refers to descriptive studies.

2. The gathering of data and arranging the information to indicate how often a score occurs refers to frequency distribution.

3. Define the 3 measures of central tendency.
   
   a. Mean - average numerical value of all presented data
   
   b. Median - numerical value of all presented data
   
   c. Mode - numerical value that appears most often in presented data

4. Data that is arranged in a manner that resembles a normal curve refers to normal distribution.
   
   a. What is referred to a bell-shape curve or inverted U, which graphically represents the occurrence of all the scores in a given set of data?

   Normal curve

5. The difference of the numerical value of all given scores arranged from highest to lowest values within a distribution is called the range.

6. The variability between scores and how far each diverges from the average/mean is referred to as the standard deviation.

7. The numerical relationship between two or more variables or factors, is often used to see how two or more variable or factors relate to each other describes a ________________

   a. Correlational studies are represented by a histogram or scatterplot.
   
   b. A numerical value demonstrating the strength or weakness of the relationship between 2 or more variables or factors is referred to as the

   _______________________

   c. The closer the numerical value is to _____ or _______ the stronger the relationship.

   d. Even though two variables are related this does not mean that:

   _______________________
e. What type of correlation occurs when either variables or factors move in the same direction? ________________. For example, the more classes a student attends the higher his or her final grade will be.

f. Negative correlation occurs when: ____________________________________________________________

g. An incorrect belief that supposes one variable affected the outcome is referred to as an _____________________________

Inferential Statistics

8. What do inferential statistics allow a researcher to do?

To apply results to the general population and infer whether data can be generalized to population at large

9. The resulting correlation is not influenced by chance refers to the conclusion being _____________________________

Ethical Guidelines for Psychologists

10. Who sets the guidelines for all research in terms of it being conducted?

American Psychological Association (APA)

11. Define the following guidelines that must be utilized when conducting research.

a. Informed consent- participants have agreed to be part of the experiment

b. Debriefing: participants are allowed to view the results after the experiment is completed

c. Confidentiality: results are not released to the general public indicating names or personal information

d. Harmful treatment: no harm should be done to the participant during study
1. Which of the following correlational coefficients would indicate the strongest relationship between two variables? *RC: Remember 1 is a powerful number*
   A) -.096  B) +.096  C) -0.98  D) +0.098  E) -0.77

2. Jimmy thinks that there is a relationship between a full moon and people acting out of the ordinary. This belief is described as a: *RC: Remember an illusion is something that does not exist*
   A) Positive correlation  D) Half correlation
   B) Negative correlation  E) Inverse correlation
   C) Illusory correlation

3. Which of the following defines describes standard deviation? *RC: To deviate means to vary from the norm or average*
   A) How scores vary from the average or the mean.
   B) The middle score in a frequency distribution.
   C) The number that occurs the most in a frequency distribution
   D) The top number in a range.
   E) The bottom number in a range.

4. Which of the following terms states that the results are not due to chance- but rather empirical evidence?: *RC: Remember the scale does not lie- numbers or stats never lie*
   A) Inferential statistics  D) Standard deviation
   B) Mean  E) Statistical significance
   C) Frequency distribution

5. A requirement of the APA Ethical Guidelines for research that instructs researchers to discuss the purpose and results of the study to participants after they have participated in a research design to ensure that deception was not used during the process. *RC: To brief someone is to give them details about the situation*
   A) Informed consent  D) Fair practice
   B) Debriefing  E) Unequal assistance
   C) Liability
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<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
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<tbody>
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<td>Descriptive statistics</td>
<td>Numbers that summarize research data</td>
<td>Descriptive means to describe</td>
</tr>
<tr>
<td>Frequency distribution</td>
<td>Arranging information in a bar or graph to show scores</td>
<td>Distributing or describing the frequency or numbers</td>
</tr>
<tr>
<td>Mean</td>
<td>Mathematical average of the data</td>
<td>Mean means average</td>
</tr>
<tr>
<td>Median</td>
<td>A numerical value that appears in the middle of the data</td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>A value that appears most in data</td>
<td>Mode is same m-OLD number</td>
</tr>
<tr>
<td>Normal distribution</td>
<td>Data that resembles a normal curve</td>
<td>Normal distribution means half on one side and half on other side of MEDIAN</td>
</tr>
<tr>
<td>Range</td>
<td>Difference between the highest and lowest score</td>
<td>A driving range goes from where you hit the golf ball to the end of the range</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>The variability between scores and the mean</td>
<td>People DEVIATE from the way people act- making them unique and not average</td>
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<tr>
<td>Correlational research</td>
<td>Research designed to look for possible relationships among variables, but does not offer cause-effect explanations</td>
<td>You cannot assume that sports drinks will make you run faster because other factors or variables may make you run faster- rather sports drinks may make possibly make you run faster</td>
</tr>
<tr>
<td>Third variable problem</td>
<td>Correlational research can hint at possible cause-effect relationships but is not conclusive</td>
<td>There is a possible relationship between motivation and grade point but other factors play a role like intelligence</td>
</tr>
<tr>
<td>Correlational coefficient</td>
<td>A numerical value that shows the strength of a relationship</td>
<td>Closer a relationship is to 1.00 or -1.00 the stronger the relationship</td>
</tr>
<tr>
<td>Scatterplot</td>
<td>Represents values of variables and show direction of possible relationships</td>
<td>A scatter plot look like kids that scatter all over the playground when recess is over</td>
</tr>
<tr>
<td>Positive correlation</td>
<td>A relationship where variables moves in the same direction- up or down</td>
<td>Positive does not just mean up because as long as it moves in the same direction it is a positive correlation</td>
</tr>
<tr>
<td>Negative or inverse correlation</td>
<td>A relationship that involves variable moving in an opposite directions</td>
<td>A relationship break up is NEGATIVE because the couple moves in OPPOSITE directions</td>
</tr>
<tr>
<td>Illusory correlation</td>
<td>A relationship that is believed to exist but in actuality does not</td>
<td>A magic trick is an illusion because you believe you saw something not there</td>
</tr>
<tr>
<td>Inferential statistics</td>
<td>Allows a researcher to apply or infer his or her results to the general population</td>
<td>Infer means to cause- the stats show that eating candy causes tooth decay/ 58% of kids that ate candy had increased cavities</td>
</tr>
<tr>
<td>Statistically significant</td>
<td>Results that are not influenced by chance</td>
<td>NUMBERS never lie- or the scale never lies</td>
</tr>
<tr>
<td>Informed consent</td>
<td>Participants actively agree to participate in an experiment</td>
<td>If your parent’s give consent for then you have permission</td>
</tr>
<tr>
<td>Debriefed</td>
<td>Participants are allowed to view the results and provided information after the experiment</td>
<td>If your parents debrief you about prom then it occurs when prom is over and you are at home</td>
</tr>
</tbody>
</table>
1. The numerical average of all the presented data.  
   A) Range

2. The numerical value or number that appears the most in presented data.  
   B) Correlational study

3. The difference of the numerical value of all given scores arranged from highest to lowest.  
   C) Correlation coefficient

4. The numerical relationship between 2 or more variables that often will show the strength of a relationship, but does not indicate causation because of the possibility of a third variable.  
   D) Illusory correlation

5. The numerical value demonstrating the strength or weakness of a correlational relationship through closeness to 1.00 or -1.00.  
   E) Mode

6. Occurs when either variables or factors move in the same direction of a correlational study.  
   F) Debriefing

7. An incorrect belief that one variable affected the outcome of another variable when in reality there is no relationship.  
   G) Positive correlation

8. Statistics that allow a researcher to apply his or her results to the general population and infers that data can be generalized.  
   H) Statistically significant

9. Statistical results that are not influenced by chance and are valid and reliable.  
   I) Mean

10. After a study is completed the researcher shares with the participants what the experiment was about.  
    J) Inferential statistics
A. Correlational Studies- does not provide explanation
1. Research project designed to see how two variables are related to each other
2. Correlation coefficient- statistical measurement of relationship that shows prediction; closer to 1.00 the stronger the relationship
3. Scatter plot- represents values of variables and shows direction of relationship
   a. Positive correlation- move in same direction
   b. Inverse correlation- move in opposite direction
   c.
4. Illusory correlation- we believe there is a relationship because we are more likely to notice things that confirm our beliefs

B. Reporting Data
1. Descriptive statistics- numbers that summarize a set of research data
   a. Inferential statistics- mathematical procedures that help psychologists make inferences about what data means

A. Measures of Central Tendency
   a. Mode- most frequently occurring score
   b. Mean- the average of total scores
   c. Median- middle score
   d. Skewed distribution- atypical scores that could distort central tendency scores

B. Measures of Variation
   a. Range- difference between highest and lowest scores
   b. Standard deviation- how much scores vary from the mean
   c. Statistical significance- a statistical statement of how likely it is that a result occurred by chance
   d. Percentile score- a value that indicates the percentage of people or observations that fall below a given point in a normal distribution
   e. Standard score- a value that indicates the distance in standard deviations between a given score and the mean of all the scores in a data set

C. Ethics
   a. Informed consent- knowing what the experiment involves
   b. Right to be protected from harm or discomfort- participants know ahead of time
   c. Right to confidentiality- never release information
   d. Right to debriefing- full explanation of what has been done/ given after the experiment.
1. **Theory** - explanation about behavior or situation summarizing and describing findings resulting from a **hypothesis** - testable prediction - first step in **scientific method**

2. **Descriptive studies** - describe behavior but don’t explain / **case study** - in-depth interview or review of rare phenomenon or person - but can’t be applied to general population (Freud used this method) / **Surveys** - given to large groups for quick results - **False consensus effect** - believing people taking the survey will automatically agree with the person’s thoughts and opinions who wrote the survey - **Social desirability effect** - tendency for people to answer in a favorable way to make one look good / **Wording effect** - how you word questions could influence how people answer surveys

3. **Longitudinal study** - long-term study over a group of people - very expensive and time consuming / **cross-sectional study** - study that examines and makes comparisons among different groups like age, gender

4. **Random sample** - everybody has equal chance of being picked from **population** - the group being studied resulting in a **representative sample** - sample that taken from the targeted population

5. **Random selection or assignment** - equal chance for all participants (of the representative sample) to be chosen for either **control group** - the group that is held for comparison not given the independent variable or **experimental group** - the group that receives the independent variable

6. **Correlational studies** - shows relationships and makes predictions between variables or factors - **but does not provide cause-and-effect explanations** / a number called the **correlational coefficient** if closer to 1.00 (+1.00 or -1.00) means a strong relationship shown on a **scatter plot** / **illusory correlation** - relationship that appears to be there, but is not like people act crazy during a full moon. **Negative correlation** variables move in opposite directions (less you drink more you remember) **Positive correlation** - variables move in same direction (more you study better grades you get)

7. **Experiment** - shows cause and effect relationships among variables by manipulating or causing change with a variable called the **independent variable** - the variable of experimenter interest and then showing the amount of change through measurement (the results) of the **dependent variable** *(If students take a vitamin (independent variable) then their retention of material (dependent variable) will go up.)*

8. **Confounding variable** - variables that influence the dependent variable (outcome or measurement of experiment) by not being considered or controlled by experimenter (students moods before they take a test)

9. **Double-blind procedure** - guards against **researcher bias** and **participant bias** through the subjects or experimenters not knowing who is in the control or experimental group or what is the purpose of the study / **Placebo group** - a fake or sugar pill independent variable

10. **Hindsight bias** - “I knew the results all along” but only state after the results given

11. **Operational definitions** - precise instructions how each variable will be manipulated or measured in an experiment - helps others to later do same or replicate the experiment

12. **Overconfidence** - people or researchers who believe they already know the outcome before the experiment and don’t consider any other factors or possibilities.

13. **Research guidelines** - **informed consent** - participants know that they are part of an experiment / **debriefing** - participants are told the purpose and the results of study.
| Theory- a general explanation that explains a phenomenon or describes a behavior | Vs. | Hypothesis- a testable prediction that supports a theory |
| Longitudinal study- a long-term study over a group of people or selected individuals | Vs. | Cross-sectional- a study that examines and analyzes different groups such as age or gender |
| Case study- the in-depth study of an individual or small group of people over an extended period of time | Vs. | Survey- a method of collecting data from a large group of people that can lead to quick results |
| Representative sample- a sample that accurately represents the targeted population | Vs. | Population- the specific group that is meant to be studied |
| Random Sampling- providing an equal chance for each person of the representative sample to be chosen for an experiment | Vs. | Random assignment- providing an equal chance for each member of an experiment to be chosen for either the control group or the experimental group |
| Control group- the group that is held for comparison and not given the independent variable | Vs. | Experimental group- the group that is given the independent variable and measured for change |
| Independent variable- the variable that introduces change or manipulation and is of experimenter interest | Vs. | Dependent variable- the variable that is measured or provides the evidence of the independent variable |
| Placebo- a fake independent variable to guard against participant bias | Vs. | Double-blind procedure- occurs when nobody knows the outcome or design of the experiment to guard against experimenter bias |
| Experiment- provides cause-and-effect relationships | Vs. | Correlation study- provides relationships and makes predictions |
| Positive correlation- a relationship that moves in the same direction | Vs. | Negative correlation- a relationship that moves in an opposite direction |
| Statistically significant- results that are not due to chance but can be backed up through data | Vs. | Inferential statistics- data that can be applied to the general population |
| Informed consent- allowing participants before to know what the experiment will entail | Vs. | Debriefing- discussing after the results and purpose of the experiment with the participants |
1. Professor Marianos is conducting an experiment on the effects of chalk dust on memory retention. Two groups are given the same memory test. Participants in group A are exposed to chalk dust for 30 minutes a day, while those in group B are not exposed to chalk dust at all. Identify the dependent variable in Professor Marianos’ study.
   (A) Exposure to chalk dust  
   (B) Memory retention  
   (C) Ability to form mnemonics  
   (D) The length of time subjects were exposed to chalk dust  
   (E) The amount of time between exposures

2. If a study is considered statistically significant, we can assume that
   (A) the study has both independent and dependent variables  
   (B) the study is conducted in a controlled environment  
   (C) all participants were debriefed after the experiment was completed  
   (D) neither the experimenter nor the participants knew which groups participants were assigned to  
   (E) there is a relatively small chance the results were caused by chance

3. Researchers concluded that subjects given a sugar pill experienced the same results as those who took actual medication. This is known as the
   (A) confirmation bias  
   (B) placebo effect  
   (C) double-blind effect  
   (D) hindsight bias  
   (E) participation bias

4. Recent research found a correlation between the time one spends listening to heavy metal music and the number of books one reads. The correlation coefficient between these two variables was −0.83. What does this correlation mean?
   (A) The more a person listens to heavy metal, the more books he or she reads.  
   (B) The number of hours spent listening to heavy metal has no effect on the number of books a person reads.  
   (C) The less a person listens to heavy metal, the more books he or she reads.  
   (D) As the age of the subject increases, the number of books he or she reads decreases.  
   (E) As the age of the subject decreases, the number of books he or she reads decreases.

5. Professor Gladhand is interested in studying the effects of caffeine on the aggression levels of rats. Which of the following research methods would be most useful in reaching a cause-and-effect conclusion?
   (A) Case study method  
   (B) Experimental method  
   (C) Naturalistic observation method  
   (D) Survey method  
   (E) Selective breeding method

6. Dr. Sanborn is interested in studying people who have sustained brain damage after ingesting banana peels. Over the past five years, he has studied only one such patient. Which of the following research methods is Dr. Sanborn most likely using?
   (A) Naturalistic observation  
   (B) Experimental  
   (C) Survey  
   (D) Case study  
   (E) Twin studies
7. Which of the following is an example of a positive correlation?
(A) As the number of hours a person sleeps increases, her violent behavior decreases.
(B) As the number of dogs a person owns decreases, her violent behavior increases.
(C) The less sleep a person gets, the lower her grade-point average.
(D) The more a person watches television, the less she reads.
(E) The number of reptiles a person owns has no effect on the number of emails she sends.

8. Dr. Cho is concerned that his body language might influence the outcome of his experiment. Which of the following methods should Dr. Cho use to ensure that he will not impact the results of the study?
(A) Sampling size
(B) Double-blind study
(C) Single-blind study
(D) Case study method
(E) Survey method

9. Dr. J. Belaen conducted research that required 50 participants. The first 25 people that arrived on the day of the experiment were assigned to the experimental group, and the remaining 25 were assigned to the control group. Such a method of assignment may influence the results of his experiment. Instead, Dr. J. Belaen should have used which method of assignment?
(A) Random sampling
(B) Random placement
(C) Random assignment
(D) Random selection
(E) Random blindness

10. In an experiment studying the effects of alcohol on memory, subjects’ tolerance levels relating to alcohol consumption would be considered
(A) the dependent variable
(B) the independent variable
(C) a confounding variable
(D) random assignment
(E) participant bias

11. Which of the following correlation coefficients would be considered to have the greatest relationship strength?
(A) +0.78
(B) +0.33
(C) –0.56
(D) –0.84
(E) –0.14

12. Descriptive statistics
(A) allow the researcher to make generalizations to the wider population
(B) are a numerical set of data used to describe the data in a study
(C) are used only in rare instances
(D) allow the researcher to control for confounding variables
(E) ensure that neither the subject nor the researcher influences the outcome

13. In an experiment, the operational definition serves what function?
(A) To randomly assign subjects to their appropriate group
(B) To identify the standard deviation within a given experiment
(C) To identify how the dependent variable will be measured
(D) To identify a possible illusory correlation
(E) To identify any experimenter bias that may occur during the experiment
14. The three measures of central tendency are
   (A) mean, medium, majority
   (B) majority, median, mode
   (C) mean, variability, reliability
   (D) mean, median, mode
   (E) validity, predictability, reliability

15. Professor T. Manley noticed that her class’s scores on their first test were between 89 and 14.
   Professor T. Manley is describing her class’s
   (A) range
   (B) reliability
   (C) sample size
   (D) standard deviation
   (E) correlation coefficient
1. **Answer: B.** The dependent variable is the measurable outcome of the study. The experiment is testing whether chalk dust increases memory retention; therefore, memory retention is the dependent variable, whereas exposure to chalk dust is the independent variable.

2. **Answer: E.** When a study is considered statistically significant, it means that the influence of outside variables on the study is minimal, and has not impacted the findings.

3. **Answer: B.** The placebo effect occurs when participants administered a fake pill (placebo) show the same results as those given the actual medication. This is the result of the person believing that the medication is working, even though it has no medicinal value.

4. **Answer: C.** A negative correlation means that one variable increases while the other variable decreases. As the number of hours spent listening to heavy metal increases, the number of books read decreases.

5. **Answer: B.** The experimental method allows the researcher to manipulate variables to determine cause and effect.

6. **Answer: D.** A case study is used when a rare event or situation has occurred. Because this research is considering a rare event, its results cannot be applied to the population at large.

7. **Answer: C.** A positive correlation indicates that both variables move in the same direction. Even though both variables (sleep and GPA) decrease, they are still moving in the same direction.

8. **Answer: B.** In a double-blind study neither the researcher nor the participants know who has been assigned to the control and experimental group.

9. **Answer: C.** Random assignment (randomizing) allows all subjects the same opportunity of being placed in either research group and helps control for assignment that may skew the results.

10. **Answer: C.** A confounding variable is any factor that cannot be controlled by the researcher. In this study, a subject’s tolerance level for alcohol may influence the outcome of the study.

11. **Answer: D.** The closer the correlation coefficient is to +1.00 or –1.00, the stronger the relationship between the variable.

12. **Answer: B.** Descriptive statistics numerically describe the data. This allows researchers to quantify their research and does not involve generalizing to the population at large.

13. **Answer: C.** The operational definition is the definition of how the research outcomes will be measured.

14. **Answer: D.** The three measures of central tendency are mean, median, and mode.

15. **Answer: A.** Range refers to the numerical difference between scores arranged from highest to lowest.
Biological Psychology

Chapter 2
Basic Structures of a Neuron

1. What are the two types of cells in the nervous system?
   A. Which cells process incoming signals and send signals; building blocks of the brain?
   B. Which cells aid in the transferring of the signal and keep the structures of nervous system intact?

2. What are the branch-like structures that receive information from other neurons?
   A. Which part contains the DNA information of the neuron?
   B. Which part incases the nucleus and produces the neurotransmitter substances?
   C. Which part is the gatekeeper that determines if information will proceed down the neuron?
   D. Which part sends information from the soma to the end of the neuron?
   E. Which part incases the axon protecting and speeding up the neural impulse within the axon?
      i. What does the depletion of the myelin sheath lead to?
      ii. What are the gaps within the myelin sheath that speed up the transmission?
   F. Which part in the ending part of a neuron that releases information?
   G. What is the gap between the dendrites and the axon of another neuron?
   H. What are the chemical messengers released into the synapse that search out the appropriate binding sites of another neuron?
      i. What happens if some neurotransmitters don’t bind to another neuron?

Types of Neurons

3. Which type of neurons transmit information from the spinal cord to brain aiding in our brain interpret sensory information?
   A. What is the sending neuron called?

4. Which type of neurons transmit information from the brain to muscles?
   A. What is the receiving neuron called?
Read the following passage and fill in the correct terminology

_______________________ are the receiving part of a neuron, the ____________________ contains DNA information of the neuron that is encased and protected by the _________________. The ____________________ is considered the gatekeeper that determines if information is sent down the neuron, the sending part of the neuron is called the ________________ that is encased by the ______________________ that speeds up the transmission sent down the axon; depletion could lead to ______________________. The ending part of the neuron is called the ________________ where neurotransmitters are stored. Gaps within the myelin sheath that speed up the transmission are called ____________________

Neural Communication

5. Neural communication relies on a?

A. The state of the neuron that is negatively charged chloride ions which is characterized by a period of inactivity before the next action potential?

B. The process of the charged sodium and potassium ions entering the inside of the axon resulting in a positive charge is called?

C. A change in the balance of the overall charge allowing the signal to travel along the axon is called?

D. For an action potential to occur the point of excitation must be reached and exceeded is called?

E. The period after a neuron fires when the neuron is incapable of firing another action potential in a state of hyperpolarization is called until reaches negative polarization?

i. Once a threshold is reached the action potential will be at full strength or not fire at all is called?

ii. A message the depolarizes a neuron causing an action potential?

iii. A message that hyperpolarizes a neuron making it less likely for an action potential to occur?

Neurotransmitters

6. What are chemical messengers called that either inhibit or excite a neuron?
A. NT that is linked to memory, mood, voluntary muscle movement?
   i. Excess:
   ii. Deficiency:

B. NT linked to feelings of euphoria (reward) movement?
   i. Excess:
   ii. Deficiency:

C. NT linked to mood, appetite, impulsiveness?
   i. Excess:
   ii. Deficiency:

D. NT linked to mood, sleep, movement?
   i. Excess:
   ii. Deficiency:

E. NT linked to alertness, sleep, learning?
   i. Excess:
   ii. Deficiency:

F. NT linked to memory?
   i. Excess:
   ii. Deficiency:

G. NT linked to pain alleviation and mood?
   i. Excess:
   ii. Deficiency:

7. A drug that boosts the effects of a neurotransmitter is called?
   A. A drug that blocks the effects of a neurotransmitter is called?
Read the following passage and identify which neurotransmitter is being released:

Recently Sue has been feeling very depressed and as a result had increased her consumption of alcohol, which could be due a lack of _________________. Richard recently got engaged and feels so good that he called this one of the best days of his life because in that moment _____________ was released. Jim’s father was recently diagnosed with Alzheimer’s disease and his doctor said this was due to a deficiency of _________________. Melissa has been much stressed recently and has to take sleeping medication to compensate for her lack of ________________ to calm her down, while releasing too much of ________________ the cause of her anxiety. Frank was told to take a supplement that is said to improve his short-term memory, which is supposed to affect this ________________. After several weeks of working out Jim has reported that he does not feel as sore during his workout because he is continuously releasing ________________.

The Nervous System

8. The nervous system is divided into two main branches:
   A. What are bundles of axons that comprise the peripheral nervous system?
   B. What do sensory (afferent) nerves perform?
   C. What do motor (efferent nerves perform?)

9. The central nervous system is comprised of ?
   A. Which type of neurons travel throughout the CNS?
   B. Describe a reflex reaction:

10. What are the two divisions of the peripheral nervous system?
   A. Which division of the PNS is in charge of voluntary movements?
   B. Which division of the PNS in charge of involuntary movements; breathing heartbeat?

11. What are the two divisions of the autonomic nervous system?
   A. Which division is responsible for exciting the body; fight-or-flight?
   B. Which division is responsible for calming the body down to a homeostatic state?
Chapter 2  

**The Brain**

12. What did Michael Gazzaniga term the tendency for the two hemispheres to excel in different specializations?

13. What does the left hemisphere specialize in?

   A. What does the right hemisphere specialize in?

14. What connects the two hemispheres?

   A. Roger Sperry and Michael Gazzaniga studied split-brain patients who had their corpus callosum severed for what reason?

   B. What controls the right side of the body? The left side?

**The Lobes and their Functions**

15. What is the frontal lobe responsible for?

   A. What could damage to this lobe result in?

16. What is the parietal lobe responsible for?

   A. What could damage to this lobe result in?

17. What is the occipital lobe responsible for?

   A. What could damage to this lobe result in?
18. What is the temporal lobe responsible for?
   A. What could damage to this lobe result in?

**Association Areas in the Left Hemisphere**

19. What is the role of association areas?
   A. What is the Wernicke’s area responsible for?
   B. Describe Wernicke’s aphasia?
   C. What is the Broca’s area responsible for?
   D. What is Broca’s aphasia?

**Functional Areas of the Cerebral Cortex**

20. What is responsible for voluntary movements located in the back of the frontal lobe?
21. What is responsible for receiving sensory information located in the front of the parietal lobe?

**Inside the Brain**

22. The brain is divided into 3 parts define the role of the following parts:
   A. Hindbrain:
   B. Midbrain:
   C. Forebrain:
   i. What is the role of the cerebral cortex?
23. Parts of the Hindbrain:
   A. Which part controls automatic functions such as heartbeat, respiration, blood pressure?
   B. Which part relays information between the cerebellum and cerebrum (brain) also for dreams?
   C. Which part of the brain regulates alertness and arousal?
   D. Which part aids in balance and coordinated movements?
   E. What is the lower part of the brain that connects to the spinal cord to send and receive information?

24. Parts of the Midbrain:
   A. What controls smooth body movements such as walking on a balance beam?

25. Parts of the Forebrain:
   A. What is the switchboard that relays sensory information to the right area except smell?
   B. Which part regulates hunger, thirst, fight-or-flight, sex drive, body temp, homeostasis?
   C. Which part is associated with fear and aggression?
   D. Which part is responsible for formation of new explicit memories and has a concentration of acetylcholine?
   E. Which structure transmits smell from the nose to the brain?
   F. What is considered the master gland that is responsible for production of hormones?

26. What is the limbic system comprised of?
   A. What is limbic associated with?
   B. What is the limbic system considered? Why?
Read the following passage and identify which part of the brain is responsible for the experiences that Jimmy is having that day.

Jimmy wakes up at his normal time because of his _______________________. His heart is beating away and he takes a deep breath thanks to his _____________________, as he walks to the bathroom he is able to walk without bumping into anything because of his ____________________. He is able to turn on the faucet and wash his hand because his ____________________ is connecting his brain to his spinal cord. He is able to hear his mom telling him to hurry up because of the sensory relay center in the brain called the _______________________. He all of sudden feels fear because he know that he did not finish his homework from last night because of his _______________________. He starts to get hungry because his ________________________ is activated. Luckily he remembered to pack his lunch due to his __________________________, and as he walks into the cafeteria he smells pizza cooking because of his _______________________.

How Psychologists Look at the Brain

27. Which technique measures the brain’s electrical activity; the brain waves?
   A. What can’t an EEG perform?

28. Which technique produces 2 dimensional images based on X-rays?
   A. What is it primarily used for?
   B. What can’t a CAT scan view?

29. Which technique provides a more detailed view of soft tissue in brain through using a large magnetic field?

30. Which technique uses a radioactive liquid to measure metabolic and glucose processing?

31. Which technique measures neural activity in the brain?
   A. How does a fMRI show cognitive functioning?
   B. What is an fMRI not capable of showing?

32. Which technique excites neurons in a specific area of the brain?
   A. What does overstimulation of neurons cause them to start doing?
Endocrine System

33. What is the responsible for the release of hormones throughout the bloodstream?
   A. What are the chemical hormones responsible for?

34. What is considered the master of the “master gland,” that links the brain to the endocrine system?
   A. What is considered the “master gland”, what regulates production of all glands and hormones?
   B. What does the pineal gland produce?
      i. What does melatonin cause?
   C. What is the thyroid gland produce?
      i. What does the Throxin?
   D. What does the adrenal gland produce?
      i. What are these hormones involved in?
   E. What do the reproductive glands produce?

Case Studies to Understand Cognitive Functioning

35. What did case study of Phineas Gage show?

36. What is the result of a lesion?
   A. How does brain plasticity occur?
### Chapter Summation “Buzz Word(s)"  

<table>
<thead>
<tr>
<th>Term</th>
<th>“Buzz Word(s)”</th>
<th>Term</th>
<th>“Buzz Word(s)”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurons</td>
<td>Messenger</td>
<td>Glial cells</td>
<td>Assist</td>
</tr>
<tr>
<td>Dendrites</td>
<td>Receive</td>
<td>Nucleus</td>
<td>DNA</td>
</tr>
<tr>
<td>Soma</td>
<td>Encases</td>
<td>Axon hillock</td>
<td>Gatekeeper</td>
</tr>
<tr>
<td>Myelin sheath</td>
<td>Protects, speeds</td>
<td>Nodes of Ranvier</td>
<td>Bumps, speeds</td>
</tr>
<tr>
<td>Axon terminal</td>
<td>End, NTs</td>
<td>Synapse</td>
<td>Gap</td>
</tr>
<tr>
<td>Neurotransmitters</td>
<td>Chemical messages</td>
<td>Afferent neurons</td>
<td>Send</td>
</tr>
<tr>
<td>Efferent neurons</td>
<td>Receive</td>
<td>Resting potential</td>
<td>Negative ions</td>
</tr>
<tr>
<td>Depolarization</td>
<td>Positive ions</td>
<td>Action potential</td>
<td>Neural firing</td>
</tr>
<tr>
<td>Threshold</td>
<td>Minimum</td>
<td>Refractory period</td>
<td>No firing</td>
</tr>
<tr>
<td>All-or-none response</td>
<td>Same</td>
<td>Excitatory message</td>
<td>Depolarization</td>
</tr>
<tr>
<td>Inhibitory message</td>
<td>Hyperpolarization</td>
<td>Acetylcholine</td>
<td>Movement, Alzheimer’s</td>
</tr>
<tr>
<td>Dopamine</td>
<td>Pleasure, schizophrenia, Parkinson’s</td>
<td>Serotonin</td>
<td>Mood, depression</td>
</tr>
<tr>
<td>GABA</td>
<td>Sleep, anxiety</td>
<td>Norepinephrine</td>
<td>Alertness</td>
</tr>
<tr>
<td>Glutamate</td>
<td>Memory</td>
<td>Endorphins</td>
<td>Pain</td>
</tr>
<tr>
<td>Agonist</td>
<td>Mimics</td>
<td>Antagonist</td>
<td>Blocks</td>
</tr>
<tr>
<td>Central NS</td>
<td>Brain, spinal cord</td>
<td>Peripheral NS</td>
<td>body</td>
</tr>
<tr>
<td>Nerves</td>
<td>Axons</td>
<td>Reflex</td>
<td>Spinal cord, interneurons</td>
</tr>
<tr>
<td>Somatic nervous system</td>
<td>Voluntary movements</td>
<td>Autonomic NS</td>
<td>Involuntary, automatic</td>
</tr>
<tr>
<td>Left hemisphere</td>
<td>Language, math</td>
<td>Right hemisphere</td>
<td>Creativity, faces</td>
</tr>
<tr>
<td>Corpus callosum</td>
<td>Connects</td>
<td>Frontal lobe</td>
<td>Thinking, planning</td>
</tr>
<tr>
<td>Parietal lobe</td>
<td>Touch</td>
<td>Occipital lobe</td>
<td>Vision</td>
</tr>
<tr>
<td>Temporal lobe</td>
<td>Hearing</td>
<td>Wernicke’s area</td>
<td>Understanding</td>
</tr>
<tr>
<td>Broca’s lobe</td>
<td>Speaking</td>
<td>Motor cortex</td>
<td>Movement, frontal</td>
</tr>
<tr>
<td>Somatosensory cortex</td>
<td>Sensory info, parietal</td>
<td>Hindbrain</td>
<td>Survival</td>
</tr>
<tr>
<td>Forebrain</td>
<td>Sophisticated, humans</td>
<td>Cerebral cortex</td>
<td>Outer portion</td>
</tr>
<tr>
<td>Medulla oblongata</td>
<td>Heartbeat, breathing</td>
<td>Pons</td>
<td>Dreams</td>
</tr>
<tr>
<td>Reticular formation</td>
<td>Alertness, arousal</td>
<td>Cerebellum</td>
<td>Balance</td>
</tr>
<tr>
<td>Brain stem</td>
<td>Connection</td>
<td>Striatum</td>
<td>Smooth movements</td>
</tr>
<tr>
<td>Thalamus</td>
<td>Relay center, no smell</td>
<td>Hypothalamus</td>
<td>Drives</td>
</tr>
<tr>
<td>Amygdala</td>
<td>Fear, aggression</td>
<td>Hippocampus</td>
<td>memory</td>
</tr>
<tr>
<td>Olfactory bulb</td>
<td>Smell</td>
<td>Limbic system</td>
<td>Dopamine, addiction</td>
</tr>
<tr>
<td>EEG</td>
<td>Brain activity</td>
<td>CAT scan</td>
<td>Picture</td>
</tr>
<tr>
<td>MRI</td>
<td>Tissue</td>
<td>fMRI</td>
<td>Brain tissue</td>
</tr>
<tr>
<td>PET scan</td>
<td>Liquid</td>
<td>TCMS</td>
<td>Over excitation</td>
</tr>
<tr>
<td>Endocrine system</td>
<td>Hormones, blood</td>
<td>Pituitary gland</td>
<td>Master</td>
</tr>
<tr>
<td>Pineal gland</td>
<td>Sleep</td>
<td>Thyroid gland</td>
<td>Metabolism</td>
</tr>
<tr>
<td>Adrenal gland</td>
<td>stress</td>
<td>Hypothalamus</td>
<td>Master of master</td>
</tr>
</tbody>
</table>
1. A part of a neuron which receives information from other neurons and grows in size via stimulation.
   A) Axon    B) Dendrites    C) Nodes of ranvier    D) Myelin sheath    E) Synapse

2. If the ______________________ disintegrates then neural speed could be affected resulting in multiple sclerosis.

3. In order for an action potential to occur then a neuron has to be at -70 charge referred to as the resting potential.
   A) True    B) False

4. During the refractory period or state of hyperpolarization a neuron is capable of firing an action potential.
   A) True    B) False

5. The _____________________________ is comprised of the brain and spinal cord.

6. Which nervous system is responsible for connecting the body to the central nervous system?
   A) Somatic        D) Sympathetic
   B) Central        E) Peripheral
   C) Parasympathetic

7. Which part of the peripheral nervous system controls voluntary movements within the body?
   A) Somatic        D) Sympathetic
   B) Autonomic      E) Parasympathetic
   C) Central

8. Sensory neurons carry environmental information via afferent nerves in the peripheral nervous system to the central nervous system where ______________ travel within the central nervous system then relaying a motor neuron to carry out an action through an efferent nerve in the peripheral nervous system.

9. A lack of acetylcholine could lead to Alzheimer's disease.
   A) True    B) False

10. _______________ are drugs that are designed to mimic a neurotransmitter.

11. The endocrine system uses a set of glands, including the pituitary gland- the master gland, which produce hormones that circulate throughout the body using the bloodstream enabling communication
   A) True    B) False
___ 12. The part of the hindbrain which controls wakefulness and arousal.
   A) Pons  
   B) Medulla  
   C) Cerebellum  
   D) Reticular formation  
   E) Hypothalamus

___ 13. Part of the brain that maintains eating, drinking, body temperature, and serves as a link between the brain and the endocrine system.
   A) Pons  
   B) Cerebellum  
   C) Reticular formation  
   D) Midbrain  
   E) Hypothalamus

___ 14. The thalamus serves as a relay center for the brain for all sensory information including smell.
   A) True  
   B) False

15. The ________________________ connects the two hemispheres.

___ 16. Type of lobe that controls thinking, emotional control, and muscle movement.
   A) Frontal  
   B) Parietal  
   C) Temporal  
   D) Occipital  
   E) Cerebral

___ 17. A type of lobe that processes auditory information.
   A) Occipital  
   B) Parietal  
   C) Frontal  
   D) Temporal  
   E) Cerebral

___ 18. The left hemisphere processes language and the right hemisphere process nonverbal, spatial, musical, and visual recognition tasks.
   A) True  
   B) False

19. The ________________ area is involved in spoken language located on the left hemisphere.

___ 20. An imaging technique that involves injecting a radioactive glucose while the brain is performing a task.
   A) EEG  
   B) PET  
   C) MRI  
   D) CAT  
   E) Lesioning
Biological Psychology

Basic Structure of a Neuron

1. What are the two basic types of cells in the nervous system?
   Neurons and Glial Cells
   a. Cells that process incoming signals and respond by sending out signals of their own and are considered the basic building blocks of the brain’s anatomy are called neurons
   b. Cells that aid in the transferring of a signal and help keep the basic structure of the nervous system intact and are necessary for neurons to function are called __________

2. All neurons have an outer membrane that helps protect information kept within the cell body. The outer regions of a neuron contain branch-like structures that receive information from adjacent neurons called __________
   a. The centerpiece of a neuron that contains information (DNA) that determines how a neuron will function is called the nucleus
   b. The cell body of the nucleus that produces neurotransmitter substances and helps protect the vital information contained in the nucleus is called the soma
   c. What is just outside of the soma that serves as a “gatekeeper” through determining whether information will proceed down the neuron?
      Axon hillock
   d. When the axon hillock allows information to precede, this information then travels down the __________, which is the neural fiber that transmits or sends information from the soma to the other end of a neuron.
   e. A fatty tissue substance that protects information stored inside the axon and also aids in the speed of the transmission of information is called the __________
      i. If myelin breaks down, the electrical impulse within the axon will leak out resulting in information not traveling down the axon. The depletion of myelin, as a result, could lead to?
      g. Spaces or gaps between sections of myelin that speed up the process of transmission are called nodes of ranvier
   g. Once information reaches the axon terminal/buttons, the ending part of a neuron, it is sent via release channels into the __________, the space between axon terminal of one neuron and the dendrites of an adjacent neuron.
h. Chemicals that transfer information from one neuron to another and are released into the synaptic cleft or synapse are called ________________

i. An area of the dendrites that accepts neurotransmitters is called the receptor site

m. Neurotransmitters that do not quickly bind to an appropriate receptor site are forced to return back to the axon terminal via or through the ________________ where they then wait until another signal allows them to reenter the synapse.

**Types of Neurons**

3. What are responsible for the communication of information?
   - Neurons
     a. Neurons that transmit information form the spinal cord to the brain, and help our brain register sensory information are called ________________
     
     b. Efferent or motor neurons are responsible for?
        Transmit information from the brain to muscles and glands

     i. Your brain is able to identify that your hand is touching something hot via which type of neuron?
        ________________

     ii. Your hand dropping whatever is hot is made possible via which type of a neuron?
        ________________

**Neural Communication**

4. How one neuron communicates with another neuron is possible through a neural? ________________

5. Negatively charged chloride (Cl-) ions exist within the axon, resulting in a negative charge called ________________

   a. Negatively charged ions wait for stimulation within the axon- the neuron is said to be inactive and is waiting for another action potential. This refers to the ________________

   b. When a neuron is stimulated, channels along the axon start to allow positively charged sodium (Na+) and potassium (K+) ions to enter. This then allows the sodium and potassium channels to open allowing the electrochemical process to continue down the axon. This process is called? ________________
c. A change in the balance of the overall charge of the neuron causes the electrochemical signal to travel or is fired along the axon. This is referred to as a?

___________________________

d. A point of excitation on the neuron that must be reached for an action potential to occur refers to exceeding the _______________

e. After a neuron fires, there is a time period when the neuron recharges itself electrically until it reaches polarization. Until this occurs the neuron can’t fire an action potential. This period is referred to as the?

________________________

**Neurotransmitters**

6. Inside the buttons or knobs at the end of the axon terminals are sacs or vesicles that contain substances known as?

________________________

a. Neurotransmitters are involved in everything from bodily movements to emotions and can be either inhibitory or excitatory:
   b. If a neurotransmitter carries an inhibitory message then what happens?
      Discouraging the firing of the receiving neuron
   c. If a neurotransmitter carries an excitatory message then what occurs?
      Encouraging the firing of the receiving neuron

7. Explain the functions of each of the following neurotransmitters and discuss when excess of or deficiency of each could result in.

<table>
<thead>
<tr>
<th>Neurotransmitter</th>
<th>Function</th>
<th>Excess</th>
<th>Deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Memory, mood, voluntary muscle movement</td>
<td>Convulsions or excess shaking</td>
<td>Alzheimer’s disease paralysis</td>
</tr>
<tr>
<td></td>
<td>Feelings of euphoria (reward), movement</td>
<td>Schizophrenia</td>
<td>Parkinson’s disease</td>
</tr>
<tr>
<td></td>
<td>Mood, appetite, impulsiveness</td>
<td>Tremor’s, headaches</td>
<td>Depression, eating disorders, alcoholism, aggression</td>
</tr>
<tr>
<td></td>
<td>Mood, sleep, movement</td>
<td>Lethargy</td>
<td>Anxiety disorders, Huntington’s disease</td>
</tr>
<tr>
<td></td>
<td>Alertness, sleep, learning</td>
<td>Fear, anxiety</td>
<td>Depression</td>
</tr>
<tr>
<td></td>
<td>Memory</td>
<td>Brain damage due to overstimulation</td>
<td>Neurological disorders</td>
</tr>
</tbody>
</table>
1. The part of a neuron that receives information from other neurons is called: *RC: Like the entrance to a water slide*
   A) Dendrites  B) Axon  C) Soma  D) Axon hillock  E) Nucleus

2. The part of a neuron that covers or insulates the axon and speeds up the transmission; when depletes could lead to multiple sclerosis. *RC: Think of the water in a slide that allows you to go faster down the slide*
   A) Dendrites  B) Axon  C) Myelin sheath  D) Axon hillock  E) Synapse

3. The synapse is defined as: *RC: Think of the pool that you have to swim through to get to other side to ride the slide again*
   A) The aid and support provided to a neuron for suspendibility.
   B) The receiving part of a neuron.
   C) The sending part of a neuron.
   D) The insulation of the axon allowing speedy transmission of a message.
   E) The gap between two neurons that neurotransmitters cross.

4. Occurs though the process of depolarization when positive energy surpasses the threshold leading to a(n): *RC: Think of crossing the finishing line reaching full speed*
   A) Synaptic cleft  D) Repolarization
   B) Action potential  E) All-or-nonresponse
   C) Refractory period

5. The inability after an action potential to generate another action potential is referred to as: *RC: Think of trying to flush a toilet right after the water goes down*
   A) All-or-nonresponse  D) Refractory period
   B) Depolarization  E) Synapse transmission
   C) Repolarization
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurons</td>
<td>A nerve cell serves a messenger nervous system</td>
<td>Like a teacher who delivers instruction</td>
</tr>
<tr>
<td>Glial cells</td>
<td>Cells in nervous system help to hold neurons together through providing energy and restoring damage; produce myelin sheath</td>
<td>Like the teacher aids who make sure the teacher has all the necessary materials to deliver the instruction</td>
</tr>
<tr>
<td>Soma</td>
<td>Cell body of a neuron that contains the nucleus</td>
<td>Like the inner tube that you sit when you go down a slide</td>
</tr>
<tr>
<td>Axons</td>
<td>The sending part of a neuron</td>
<td>The slide you do down</td>
</tr>
<tr>
<td>Dendrites</td>
<td>Bushy like part of a neuron where messages are received</td>
<td>Like entrance to waterslide receiving people</td>
</tr>
<tr>
<td>Myelin sheath</td>
<td>Insults the axon and speeds up the neural impulse with in the axon; if deteriorates can lead to multiple sclerosis</td>
<td>Like the water in the slide that allows you to go fast down the slide</td>
</tr>
<tr>
<td>Nodes of Ranvier</td>
<td>Gaps within the myelin sheath that help to speed up the impulse</td>
<td>Bumps in waterslide that allow you to go faster down slide</td>
</tr>
<tr>
<td>Axon hillock</td>
<td>Considered gatekeeper determining if information will proceed through neuron</td>
<td>Like the lifeguard who decides when you can go down the slide</td>
</tr>
<tr>
<td>Axon terminal buttons</td>
<td>Ending part of a neuron where neurotransmitters are stored and released</td>
<td>The last part of slide when you shoot into the water</td>
</tr>
<tr>
<td>Synapse</td>
<td>The gap between the dendrites of one neuron and the axon of another neuron</td>
<td>The pool you land in that you have to swim across to get to the ladder to get back on slide</td>
</tr>
<tr>
<td>Presynaptic neuron</td>
<td>The sending neuron</td>
<td>Pre means before</td>
</tr>
<tr>
<td>Reuptake</td>
<td>The process of sending neuron reabsorbing excess neurotransmitters left in synapse</td>
<td>Like a vacuum cleaner that sucks up dirt/ reuptake sucks up neurotransmitters left in synapse</td>
</tr>
<tr>
<td>Postsynaptic neuron</td>
<td>The receiving neuron</td>
<td>Post means after</td>
</tr>
<tr>
<td>Afferent (sensory) neurons</td>
<td>Neurons that transmit information from the spinal cord to the brain and interpret sensory information</td>
<td>S= sensory neuron A= afferent neuron M= motor neuron E= efferent neuron</td>
</tr>
<tr>
<td>Efferent (motor) neurons</td>
<td>Neurons that send information from brain to muscles and glands</td>
<td>Interneurons are located WITHIN the spinal cord</td>
</tr>
<tr>
<td>Interneurons</td>
<td>Make up central nervous system and communicate internally between sensory- motor neurons</td>
<td></td>
</tr>
<tr>
<td>Action potential</td>
<td>A neural impulse caused by a brief electrical charge that travels down neuron</td>
<td>Like the firing of the gun that begins the race for a runner</td>
</tr>
<tr>
<td><strong>Resting potential</strong></td>
<td>(-70) indicating the state of a neuron at rest and thus capable of generating an action potential</td>
<td>The runner who waits on the starting line for the gun to fire for him or her to start running</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Depolarization</strong></td>
<td>Input to a neuron causes inside of cell to become positive as sodium ions enter the membrane causing an action potential</td>
<td>Like the runner who starts sprinting down to the finish line</td>
</tr>
<tr>
<td><strong>Repolarization</strong></td>
<td>After depolarization cell returns back to negative state as potassium moves out membrane</td>
<td>The runner walks back to the starting line to begin another race</td>
</tr>
<tr>
<td><strong>Refractory period</strong></td>
<td>The time right after an action potential when a neuron is incapable of producing an action potential; referred to as hyperpolarization- the charge falling below -70</td>
<td>The runner who puts his hands on knees because needs a little extra time before able to run at full speed/ or waiting for the toilet water to get back to the original level before flushing again</td>
</tr>
<tr>
<td><strong>Threshold</strong></td>
<td>Minimum amount of stimulation to generate action potential</td>
<td>A runner who hits finish line at full speed or pushing turn style</td>
</tr>
<tr>
<td><strong>All-or-none response</strong></td>
<td>A neuron will either fire an action potential or not and will always be at same intensity</td>
<td>Like firing a shotgun the bullet comes out at the same speed each time fired</td>
</tr>
<tr>
<td><strong>Excitatory message</strong></td>
<td>A message that produces an action potential</td>
<td>Like hearing from a friend wants to go to prom- you get excited</td>
</tr>
<tr>
<td><strong>Inhibitory message</strong></td>
<td>A message that does not create an action potential</td>
<td>A maybe answer about prom causes nothing to happen</td>
</tr>
<tr>
<td><strong>Neurotransmitters (NT)</strong></td>
<td>Chemical messengers carry information cross the synapse</td>
<td>Students who carry information to other classes and students</td>
</tr>
<tr>
<td><strong>Acetylcholine</strong></td>
<td>A NT enables muscle action, memory, learning; deterioration could lead to Alzheimer disease</td>
<td>A for acetylcholine and A for Alzheimer’s disease</td>
</tr>
<tr>
<td><strong>Dopamine</strong></td>
<td>A NT influences movement, learning, attention, emotion; excessive dopamine could lead to schizophrenia, lead to Parkinson disease</td>
<td>Too much dope could lead to going crazy like schizophrenia</td>
</tr>
<tr>
<td><strong>Serotonin</strong></td>
<td>A NT that affects mood, hunger, sleep and arousal; linked to depression</td>
<td>When sara (serotonin) at party everyone fine but if does not show up people get depressed</td>
</tr>
<tr>
<td><strong>Norepinephrine</strong></td>
<td>A NT helps alertness and arousal; too much could lead to anxiety problems, too little could lead to depression</td>
<td></td>
</tr>
<tr>
<td><strong>GABA</strong></td>
<td>A NT that serves as an inhibitory effect on the brain; too little could lead to seizures, insomnia</td>
<td></td>
</tr>
<tr>
<td><strong>Glutamate</strong></td>
<td>A NT involved in memory; too much cause migraine seizures</td>
<td>Glutamate is like GLUE that holds your memories together</td>
</tr>
<tr>
<td><strong>Endorphins</strong></td>
<td>A NT linked to pain control and pleasure “runner’s high”</td>
<td></td>
</tr>
</tbody>
</table>
___ 1. Cells that aid in transferring of a signal and helping to keep the basic structures of the nervous system intact.  A) Dopamine

___ 2. A branch-like structure of a neuron that receives information from other neurons.  B) Myelin sheath

___ 3. The part of the neuron that is considered the sending part of the neuron.  C) Dendrites

___ 4. Encases the axon and helps to speed up the transmission of information; but when decreases could lead to multiple sclerosis.  D) All-or-none response

___ 5. The ending part of a neuron where neurotransmitters are released into the synapse.  E) Glial cells

___ 6. A brief electrical charge resulting from the process of depolarization allowing positively charged sodium and potassium ions to enter.  F) Acetylcholine

___ 7. Once the threshold is reached a neuron will fire at full strength or simply not at all. This is referred to as the:  G) Axon

___ 8. A period after an action potential occurs where a neuron is not capable of firing another action potential until retuning to the resting potential.  H) Action potential

___ 9. Too much of this neurotransmitter could lead to schizophrenia; while too little could lead to Parkinson's disease.  I) Axon terminal

___ 10. A neurotransmitter that when in reduction could lead to Alzheimer's disease.  J) Refractory period
A. Neuron: Communication of the Nervous System
   1. Neuron - nerve cell; the basic building block of the nervous system
   2. Dendrite - busy, branching extensions of a neuron that receive messages and conduct impulses toward cell body
      a. Neurons can’t divide - but dendrites can grow
   3. Soma - cell body of a neuron, which contains the nucleus and other parts that keep neuron healthy
   4. Axons - extension of a neuron through which neural impulses are sent
   5. Myelin sheath - covers the axon and speeds up transmission
      a. Nodes of Ranvier - gap in the myelin sheath
   6. Axon terminals - endpoint of a neuron where neurotransmitters are stored
   7. Glial cells - cells in nervous system that hold neurons together and help them communicate with one another by providing energy and restoring damage - produce myelin sheath

B. Neural Impulse
   1. Resting potential (-70) - state of neuron when it is at rest and capable of generating an action potential
      a. Depolarization - input to neuron causes inside of cell to become more positive as sodium enters causing an action potential
      b. Action potential - a neural impulse - a brief electrical charge that travels down the axon of a neuron
         1. Action potentials are based on movements of ions between the outside and inside of the cell - semipermeable barrier
      c. Repolarization - after depolarization inside of cell becomes negative again as potassium moves out
      d. Hyperpolarization - after repolarization charge falls below -70 resulting in a refractory period
         1. Refractory period - the “recharging” when a neuron, after firing, cannot generate another action potential
   2. Threshold - level of stimulation necessary to trigger an action potential
   3. All-or-none potential - principle stating that if a neuron fires it always fires at the same intensity

C. Neural Communication
   1. Synapse - tiny fluid gap between the axon terminal and dendrites of another neuron - action potentials can’t jump
   2. Neurotransmitter - chemical messenger that travels across the synapse from one neuron to the next and influences whether an action potential will happen
      a. Presynaptic neuron - neuron that sends neurotransmitter
         1. Reuptake - sending neuron absorbs excess neurotransmitters to later reuse
      b. Postsynaptic neuron - neuron that receives neurotransmitter
      c. Excitatory postsynaptic potential - message that depolarizes neuron causing an action potential
      d. Inhibitory postsynaptic potential - a neurotransmitter that hyperpolarizes neuron - less likely receiving neuron will generate an action potential
3. Types of neurotransmitters
   a. Acetylcholine- enables muscle action, learning, memory
      i. Deterioration causes Alzheimer’s disease
   b. Dopamine- influences movement, learning, attention, and emotion
      i. Excess leads to schizophrenia/ lack of dopamine produces tremors and Parkinson’s disease
   c. Serotonin- affects mood, hunger, sleep, arousal
      i. Lack of linked to depression/ Prozac raises serotonin levels
   d. Norepinephrine- helps control alertness and arousal
      i. Lack of can depress mood
   e. GABA- major inhibitory neurotransmitter
      i. Lack of linked to seizures, tremors and insomnia
   f. Glutamate- major excitatory neurotransmitter; involved in memory
      i. Oversupply can overstimulate brain producing migraines or seizures
   g. Endorphins- linked to pain control and pleasure
4. Agonist- drug that boosts the effect of a neurotransmitter
   a. Antagonist- drug that blocks the effect of a neurotransmitter
D. Neural Chain
   1. Receptor cells- specialized cells that turn other kinds of energy into action potentials (eye’s receptor cells turn light energy into nerve impulses- transduction)
   2. Sensory nerves- nerves that carry information from the sense receptors (sensory neurons) to the central nervous system
   3. Interneurons- nerve cells in the brain and spinal cord responsible for processing information related to sensory input and motor output
   4. Motor nerves- nerves that carry information (motor neurons) to the muscles and glands from the central nervous system
The Nervous System

1. What are the two main branches of the nervous system?
   
2. What is the central nervous system comprised of?
   
3. What is the peripheral nervous system broken down into?
   
4. What role does the somatic and autonomic nervous systems of the peripheral nervous system play?
   Transferring of sensory and motor information

5. Break down the two division of the autonomic nervous system?

   1. Which part of the autonomic nervous system arouses the body and plays a part in the fight/flight response?
   
   2. Which part of the autonomic nervous system restores energy to the body aiding in calming the body down?

Organization of the Nervous System

2. Responsible for processing and distributing information throughout the body

   a. Responsible for cognitive functioning
   
   b. Responsible for transmitting information throughout the body
   
   c. Responsible for voluntary movement and regulation of vital processes
   
   d. Responsible for voluntary movement
   
   e. Regulation of vital human functioning like breathing, digestion, heartbeat
   
   f. Spends or releases reserved energy
   
   g. Restores and repairs spent energy
The Brain

3. Each brain is divided into halves or **hemispheres**

4. Michael Gazzaniga’s research on the hemispheres displays the tendency for one hemisphere to excel in the performance of certain tasks called **lateralization**

   a. Gazzaniga researched split-brain patients, who were patients that had their corpus callosum severed, which is the neural tissue-fiber that connects the two halves of the brain. Their corpus callosum was severed due to reduce symptoms of?

   b. The right hemisphere controls the **left** side of the body as well as performing visual-spatial tasks, recognizing faces, creativity and musical ability.

       a. The left hemisphere controls the right side of the body and also plays a part in what other functions?

           Language and grammar, logical analysis and problem solving, and mathematical

The Cerebral Cortex

5. Human brains are divided into 4 distinct lobes which are the:

   Frontal, parietal, temporal, and occipital lobes

6. Each lobe contains areas of the brain that receive and combine information from multiple sources allowing for the performance of complicated tasks. These areas are called

6. Each lobe also contains areas of the brain that are specialized in the production of certain tasks called

The Lobes and their Functions

7. The frontal lobe is responsible for controlling inhibitions, short-term memory, reasoning, and planning for the future. Damage to this area could result in what behaviors?

   Impulsive or profane, difficulty making decisions, and planning in future

8. What is the parietal lobe responsible for?

   Receiving and combining tactile (touch) stimuli from all over the body

   a. If there was damage to parietal lobe what could possibly occur?

      Inability to integrate sensations normally
9. The occipital lobe is responsible for processing visual stimuli and maintaining balance. If damage did occur to this lobe what could occur?
   Inability to perceive movement, identify colors, read/write words

10. The temporal lobe is responsible for processing auditory stimuli. If damage did occur to this lobe what may happen?
   Inability to understand spoken words and possibly forming new memories

**Association Areas of the Left Hemisphere**

11. The wernicke’s area is responsible for transforming spoken words into thoughts. If damage occurred to this area and a person was diagnosed with wernicke’s aphasia what does this indicate?
   Speak in long incoherent sentences

   a. Broca’s area is responsible for transferring thoughts into audible words. Damage could result in broca’s aphasia which is characterized by?
      Difficulty expressing their thoughts in spoken words

**Functional Areas of the Cerebral Cortex**

12. Which area of the brain is responsible for voluntary movements and is located at the back of the frontal lobe?

13. Which area of the brain is responsible for receiving sensory information?
___ 1. The peripheral nervous system is broken into two divisions identified as: *RC: Think about some people like to dance; and something in your body occur automatically*
   A) Sympathetic; parasympathetic  
   B) Central; autonomic  
   C) Somatic; autonomic  
   D) Central; sympathetic  
   E) Somatic; parasympathetic

___ 2. The sympathetic nervous system is described as: *RC: Remember S stands for speeds up*
   A) A nervous system that slows down or returns the body back to homeostatic state.  
   B) A nervous system that connects the body to the brain and spinal cord.  
   C) A nervous system in charge of voluntary movements in the body.  
   D) A nervous system that contains the brain and spinal cord.  
   E) A nervous system that excites the body characterized through fight-or-flight syndrome.

___ 3. The role of the corpus callosum is: *RC: Think about cables connecting the devices in your house*
   A) To connect the two hemispheres of the brain.  
   B) To speed up the transmission seen in the synaptic cleft.  
   C) To process visual features and stimuli.  
   D) To conduct electrical impulses throughout the frontal lobe.  
   E) To provide a sense of balance within the inner ear.

___ 4. Which of the following tasks does the frontal lobe govern? *RC: Think about why people tap their front part of their head when they make a bad decision*
   A) Visual processing  
   B) Auditory processing  
   C) Touch and tactile processing  
   D) Rationale and impulsivity control  
   E) Balance and coordination

___ 5. Which part of the brain assists in the ability to perform speech? *RC: Think of boca means mouth or broken speech*
   A) Wernicke's area  
   B) Cerebellum  
   C) Broca's area  
   D) Somatosensory cortex  
   E) Hippocampus
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central nervous system (CNS)</strong></td>
<td>Comprised of the brain and spinal cord</td>
<td>Brain and spinal cord located centrally in your body</td>
</tr>
<tr>
<td><strong>Peripheral nervous system (PNS)</strong></td>
<td>Sensory and motor nerves that connect the body to the CNS</td>
<td>Peripheral means out like the exits off a freeway that take you away from the freeway</td>
</tr>
<tr>
<td><strong>Somatic nervous system</strong></td>
<td>Part of the PNS that governs voluntary movements of the body’s skeletal system</td>
<td>SOME people VOLUNTARY choose to dance</td>
</tr>
<tr>
<td><strong>Autonomic nervous system</strong></td>
<td>Part of the PNS that governs automatic or involuntary movements like heart beat</td>
<td>Autonomic means AUTOMATIC happens without any conscious effort</td>
</tr>
<tr>
<td><strong>Sympathetic nervous system</strong></td>
<td>Part of the autonomic nervous system that arouses the body; fight-or-flight response</td>
<td>S for sympathetic and S for speeds up</td>
</tr>
<tr>
<td><strong>Parasympathetic nervous system</strong></td>
<td>Part of the autonomic nervous system that calms body down returning it to homeostatic state</td>
<td>Parasympathetic like a PARACHUTE that slows you down from crashing into the ground</td>
</tr>
<tr>
<td><strong>Nerves</strong></td>
<td>Bundles of axons within the peripheral nervous system that connect to the CNS</td>
<td>Nerves are like rope- bundles of string or axons intertwined together</td>
</tr>
<tr>
<td><strong>Afferent (sensory) nerves</strong></td>
<td>Nerves that carry information to the CNS</td>
<td>S= sensory neuron</td>
</tr>
<tr>
<td><strong>Efferent (motor) nerves</strong></td>
<td>Nerves that carry information away or out from the CNS</td>
<td>A= afferent nerves</td>
</tr>
<tr>
<td><strong>Neural networks</strong></td>
<td>Interconnected neural cells that form connections as a result of firing at same time</td>
<td>M= motor neuron</td>
</tr>
<tr>
<td><strong>Lateralization</strong></td>
<td>Tendency for either left or right hemisphere to specialize at certain tasks</td>
<td>E= efferent nerves</td>
</tr>
<tr>
<td><strong>Left hemisphere</strong></td>
<td>Responsible for language, logic, problem-solving, math</td>
<td></td>
</tr>
<tr>
<td><strong>Right hemisphere</strong></td>
<td>Visual-spatial tasks, recognition of faces, creativity, musical ability</td>
<td>Left dominate means good at math</td>
</tr>
<tr>
<td><strong>Corpus callosum</strong></td>
<td>Neural fibers that connect the right and left hemisphere</td>
<td></td>
</tr>
<tr>
<td><strong>Frontal lobe</strong></td>
<td>Responsible for controlling impulsive behavior, short-term memory, planning, and morality</td>
<td>You hit the FRONT part of your head when do something stupid because the frontal lobes are in charge of thinking</td>
</tr>
<tr>
<td>Parietal lobe</td>
<td>Receiving tactile (touch) information from the body</td>
<td>Parietal is touch and at the top of the head like playing duck-duck goose and you hit the top part of a person’s head</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Occipital lobe</td>
<td>Processes visual information and coordinates balance</td>
<td>O I Can SEE Or you go to DOC for eye glasses</td>
</tr>
<tr>
<td>Temporal lobe</td>
<td>Processes auditory information</td>
<td>You can HEAR the TEMP of a song</td>
</tr>
<tr>
<td>Association areas</td>
<td>Areas that receive and combine information from multiple sources and are found in each lobe</td>
<td>If you ASSOCIATE with several friends you maybe also helping them out at different times</td>
</tr>
<tr>
<td>Functional areas</td>
<td>Areas of the brain specialized at certain tasks</td>
<td>Function means to do something</td>
</tr>
<tr>
<td>Wernicke’s area</td>
<td>Association area located on the left hemisphere which is responsible for transforming spoken words into thoughts</td>
<td>Students have a hard time UNDERSTANDING DR. Wernicke</td>
</tr>
<tr>
<td>Broca’s area</td>
<td>Association area located on the left hemisphere responsible for transferring thoughts into spoken language</td>
<td>Boca means mouth Or you have Broken speech</td>
</tr>
<tr>
<td>Motor cortex</td>
<td>Functional area responsible for voluntary movements; located back of frontal lobe</td>
<td>Get hit in the front part of the brain you may have trouble motoring or moving</td>
</tr>
<tr>
<td>Somatosensory cortex</td>
<td>Functional area responsible for receiving sensory information; located front of parietal lobe</td>
<td>Soma means body - body senses</td>
</tr>
<tr>
<td>Aphasia</td>
<td>Inability to speak or communicate</td>
<td></td>
</tr>
</tbody>
</table>

87
1. A division of the peripheral nervous system that governs voluntary movements. A) Somatic nervous system

2. A division of the autonomic nervous system that excites or produces fight-or-flight syndrome. B) Occipital lobe

3. Neural tissues that connect the two hemispheres of the brain. C) Frontal lobe

4. A lobe that is responsible for controlling inhibitions, short-term memory, reasoning, and planning. D) Parietal lobe

5. A lobe that is responsible for processing visual stimuli and maintaining balance. E) Motor cortex

6. A lobe that is responsible for touch. F) Wernicke's area

7. An association area responsible for transferring thoughts into spoken language. G) Somatosensory cortex

8. An association area responsible for transforming spoken words into thoughts. H) Sympathetic nervous system

9. A functional area responsible for voluntary movements of the body located in the back of the frontal lobe. I) Broca's area

10. A functional area responsible for receiving sensory information located at the front of parietal lobe. J) Corpus callosum
A. Nervous System
   1. Central nervous system- includes brain and spinal cord
      1. Interneurons- make up CNS (billion) that internally communicate and intervene between the sensory inputs and motor inputs
      2. Sensory neurons- neurons that carry incoming information from the sense receptors to CNS (few million)
      3. Motor neurons- neurons that carry outgoing information from CNS to muscles and glands (few million)
   2. Reflex- simple, automatic, inborn response to a sensory stimulus- knee-jerk response
      a. Sensory neuron to interneuron (spinal cord) to motor neuron
   3. Neural networks- interconnected neural cells- with experience, networks can learn and strengthen as a result of firing together
   4. Peripheral nervous system- sensory and motor nerves that connect central nervous system to rest of body
      a. Nerves- neural cables containing bundled axons- part of the peripheral nervous system that connect to CNS
      b. Sensory nerves- nerves that carry information from the sense receptors (sensory neurons) to the central nervous system
      c. Motor nerves- nerves that carry information (motor neurons) to the muscles and glands from the central nervous system
   5. Somatic nervous system- division of peripheral nervous system that voluntary controls body’s skeletal muscles
      a. Afferent- incoming nerves
      b. Efferent- outgoing nerves
   6. Automatic nervous system- division of peripheral nervous system involuntary controls glands and muscles of internal organs
      a. Sympathetic nervous system- branch of autonomic nervous system that arouses body to deal with perceived threats- fight-or-flight response
      b. Parasympathetic nervous system- part of autonomic nervous system that calms body down
   7. Each hemisphere divided into four lobes:
      a. Frontal lobes- portion of cerebral cortex behind forehead- largest lobe- processes voluntary muscles movement and involved in planning, thinking, and emotional control
         i. Includes primary motor cortex- controls voluntary movement
         ii. Motor cortex in right hemisphere controls movements on left side of body and motor cortex in left hemisphere controls movements on right side
      b. Parietal lobes- portion of cerebral cortex lying top of head and toward rear- processes somatic sensations
         i. Includes somatosensory cortex- receives information about body sensations
      c. Occipital lobes- portion of cerebral cortex lying in back of head- includes visual processing areas
         i. Includes primary visual cortex- processes visual information
d. Temporal lobes- portion of cerebral cortex lying above ears- processes auditory information

   i. Includes primary auditory cortex- process auditory information

b. Association areas- on all four lobes- areas of the cerebral cortex- combine sensory and motor information and coordinate interaction among different brain areas- involved in higher mental functions such as learning, remembering, thinking, speaking

8. Cortical localization- notion that different function are located in different areas of the brain

9. Lateralization of function- notion that specific psychological or cognitive functions are processed primarily on one side of the brain- also referred to as lateralization

   a. Right hemisphere- handles nonverbal processing, including spatial, musical, and visual recognition tasks

      a. Spatial ability- ability to perceive or organize things in a given space- judging distance, understanding geometric shapes, packing a car done in right hemisphere

      b. Left hemisphere- handles verbal processing, including language, speech, reading, and writing

         a. Aphasia- impairment of language caused by left hemisphere damage either speaking or understanding

            i. Visual cortex- receives written words as visual stimulation

            ii. Angular gyrus- transforms visual representations into auditory code

            iii. Broca’s area- located in left frontal lobe- involved in expressive language- spoken language

            iv. Motor cortex- word is pronounced

            v. Wernicke’s area- located in left temporal lobe- controls receptive language- ability to understand what someone says

10. Brain plasticity- brain’s capacity for modification as in brain reorganizing following damage- especially in children

    a. Split-brain- condition in which two hemispheres are isolated by severing corpus callosum

       a. Roger Sperry thought cutting the fibers would reduce seizures
Inside the Brain

1. The brain is divided into 3 parts: hindbrain, midbrain, and forebrain.
   a. What is the hindbrain responsible for?
      Basic life functioning (heartbeat, digestion, arousal, and balance/coordination)
   b. The part of the brain that transmits information from the hindbrain to the forebrain and also helps to process information relating to our senses is called the midbrain
   c. The last part of the brain to form, and is the most complex part, that includes the brain structures that help regulate emotions, hunger levels, formation of long-term memories, growth hormones, and sense of smell is called the _________

2. Fill out the following chart:

<table>
<thead>
<tr>
<th>Location Brain Structures</th>
<th>Brain Structure</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hind Brain</td>
<td>Pons</td>
<td>Relays information between the cerebellum and cerebrum-brain</td>
</tr>
<tr>
<td></td>
<td>__________</td>
<td>Regulates alertness and arousal levels; damage could result in a coma</td>
</tr>
<tr>
<td></td>
<td>__________</td>
<td>Aids balance and coordination</td>
</tr>
<tr>
<td></td>
<td>Brain Stem</td>
<td>Lower part of brain/ connects to spinal cord to send and receive information</td>
</tr>
<tr>
<td>Midbrain</td>
<td>Striatum</td>
<td>Controls smooth body movements</td>
</tr>
<tr>
<td>Forebrain</td>
<td>Thalamus</td>
<td>Serves as a switchboard that relays information to appropriate areas of brain for processing/except smell</td>
</tr>
<tr>
<td></td>
<td>__________</td>
<td>Regulates hunger, thirst, fight or flight response, sex drive, body temp, maintains homeostasis</td>
</tr>
<tr>
<td></td>
<td>__________</td>
<td>Associated with fear and aggression</td>
</tr>
<tr>
<td></td>
<td>__________</td>
<td>Controls the formation of new explicit memories; has the largest concentration of acetylcholine-Alzheimer’s is connected to this area</td>
</tr>
<tr>
<td></td>
<td>Olfactory bulb</td>
<td>Structure transmits smell from nose to brain</td>
</tr>
<tr>
<td></td>
<td>__________</td>
<td>Known as the “master gland” responsible for the production and distribution of hormones throughout body</td>
</tr>
</tbody>
</table>

3. Which brain structures make up the limbic system and are associated with emotion, behavior, and long-term memory formation and is also known as the “pleasure system/center”?

________________________
________________________
1. Which neurotransmitter is dispersed by the limbic system?

How Psychologist Look at the Brain

4. What are some techniques used to study the brain?
   Electroencephalograph (EEG)/ compute tomography (CT or CAT)/ magnetic resonance imaging (MRI)/ functional magnetic resonance imaging (fMRI)/ positive emissions tomography (PET)/ transcranial magnetic stimulation (TMS)

   a. The first method for studying the brain was an EEG, which uses electrodes that are placed on the scalp to measure the brain’s electrical activity. What are EEG’s primarily used for? EEG

   b. What is a disadvantage associated with a CAT scan? Mental processes of the brain

   c. A CT or CAT scan produces a two-dimensional image based on X-rays taken around a single axis. This image gives an inside view of the brain. What is an advantage to using a CAT scan? View abnormalities

   d. A MRI, magnetic resonance imaging, which provides a more detailed view of the soft tissue found in the brain. What is one advantage to utilizing an MRI? No x-ray provides greater contrast of tissue

   e. A fMRI (functional magnetic resonance imaging) used to measure? Neural activity within brain

      a. Even though a fMRI can be used to show cognitive processing through blood flow, this technique does not show how neural networks work, which are defined as? Connection and functioning of neurons- allow us to think

   f. PET scans use radioactive liquid to measure metabolic and glucose processing. How do researchers use PET scans? Which brain areas are used during cognitive functions

   g. Trancranial magnetic stimulation (TMS) briefly excites neural activity, which will then cause neurons to become less active due to this overstimulation. Why would cognitive psychologist implement this technique? That area of the brain is responsible for a task

   h. CT/CAT scans and the MRI are good for detecting brain abnormalities due to lesions, tumors, strokes, aneurysms (broken blood vessels.) An EEG, PET, fMRI and TMS are functional devices used to measure brain activity
Endocrine System

11. The endocrine system is responsible for the release of chemical signals carried through the bloodstream, responsible for metabolism, height, muscle growth, and the onset of puberty- these chemical signals are called ________________.

12. Fill out the following chart:

<table>
<thead>
<tr>
<th>Name of Gland</th>
<th>Location</th>
<th>Hormone Produced</th>
<th>Function of hormone/ and gland</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________</td>
<td>Forebrain/ limbic system</td>
<td>none</td>
<td>Known as the “master of the master gland” controls pituitary gland</td>
</tr>
<tr>
<td>____________</td>
<td>Forebrain/ limbic system</td>
<td>Growth hormone (regulates height) Endorphins- natural pain killer</td>
<td>Known as “master gland” regulates the production of all glands and hormones in body</td>
</tr>
<tr>
<td>Pineal</td>
<td>Forebrain/ limbic system</td>
<td>Melatonin (regulates sleep)</td>
<td>Melatonin rises a person becomes tire/ darkness</td>
</tr>
<tr>
<td>Thyroid</td>
<td>Neck; u-shaped wraps around Adam’s apple</td>
<td>Thyroxin (controls basal metabolic rate or BMR)</td>
<td>Metabolizes food to produce energy</td>
</tr>
<tr>
<td>Adrenal</td>
<td>Above kidneys</td>
<td>Adrenalin (boosts supply of oxygen to brain and muscles) Cortisol (released in response to stress, acts as a stress fighter) Dopamine (acts as both a neurotransmitter and hormone,</td>
<td>Used for alertness levels, regulating stress, and fight-or-flight response</td>
</tr>
<tr>
<td>Reproductive</td>
<td>Located in lower/ trunk torso</td>
<td>Testosterone- increases size of muscles, growth of secondary sex characteristics Estrogen- growth of secondary sex characteristics</td>
<td>Found in males in testis/ production of sperm/ found in uterus/ responsible for female sex characteristics</td>
</tr>
</tbody>
</table>

Case Studies to Understand Cognitive Functioning

13. Describe what happen to Phineas Gage:
A piece of iron was shot into his brain working on a railroad/ was able to move but could not make decision and was impulsive- showed how certain parts of the brain are isolated
a. The removal of tissue in that area of the brain is called ablation
b. Tissue damage resulting from disease in the brain is called lesion
c. Changes that occur in the brain due to environmental factors is called plasticity
1. Which part of the brain is central to heart rate and breathing? *RC: Think of what keeps ME alive*
   A) Hippocampus  
   B) Hypothalamus  
   C) Reticular formation  
   D) Pituitary gland  
   E) Medulla

2. If a person had damage to the reticular formation then which of the following behaviors would be affected? *RC: Think of pay particular-reticular attention*
   A) Ability to speak coherent words.  
   B) Ability to understand what another person is stating.  
   C) Ability to catch one’s breathe in a fight-or-flight reaction.  
   D) Ability to concentrate and pay attention.  
   E) Ability to control one’s impulsivity.

3. The thalamus is rely center for a sensory information EXCEPT: *RC: Think of a secretary directing people to the proper place except people who have body odor*
   A) Vision  
   B) Auditory  
   C) Smell  
   D) Tactile  
   E) Kinesthetic

4. Which imaging technique is comprised of a radioactive gel that is administered in the body showing metabolically processing? *RC: Think of Pets who constantly need fluids*
   A) CAT scan  
   B) MRI  
   C) fMRI  
   D) EEG  
   E) Pet scan

5. Which part of the brain connects or bridges the endocrine system with the brain? *RC: Think of the master of the master gland*
   A) Hypothalamus  
   B) Hippocampus  
   C) Amygdala  
   D) Reticular formation  
   E) Cerebellum
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brainstem</td>
<td>Responsible for automatic survival reflexes; made up of the hindbrain and midbrain</td>
<td>Football helmets and car seats are designed to protect the brain stem</td>
</tr>
<tr>
<td>Hindbrain</td>
<td>Extension of the spinal cord where blood pressure, heart-rate, breathing are controlled</td>
<td>Hind means rear- first part of the brain to develop because connected with survival</td>
</tr>
<tr>
<td>Medulla</td>
<td>Control heart-rate and breathing</td>
<td>Medulla allows ME to be alive</td>
</tr>
<tr>
<td>Reticular formation</td>
<td>Concentration of neurons that controls wakefulness and arousal</td>
<td>Pay particular reticular attention</td>
</tr>
<tr>
<td>Cerebellum</td>
<td>Coordinates movement, balance, posture, implicit memories</td>
<td>Sara has great balance</td>
</tr>
<tr>
<td>Pons</td>
<td>Coordinates movements involves the left and right side of the body; processes dreams, sleep and arousal</td>
<td>Game of ping-pong the ball goes from one side to the other side- left then right</td>
</tr>
<tr>
<td>Midbrain</td>
<td>Structure between hindbrain and forebrain assisting in relaying information from sensory systems</td>
<td>Mid means middle</td>
</tr>
<tr>
<td>Substantia nigra</td>
<td>Area of midbrain; processes beginnings of finite movements and contain a large concentration of dopamine</td>
<td>Allows preschoolers to stay within the lines when they are writing</td>
</tr>
<tr>
<td>Forebrain</td>
<td>Highly sophisticated part of the brain responsible for most complex aspects</td>
<td>Fore means front</td>
</tr>
<tr>
<td>Cerebral cortex</td>
<td>Outer layer of the forebrain; in charge of thinking, learning, consciousness</td>
<td>Cerebral is involved in thinking like a CPU of a computer</td>
</tr>
<tr>
<td>Hypothalamus</td>
<td>Maintains drives like eating, thirst, fornication, body temperature</td>
<td>The man’s part of the brain- pizza, drink</td>
</tr>
<tr>
<td>Thalamus</td>
<td>Brain’s relay center that directs sensory information to proper areas; except smell</td>
<td>Like the secretary who tells people where to go in the building except for people who smell</td>
</tr>
<tr>
<td>Limbic system</td>
<td>Associated with emotion, behavior, and long-term formation; considered to be pleasure system because of production of dopamine</td>
<td>Everyone feels good when they are doing the limbo dance</td>
</tr>
<tr>
<td>Amygdala</td>
<td>Associated with fear and recognition of facial expressions</td>
<td>Never make AMY mad- she is very emotional</td>
</tr>
<tr>
<td><strong>Hippocampus</strong></td>
<td>Forms new explicit memories and contain large amounts of acetylcholine</td>
<td>Hippos have good memories and never get lost on a college CAMPUS</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Olfactory bulb</strong></td>
<td>Transmits sense of smell to brain</td>
<td>Old factories smell</td>
</tr>
<tr>
<td><strong>EEG</strong></td>
<td>Measure brain activity</td>
<td></td>
</tr>
<tr>
<td><strong>CAT or CT scan</strong></td>
<td>Produces an image of the brain</td>
<td>Like a PICTURE of a Cat on your shelf</td>
</tr>
<tr>
<td><strong>MRI</strong></td>
<td>Provides detailed view of tissue in the brain</td>
<td>MRI means MORE detail</td>
</tr>
<tr>
<td><strong>fMRI</strong></td>
<td>Measures neural activity in the brain</td>
<td>F means to function or do something</td>
</tr>
<tr>
<td><strong>PET scan</strong></td>
<td>Uses a radioactive gel to measure glucose metabolism</td>
<td>PETs have to always be able to drink fluids</td>
</tr>
<tr>
<td><strong>Trans cranial magnetic stimulation</strong></td>
<td>Excites neurons in areas of the brain</td>
<td></td>
</tr>
<tr>
<td><strong>Endocrine system</strong></td>
<td>Communication system that uses a set of glands that produce hormones that carry messages within the bloodstream</td>
<td>Much slower than the nervous system which means messages do not move as fast</td>
</tr>
<tr>
<td><strong>Hormones</strong></td>
<td>Messenger that functions like a neurotransmitter</td>
<td>Travel in the bloodstream</td>
</tr>
<tr>
<td><strong>Hypothalamus</strong></td>
<td>Brain area that controls the pituitary gland</td>
<td>The Master of the master gland-pituitary gland</td>
</tr>
<tr>
<td><strong>Pituitary gland</strong></td>
<td>Considered the master gland that governs all other glands and regulates growth</td>
<td>Master P</td>
</tr>
<tr>
<td><strong>Thyroid gland</strong></td>
<td>Gland that affects metabolism</td>
<td>Connected with body weight</td>
</tr>
<tr>
<td><strong>Adrenal glands</strong></td>
<td>Help trigger “fight-or-flight” response</td>
<td>Adrenal means to ADRENALIZE or speed up</td>
</tr>
<tr>
<td><strong>Testis</strong></td>
<td>Male sex hormone that secretes testosterone</td>
<td>Linked with aggressiveness</td>
</tr>
<tr>
<td><strong>Ovary</strong></td>
<td>Female sex hormone that releases estrogen</td>
<td></td>
</tr>
<tr>
<td><strong>Lesion</strong></td>
<td>Disease that causes tissue damage in the brain</td>
<td></td>
</tr>
<tr>
<td><strong>Plasticity</strong></td>
<td>Changes in the brain due to environmental factors</td>
<td>Plastic bottles can bend into different shapes</td>
</tr>
<tr>
<td><strong>Chromosomes</strong></td>
<td>Come in 23 pairs and contain DNA</td>
<td></td>
</tr>
<tr>
<td><strong>DNA</strong></td>
<td>Carry genetic information</td>
<td></td>
</tr>
<tr>
<td><strong>Genes</strong></td>
<td>Short segments of chromosomes comprised of DNA</td>
<td></td>
</tr>
<tr>
<td><strong>Dominate/recessive gene</strong></td>
<td>Dominate genes always displayed; recessive only if paired with another recessive gene</td>
<td></td>
</tr>
<tr>
<td><strong>Genotype</strong></td>
<td>Individual’s genetic heritage</td>
<td></td>
</tr>
<tr>
<td><strong>Phenotype</strong></td>
<td>Individual’s observable characteristics</td>
<td></td>
</tr>
</tbody>
</table>
___ 1. A part of the hindbrain that automatically controls basic life support system like respiration and heartbeat.  
A) Reticular formation

___ 2. Part of the hindbrain that regulates alertness and arousal levels.  
B) Endocrine system

___ 3. Part of the hindbrain that aids in balance and coordination of movement.  
C) Cerebellum

___ 4. The switchboard that relays sensory information to the appropriate area of the brain except smell.  
D) PET scan

___ 5. Considered the master gland that is controlled by the hypothalamus.  
E) MRI

___ 6. A system composed of the hippocampus, hypothalamus, and amygdala that is associated with emotion, behavior, and long-term memory.  
F) Pituitary gland

___ 7. A measuring device that produces a 2 dimensional image of the brain like an X-ray.  
G) CAT or CT scan

___ 8. A measuring device that provides a more detailed view of the soft tissue of the brain.  
H) Limbic system

___ 9. A measuring device that ingests a radioactive liquid to measure metabolic and glucose processing.  
I) Thalamus

___ 10. A communication system that releases hormones throughout the body.  
J) Medulla oblongata
A. Lower-level Brain Structures
   1. The Brainstem- oldest part and central core of brain- responsible for automatic survival functions- made up of the hindbrain and midbrain
   2. Hindbrain- an extension of the spinal cord contained inside the skull where blood pressure, heart rate, breathing, other vital functions are controlled
      a. Medulla- base of brainstem- controls life-support functions- heartbeat and breathing
      b. Reticular formation- nerve network in brainstem- plays an important role in controlling wakefulness and arousal
      c. Cerebellum- coordinates movement, balance, and posture- stores memories for movements
      d. Pons- helps coordinate movements on left and right sides of the body
   2. Midbrain- small structure between hindbrain and forebrain- relays information from eyes, ear, and skin/ controls certain types of automatic behaviors
      a. Substantia nigra- area of the midbrain- involved in smooth beginning of movement- contains large concentration of dopamine-producing neurons
   B. Forebrain- most highly developed part of the brain- responsible for most complex aspects of behavior and mental life
   3. Hypothalamus- neural structure lying below thalamus- maintains eating, drinking, body temperature and linked to emotion
      a. Suprachiasmatic nuclei- regulates biological rhythms in the hypothalamus
   1. Limbic System- ring of structures at border of brainstem and cerebral cortex- regulate memory, fear, aggression, hunger, and thirst
      a. Hippocampus- neural center- helps process new memories for permanent storage
      b. Amygdala- two almond shaped neural centers linked to emotion- fear and anger
      c. Thalamus- brain’s relay center- top of brainstem- directs messages to sensory receiving areas in the cortex except smell- “switchboard operator of the brain”
   2. Cerebral Cortex- wrinkled outer portion of the forebrain- contains the most sophisticated brain centers- composed of glial cells, axons- referred to as “gray matter”
      a. Longitudinal fissure- long crack running from front to back of cerebral cortex separating left and right hemispheres
      b. Cerebral hemispheres- nearly symmetrical left and right halves of the cerebral cortex
      c. Corpus callosum- large band of neural fibers that connects two brain hemispheres

C. Imaging the Brain
   1. Computerized axial tomography- CAT- x-ray photographs taken of brain assembled by a computer
   2. Magnetic resonance imaging- MRI- uses magnetic fields and radio waves that produce computer generated images that distinguish different types of tissue
      1. Functional MRI- studies given functions of the brain
   3. Electroencephalogram- amplified recording of waves of electrical activity – measured through electrodes record brain functioning
   4. Positron emission tomography- PET- visual display of brain activity detects radioactive form of glucose while brain performs given task
   5. Lesioning- destroying a piece of the brain to learn about its functions
B. Endocrine System- a communication system- uses a set of glands- organs that produce hormones- chemical messengers that circulate through bloodstream
   i. Hormone- like neurotransmitter in function
      a. Hypothalamus- brain region controlling the pituitary gland
      b. Pituitary gland- endocrine system’s highest influential “master gland” regulates growth, works in conjunction with the brain controls endocrine system
      c. Thyroid gland- located in the neck- affects metabolism
      d. Adrenal glands- sits atop kidneys- helps trigger “fight-or-flight” response
      e. Release epinephrine and norepinephrine (also called adrenaline and noradrenaline)
      f. Pancreas- regulates level of sugar in blood
      g. Testis- secretes male sex hormones- release testosterone
      h. Ovary- secretes female sex hormones- release- estrogen
1. **Gliaial cells** - cells that provide nourishment and support **Neurons** - dendrites receive information / **axon hillock** - part of a neuron determines if information will be sent down **axon** - part of a neuron that sends information / **myelin sheath** - covers axon and speeds up transmission through gaps called (nodes of ranvier) and if depletes could lead to Multiple Sclerosis / **Neurotransmitter** - chemical messengers (contained in the axon terminals- end point of a neuron) that cross the synapse - the gap between neurons

2. **Neural communication** - **Action potential** - an excitatory message received dendrites of a neuron causes depolarization - cell becomes positively charged on inside as sodium ions enter that eventually exceeds the threshold - minimum amount of stimulation necessary to cause an action potential / **inhibitory message** would not cause action potential

3. **Refractory period** - period after a neuron fires an action potential and cannot fire another action potential (also called hyperpolarization) until the neuron returns back to the original resting potential -70 charge / **All-or-none principle** (aka all-or-none response) - neuron either fires or not and when does fire and also in the same intensity every time

4. **Agonist** - mimics neurotransmitter; opiates (heroin/ motrin) mimics endorphins (is the same thing) / **antagonist** - blocks the effects of a neurotransmitter; for example a poison called curare blocks AcH (acetylcholine)- causing muscles not to move (paralysis)

5. **Sensory neuron** - (afferent neuron) sense information from environment and carry information to the central nervous system traveling through afferent nerves (nerves are bundle of axons) in the peripheral nervous system / **motor neurons** (efferent neuron) carry out muscle movement from the central nervous system and travel through efferent nerves in the peripheral nervous system / **Interneurons** are located in the central nervous system.

6. **Central Nervous System** (CNS) - brain and spinal cord / **Peripheral Nervous System** (PNS) - connects the body to the CNS and includes the somatic nervous system - in charge of voluntary movement and the autonomic nervous system - in control of involuntary processing (digestion, heartbeat) and includes the sympathetic nervous system that speeds up the body and spends energy and the parasympathetic nervous system - returns body to homeostasis (normal relaxed state)

7. **Hindbrain** - vital areas of the brain for survival / **Medulla oblongata** - heartbeat and breathing / **Reticular formation** - arousal, alertness, and attention / **Thalamus** - relay center for all sensory information except smell / **Cerebellum** - balance and fine motor movements / **Pons** - left and right coordination and formation of dreams / **Brain stem** - connects to spinal cord to receive information

8. **Limbic system** - system in control of emotions, hunger, and thirst and is also known as the pleasure/system center as dopamine is made there/ this system includes the: **Hypothalamus** - fight or flight response, feeding, drinking, body temp, controls pituitary gland - the master gland in charge of releasing hormones throughout body / **Hippocampus** - responsible for formation of new explicit memories / **Amygdala** - emotion and facial recognition of emotions (fear, anger, aggression)


10. **Association areas** - areas of brain that receive information from multiple sources which include the: **Broca’s area** - left frontal lobe on left hemisphere; spoken language /
Wernicke’s area- left temporal lobe on left hemisphere; ability to understand what someone says or writes / aphasia- inability to talk or understand (depending on where it affects brain)/ lesion- tissue damage resulting from a disease

11. Cerebral cortex – most advanced portion of the human brain controlling decision making; distinguishes humans from other animals/ Right hemisphere- creative process emotions

12. Endocrine system- allows communication in the body through hormones that circulate in bloodstream controlled by the master gland called pituitary gland and connected to the brain through hypothalamus- the master of master gland

13. CAT scan- X-ray picture of the brain/ MRI- more detailed view of tissue of brain using magnetic fields/ PET scan- uses radioactive liquid to see metabolic and glucose functioning/ EEG measures brain activity- brain waves for sleep/ fMRI- measures neural activity in the brain but does not show how neural networks work-

<table>
<thead>
<tr>
<th>Dendrites- receiving part of a neuron</th>
<th>Vs.</th>
<th>Axon- the sending part of a neuron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action potential- a neural or electrical impulse that causes a message to move down the axon</td>
<td>Vs.</td>
<td>Refractory period- period after an action potential a neuron is incapable of firing another action potential</td>
</tr>
<tr>
<td>Afferent neuron (nerve)- sends and carries information to the brain and spinal cord</td>
<td>Vs.</td>
<td>Efferent neuron (nerve) carries information away from the brain and spinal cord to rest of body</td>
</tr>
<tr>
<td>Central nervous system- brain and spinal cord</td>
<td>Vs.</td>
<td>Peripheral nervous system- connects the body to the brain and spinal cord</td>
</tr>
<tr>
<td>Somatic nervous system- division of PNS that controls voluntary movements</td>
<td>Vs.</td>
<td>Autonomic nervous system- division of the PNS that controls involuntary movements like breathing</td>
</tr>
<tr>
<td>Sympathetic nervous system- division of the ANS that speeds up the body except digestion</td>
<td>Vs.</td>
<td>Parasympathetic nervous system- division of the ANS that calms the body down</td>
</tr>
<tr>
<td>Broca’s area- located on left hemisphere and is in charge of speaking</td>
<td>Vs.</td>
<td>Wernicke’s area- located on left hemisphere in charge of understanding what others are communicating</td>
</tr>
<tr>
<td>Cerebral cortex- area of brain that involves decision-making- most sophisticated area of brain</td>
<td>Vs.</td>
<td>Cerebellum- are of brain that oversees balance and coordination</td>
</tr>
<tr>
<td>Hypothalamus- area of brain that governs biological drives- eating, drinking, aggression</td>
<td>Vs.</td>
<td>Hippocampus- area of brain that processes explicit memories</td>
</tr>
<tr>
<td>Occipital lobe- visual information</td>
<td>Vs.</td>
<td>Temporal lobe- auditory information</td>
</tr>
<tr>
<td>Parietal lobe- processes tactile or touch information</td>
<td>Vs.</td>
<td>Frontal lobe- processes decision-making and thinking</td>
</tr>
<tr>
<td>Medulla oblongata- heartbeat and breathing</td>
<td>Vs.</td>
<td>Amygdala- fear and emotional expression/recognition</td>
</tr>
<tr>
<td>Endocrine system- involves hormones in the body that circulate through bloodstream</td>
<td>Vs.</td>
<td>Nervous system- involves neurons that move through nervous system- very fast</td>
</tr>
<tr>
<td>Cat (CT) scan- X-ray picture of the brain</td>
<td>Vs.</td>
<td>PET scan- radioactive liquid that measures metabolic functioning</td>
</tr>
</tbody>
</table>
1. The area of the brain essential to the formation of long-term explicit memories is
   (A) the pineal gland
   (B) the hypothalamus
   (C) the thalamus
   (D) the hippocampus
   (E) the pituitary gland

2. While running a marathon, Emily experienced an increase in the body’s natural painkiller. Which of the following chemicals has been associated with the alleviation of pain?
   (A) Serotonin
   (B) GABA
   (C) Melatonin
   (D) Endorphins
   (E) Acetylcholine

3. A person who has lesions on his brain is having difficulty verbalizing complete or coherent sentences. This person most likely suffered damage to what part of the brain?
   (A) Broca’s area
   (B) Wernicke’s area
   (C) Motor cortex
   (D) Auditory cortex
   (E) Somatosensory cortex

4. The fact that a neuron either fires at full strength or does not fire at all is the result of which of the following?
   (A) Depolarization
   (B) All-or-nothing principle
   (C) Level of excitation
   (D) Refractory period
   (E) Axon hillock processing

5. Dr. Dolan is interested in studying short-term memory and the role of the prefrontal cortex in related tasks. Which of the following techniques would he most likely use to determine whether the prefrontal cortex is involved in short-term memory?
   (A) Positive emissions tomography (PET) scan
   (B) Electroencephalograph (EEG)
   (C) Magnetic resonance imaging (MRI) scan
   (D) Computed tomography (CT or CAT) scan
   (E) Transcranial magnetic stimulation (TMS)

6. Underproduction of ___ has been associated with Alzheimer’s disease, whereas underproduction of ___ has been associated with Parkinson’s disease.
   (A) dopamine; acetylcholine
   (B) serotonin; GABA
   (C) acetylcholine; dopamine
   (D) norepinephrine; dopamine
   (E) acetylcholine; serotonin

7. Acetylcholine appears to play a vital role in the formation of long-term memories. It is reasonable to conclude that which area of the brain is most likely affected by Alzheimer’s disease?
   (A) Amygdala
   (B) Hypothalamus
   (C) Hippocampus
   (D) Corpus callosum
   (E) Thalamus

8. Olds and Milner (1954) concluded that which area of the brain is responsible for producing the neurotransmitter dopamine and has thus been given the distinction of being the brain’s “pleasure center”?
   (A) The limbic system
   (B) The auditory cortex
   (C) Broca’s area
   (D) Wernicke’s area
   (E) The reticular activating system
Chapter 2

Analogies of Psychology

Review

9. After having his corpus callosum severed, Juan would most likely experience which of the following problems?
   (A) An inability to form complete and coherent sentences
   (B) An inability to plan for future events
   (C) An inability to distinguish where a sound is coming from
   (D) An inability to control smooth bodily movements
   (E) An inability to correctly identify an object while holding it in his left hand

10. An excess of which neurotransmitter has been associated with schizophrenia, while a deficiency of the same neurotransmitter has been associated with Parkinson’s disease?
    (A) Serotonin
    (B) Melatonin
    (C) Dopamine
    (D) GABA
    (E) Acetylcholine

11. The deterioration of myelin, causing leakage of electrical activity within the axon, has been associated with which neurological disorder?
    (A) Parkinson’s disease
    (B) Alzheimer’s disease
    (C) Muscular dystrophy
    (D) Multiple sclerosis
    (E) Huntington’s disease

12. Which of the following is the result of the activation of the sympathetic nervous system?
    (A) Your palms are dry.
    (B) Your mouth is wet with saliva.
    (C) Your digestive system is processing food.
    (D) Your heartbeat is elevated.
    (E) Your respiration rate is lowered.

13. Which of the following is an example of the functioning of the somatic nervous system?
    (A) Dana just finished lunch, and her digestive system is working to process the food.
    (B) Feelings of embarrassment caused Alex’s face to turn red.
    (C) While he was running, Steve’s heart rate increased.
    (D) Aleshia began to perspire when she thought about her upcoming test.
    (E) Karly picked up her pencil after it had fallen to the floor.

14. Brittney’s ability to maintain balance during a dance routine is due to the functioning of which areas of the brain?
    (A) Temporal and frontal lobes
    (B) Frontal and occipital lobes
    (C) Cerebellum and temporal lobe
    (D) Occipital and temporal lobes
    (E) Cerebellum and occipital lobe

15. Tim is fifteen years old and seven feet tall. His parents are both about five-and-a-half-feet tall. Tim’s height is most likely due to an
    (A) overactive pineal gland
    (B) underactive pituitary gland
    (C) overactive pituitary gland
    (D) underactive thyroid gland
    (E) overactive thyroid gland
1. **Answer: D.** The hippocampus associated with transformation of short-term memories to long-term explicit memories. Studies have shown people who have damaged this area of brain experience difficulty transferring short-term memories to long-term memories, known as memory consolidation.

2. **Answer: D.** Endorphins are the body’s natural painkiller produced during times of physical exertion.

3. **Answer: A.** Broca’s area is responsible for turning thoughts into coherent words and sentences. Damage to this area will result in the person’s not being able to form complete or coherent words.

4. **Answer: B.** The all-or-nothing principle says that either a neuron fires or it does not; there is no half-firing of a neuron. This firing occurs when the threshold has been reached, causing the action potential to propel the electrical charge down the axon to the adjacent neuron.

5. **Answer: E.** Transcranial magnetic stimulation excites neurons in the applied area of the brain. Overstimulation of these neurons causes them to temporarily stop functioning. The prefrontal cortex region of the brain is associated with short-term memory. Thus, over stimulating neurons in this region will decrease activity, making short-term memory tasks difficult.

6. **Answer: C.** Alzheimer’s disease has been associated with the lack of acetylcholine. Parkinson’s disease has been associated with the lack of dopamine.

7. **Answer: C.** The hippocampus plays a vital role in the formation of long-term explicit memories. Alzheimer’s patients suffer from a deficiency of acetylcholine and have difficulty forming long-term memories; therefore, researchers conclude hippocampus is vital in formation of long-term memories.

8. **Answer: A.** Limbic system is considered to be the “pleasure center” of the brain produces dopamine.

9. **Answer: E.** The corpus callosum allows communication between right and left hemispheres of the brain. If Juan held something in his left hand, he would be unable to correctly state the name of the object. Information received by his left hand would be processed in right hemisphere, but Broca’s and Wernicke’s areas are located in left hemisphere, so labeling the object would be difficult task for John.

10. **Answer: C.** An excess of the neurotransmitter dopamine has been associated with schizophrenia, while a deficiency in it has been associated with Parkinson’s disease.

11. **Answer: D.** Multiple sclerosis (MS) is associated with the depletion of the myelin, which insulates the axon, within the central nervous system.

12. **Answer: D.** The sympathetic nervous system is responsible for spending stored energy. When your heart rate is elevated, the sympathetic nervous system is functioning properly.

13. **Answer: E.** The somatic nervous system is responsible for voluntary muscle movement.

14. **Answer: E.** The cerebellum is associated with balance and coordination. The occipital lobe is responsible for the processing of visual stimuli that help maintain balance.

15. **Answer: C.** The pituitary gland, also known as the master gland, is responsible for the secretion of growth hormones. An overactive pituitary gland will result in excessive secretion of growth hormones.
Developmental Psychology

Chapter 3

Chapter 3

Analogies of Psychology
Developmental Psychology

1. What refers to the field of how genetics and environment influences a person’s behavior?
   A. Nature refers to:
   B. Nurture refers to:
   C. Who believed that humans are born with a blank slate (tabula rasa)?
   D. What did Jean Rousseau believe determines development?

E. Who was the first to investigate development?
   i. What refers to the growth of an organism that occurs naturally and on a predetermined timetable and is uninfluenced by the environment?
   ii. Give an example:

F. Who disagreed with Gesell and believed that development is solely based on the environment?

Genetics

2. What are chromosomes?
   A. What is a complex molecule containing genetic information that makes up chromosomes?
   B. What are the biochemical units of heredity that make up the chromosomes; segments of DNA?
   C. What does genome refer to?

3. What do identical twins (monozygotic) develop from?

   A. Who develops from separate fertilized eggs and are genetically no closer than brothers and sisters, but do share the same fetal environment?

4. What refers to the mathematical estimate of variation among individuals within a designated group that can be attributed to genes?
Dimensions of Early Physical Development

5. How does human development begin as?

6. Describe the 3 stages of Prenatal development (before birth):
   A. Germinal stage:
   B. Embryonic stage:
   C. Fetal stage:

Prenatal Risks

7. What protects the fetus and provides nourishment through prevention of harmful agents passing through?
   A. What are harmful agents that could pass through the placenta and affect the fetus?
      i. If alcohol affects the fetus this could lead to:

The New Baby

8. Babies are born with reflexes; which are involuntary, not learned motor skills; natural. Describe the following reflexes:
   A. Grasping/ palmer:
   B. Rooting:
   C. Babinski:
   D. Moro:
   E. Stepping:
Temperament

9. What did Thomas and Chess term a person’s natural tendency to express emotions and needs in a particular way?
   A. Identify the three types of temperament:
   B. Temperament is initiated by nature, but what will this eventually become when nurture has an influence?

Developmental Theories of Jean Piaget

10. Jean Piaget believed that children develop a mental representation or blueprint (thoughts) of items, events, things in the environment. He referred to this as a:
   A. What refers to integrating or blending new information into an existing schema?
   B. What refers to when new information modifies an existing schema?

Jean Piaget’s Stage Theory

11. Sensorimotor Stage (ages 0-2 - learning through their senses)
   A. What is a searching behavior for an object that is no longer visible to a child?
      i. What is the an indication of?

12. Preoperational Stage (ages 3-7 - precognitive abilities - start of thought)
   A. What is egocentrism?
   B. What refers to the belief that inanimate objects share human feelings?
   C. What is the belief that events of nature are simply man-made?
   D. What is the preoperational an expression of?
      i. Give an example:

13. Concrete Operational Stage (7-11 - thinking about physically present things)
   A. What refers to the understanding that although the shape changes; the amount within remains the same?
   B. What is the process of putting objects into a series or an order?
   C. Understanding that concepts can be done backwards refers to?
Chapter 3  

Analogies of Psychology

14. Formal Operational (12+- thinking about things not present)

A. What is abstract or hypothetical thought?

B. What did David Elkind term when an adolescent believes he or she is invincible and nothing bad could happen?

C. David Elkind also believed that adolescents think everyone is watching them and concerned with what they are doing this is called?

Read the following passage and tell the parent who is asking the questions what Piaget term is being displayed by their child:

“My son continuously want to play hide-and-seek and he is becoming very good at it; he seems to find me every time I hide.” “Your son is displaying,” __________________________

“My son does not seem to respect other people’s things. Yesterday he grabbed his brother’s pizza slice right off his plate and ate it.” “Your son is displaying,” __________________________

“My daughter believes that her teddy bear is real; yesterday she tried to feed it.” “Your daughter is displaying ______________________

“I tried to explain to my son that when there is a thunder storm it is not bowling in the sky, but he does not get it.” “That is because your son is displaying,” __________________________

“I think it is cute when my son uses the blanket as a tent.” “That is because your son is in the ___________________________ stage”

“Finally my daughter understands that she is getting one scoop of ice cream no matter what size bowl she is getting.” “Your daughter has achieved,” __________________________

“My daughter finally thought about the consequences before she acted and made a good decision.” That is because your daughter is in the ____________________________ stage.

“I wish my son would not take so many risks when he is driving.” “Your son has a sense of __________________________” “And that he always thinks people are noticing every little thing that he does.” “That is called _________________________”

Strengths and Weaknesses of Piaget’s Stage Theory

15. List the strengths of Piaget’s theory:

i. 

ii. 

iii.
A. Identify the weaknesses associated with his theory:

i.

ii.

iii.

16. What model suggests that cognitive development is not stage related but more continuous?

**Environmental Influences on Child Development**

17. Who believed that cultural and social interaction between adults and child is responsible for cognitive development?

A. How did Vygotsky disagree with Piaget?

B. How did Vygotsky define the zone of proximal development?

C. What is the process of scaffolding?

**Attachment**

18. What is attachment?

A. Who studied what contributed to proper attachment?

B. How did he study the attachment process?

C. What did Harlow find through his experiment?

D. His research led to his idea that attachment is formed through:
Konrad Lorenz

19. What was Konrad’s Lorenz contribution to the aspects or timing of attachment?

A. What did he find to be an example of a critical period for attachment?

Attachment in Infants

20. Who studied the effects and different types of attachment?

A. How did Ainsworth study attachment?

B. What was the reaction that she was interested in?

21. Characterize the following types of attachment:

A. Secure attachment:

B. Anxious/ avoidant insecure attachment:

C. Anxious/ ambivalent insecure attachment:

Psychosocial Development

22. How did Erik Erikson believe psychological and social development occurs in a person?

A. What could occur if the child does not acquire the proper outcome in the designated stage?

B. In addition to parental influences, what did he believe could also play a role on a person’s development?
23. Characterize the following Erikson Stages

A. (0-1) Trust vs Mistrust
   
   Example:

B. (1-2) Autonomy vs. shame and doubt
   
   Example:

C. (3-5) Initiative vs. guilt
   
   Example:

D. (6-puberty) Industry vs. inferiority
   
   Example:

E. (adolescence) Identity vs. role confusion
   
   Example:

F. (early childhood) Intimacy vs. isolation
   
   Example:

G. (middle age) Generativity vs. stagnation
   
   Example:

H. Integrity vs. despair:
   
   Example:
Read the following passage of a person recalling events in their life and identify which Erikson stage they were in when the story occurred:

I remember the first my Dad gave me more responsibility and allowed me to mow the lawn all myself. _____________________________ Then there was the time when my mom finally let me eat my food without her help ______________________________. I remember the hardest thing about moving out was knowing that my parents were not in the room next to me __________________________. But luckily I met this girl and we ended up becoming very close friends and eventually starting dating. __________________________. It was also during this time, I enrolled in the school of business and discovered what I wanted to do with my life ______________________________. I guess the idea of going into business came from elementary when I won the entrepreneur award for most innovative. ______________________________. I hope to make enough money one day so I can volunteer and give back to the community ______________________________ so that way I will feel proud of my life.

**Parenting Style**

24. Who researched different types of parenting styles and how they affect children?

    A. What particular style did Baumrind find to be the most effective?

        i. What was a potential problem with her research?

25. Describe the different types of parenting styles:

    A. Authoritarian:

    B. Permissive-indifferent:

    C. Authoritative- democratic:

**Environmental influences on Socialization**

26. What does gender refer to?
A. What refers to the behaviors, attitudes, and personality traits associated with masculinity or femininity?

B. What is the psychological sense of being male or female?

27. How does the social learning theory of gender developments suggest gender develops?

A. Which theory believes that a person’s mental thoughts result in automatic responses to behaviors and attitudes concerning gender?

Adolescence- Identity Development Marcia

28. Describe the four ideas of identity development according to James Marcia:

A. Foreclosure:

B. Moratorium:

C. Identity diffusion:

D. Identity achieved:

Adolescence- Physical Development

29. When does adolescence begin?

A. What are primary sex characteristics?

B. What are secondary sex characteristics?

C. What appears to be the last area of the brain to develop?

Lawrence Kohlberg’s Moral Reasoning

30. How did Kohlberg study morality development?

A. How was each child’s answer based?
B. What was a criticism of Kohlberg’s method of research?

i. Who developed a theory for women morality based on upholding social relationships?

31. Describe the three levels of Kohlberg’s Morality Ladder?

A. Preconventional Morality:

B. Conventional Morality:

C. Postconventional Morality:

Physical, Social, and Cognitive Dimensions in Adult Development

32. Early adult years (20s-30s):

A. Physical changes:

B. Cognitive changes:

C. Social changes:

33. Middle adult years (40s-50s):

A. Physical changes:

B. Cognitive changes:

C. Social changes:

i. Midlife transition

ii. Midlife crisis- Michael Levinson:

iii. Middlescence- Gail Sheely:
34. Late adult years (60s-):
   A. Physical changes:
   B. Cognitive changes:
      i. Fluid intelligence:
      ii. Crystallized intelligence:
   C. Social changes:

**Two theories of Again: Nature vs. Nurture**

35. What is programmed senescence?

36. What is the wear-and-tear theory of aging?

**Death and Dying**

37. Who developed a theory on dying and grieving?
   A. What are the five stages of dying and grieving?
## Chapter Summation “Buzz Word(s)”

<table>
<thead>
<tr>
<th>Term</th>
<th>“Buzz word(s)”</th>
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<th>“Buzz word(s)”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature</td>
<td>Genetics, Rousseau</td>
<td>Nurture</td>
<td>Environment, Locke</td>
</tr>
<tr>
<td>Maturation</td>
<td>Natural aging</td>
<td>Chromosome</td>
<td>Contains genes</td>
</tr>
<tr>
<td>DNA</td>
<td>Genetic information</td>
<td>Genes</td>
<td>Heredity</td>
</tr>
<tr>
<td>Genome</td>
<td>Instructions</td>
<td>Identical twins</td>
<td>Single egg</td>
</tr>
<tr>
<td>Fraternal twins</td>
<td>Separate eggs</td>
<td>Heritability</td>
<td>Variation in groups</td>
</tr>
<tr>
<td>Germinal stage</td>
<td>Zygote divides</td>
<td>Embryonic stage</td>
<td>Organs, teratogens</td>
</tr>
<tr>
<td>Fetal stage</td>
<td>Long</td>
<td>Placenta</td>
<td>Protects, supplies</td>
</tr>
<tr>
<td>Teratogens</td>
<td>Harmful, alcohol</td>
<td>Rooting reflex</td>
<td>Touch, turn</td>
</tr>
<tr>
<td>Babinski reflex</td>
<td>Foot</td>
<td>Temperament</td>
<td>Natural expressions</td>
</tr>
<tr>
<td>Schema</td>
<td>Thought process</td>
<td>Assimilation</td>
<td>Same</td>
</tr>
<tr>
<td>Accommodation</td>
<td>change</td>
<td>Object permanence</td>
<td>Searching</td>
</tr>
<tr>
<td>Egocentrism</td>
<td>Only me</td>
<td>Animism</td>
<td>Teddy bear alive</td>
</tr>
<tr>
<td>Artificialism</td>
<td>Man made</td>
<td>Symbolic thought</td>
<td>Playing, preop</td>
</tr>
<tr>
<td>Conservation</td>
<td>Recognizing shape</td>
<td>Seriation</td>
<td>Order</td>
</tr>
<tr>
<td>Formal operational</td>
<td>Hypothetical if-then</td>
<td>Personal fable</td>
<td>Invincible</td>
</tr>
<tr>
<td>Imaginary audience</td>
<td>Watching</td>
<td>Information processing</td>
<td>Continuous</td>
</tr>
<tr>
<td>Zone of proximal development</td>
<td>Vygotsky “don’t leave”</td>
<td>Scaffolding</td>
<td>Little at a time</td>
</tr>
<tr>
<td>Contact comfort</td>
<td>Harlow; holding</td>
<td>Critical period</td>
<td>Timer; beat the clock</td>
</tr>
<tr>
<td>Imprinting</td>
<td>Konrad Lorenz; follow me</td>
<td>Secure attachment</td>
<td>Ainsworth; excitement</td>
</tr>
<tr>
<td>Insecure attachment</td>
<td>Avoid; cry</td>
<td>Trust vs. Mistrust</td>
<td>Depend (Erikson)</td>
</tr>
<tr>
<td>Autonomy vs. shame and doubt</td>
<td>In control</td>
<td>Initiative vs. guilt</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Industry vs. inferiority</td>
<td>Good at something</td>
<td>Identity vs. role confusion</td>
<td>Experimentation</td>
</tr>
<tr>
<td>Intimacy vs. isolation</td>
<td>Sharing</td>
<td>Generativity vs. stagnation</td>
<td>Giving back</td>
</tr>
<tr>
<td>Integrity vs. despair</td>
<td>Proud</td>
<td>Authoritarian parent</td>
<td>Strict</td>
</tr>
<tr>
<td>Authoritative</td>
<td>Democratic; model</td>
<td>Permissive parent</td>
<td>Not involved</td>
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<tr>
<td>Foreclosure- Marcia</td>
<td>Not your decision</td>
<td>Moratorium</td>
<td>Wait and see</td>
</tr>
<tr>
<td>Identify achieved</td>
<td>Who I am</td>
<td>Identity diffused</td>
<td>Who am I?</td>
</tr>
<tr>
<td>Gender role</td>
<td>Behaving</td>
<td>Gender identity</td>
<td>Psychological sense</td>
</tr>
<tr>
<td>Social learning</td>
<td>Imitating gender</td>
<td>Gender schema</td>
<td>Thought</td>
</tr>
<tr>
<td>Primary sex characteristics</td>
<td>Reproduction</td>
<td>Secondary sex characteristics</td>
<td>Looks</td>
</tr>
<tr>
<td>Preconventional morality</td>
<td>Avoid punishment/ gain reward</td>
<td>Conventional morality</td>
<td>Other people think</td>
</tr>
<tr>
<td>Conventional morality</td>
<td>Personal choice</td>
<td>Women morality</td>
<td>Relationships (Gilligan)</td>
</tr>
<tr>
<td>Fluid intelligence</td>
<td>Quick; decreases</td>
<td>Crystaline intelligence</td>
<td>know; increases</td>
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</tbody>
</table>
1. _______________ are harmful agents such as caffeine, nicotine, and alcohol (resulting in fetal alcohol syndrome) that could affect the development of the fetus during prenatal development.

2. The correct order of prenatal development begins with the zygotic period, continues to the fetal period, and finally ends with the embryonic period.
   A) True   B) False

3. The ______ reflex occurs when a baby’s cheek is touched and the baby turns his or her head in the direction of being touched enabling breast feeding.
   A) Grasping   B) Babinski   C) Rooting   D) Moro   E) Curling

4. ____________________ refers to the biological growth process and is not affected by learning.

5. Refers to new information that modifies or changes an existing schema, which is a mental organization or framework that organizes information or experiences.
   A) Assimilation   D) Temperament
   B) Accommodation   E) Blending
   C) Maturation

6. The correct order of Jean Piaget’s stages of cognitive development is sensorimotor, preoperational, concrete operational, and formal operational stage.
   A) True   B) False

7. Searching for an object that no longer is visible is referred to as _______________, which occurs in the sensorimotor stage.
   A) Animism   D) Achievement of conservations
   B) Lack of reversibility   E) Object permanence
   C) Egocentrism

8. _______________ is the inability to take into consideration other people’s point of view.

9. During the concrete operational stage, the recognition that although the shape changes the amount within stays the same is referred to as
   A) Egocentrism   D) Lack of reversibility
   B) Animism   E) Object permanence
   C) Achievement of conservations

10. According to Lev Vygotsky, the zone of proximal development is the indication of what a child can do alone versus when other people are around.
    A) True   B) False
11. Harry Harlow demonstrated in his experiment that monkeys formed attachments better with the wired-monkey who contained a feeding apparatus.
   A) True   B) False

12. According to Mary Ainsworth, ______________ attachment is characterized in her situation through a child exploring the room with mother present, exploring less when mother leaves, and showing pleasure when mother then returns.

13. According to Diana Baumrind, parents who use themselves as role models, reason with their children, emphasize maturity and have a tendency to produce children who are independent and mature are identified as _______ parents.
   A) Permissive   B) Nonconformist   C) Authoritarian
   D) Authoritative   E) Harmonious

14. Primary sex characteristic include the organs specific for sexual reproduction.
   A) True   B) False

15. According to Erik Erikson, adolescents search for who they are through experimentation of different ideals, values, and friends. This occurs in the ______________ stage.
   A) Intimacy vs. isolation   B) Identity vs. role confusion   C) Generativity vs. stagnation
   D) Initiative vs. guilt   E) Integrity vs. despair

16. The only reason Jimmy does not talk in class is that he does not want to get a detention. According to Lawrence Kohlberg, Jimmy is currently is the _________ level of morality.
   A) Conventional   B) Preconventional   C) Postconventional
   D) Personal fable   E) Denial

17. Carol Gilligan developed a theory of morality specific to women resulting from Lawrence Kohlberg's morality theory not concerning women.
   A) True   B) False

18. Jimmy feels embarrassed to shop in the women's department. His automatic thoughts could be supported through _____________ theory of gender development.

19. Fluid intelligence refers to the speed at which one is able to reason or retrieve an answer or thought, which increases with age.
   A) True   B) False

20. Elizabeth Kuber-Ross developed a theory of grieving and the process of death.
   A) True   B) False
Developmental Psychology

1. What are developmental psychologists’ interested in studying?
   Changes that occur in a person’s lifespan

2. Two major influences on human development are nature (genetics) and nurture (interactions with one’s environment.) Science attempts to answer which force has more of an influence, but most psychologists agree we are a combination of both. John Locke believed that humans are born with a blank slate (tabula rasa) meaning that we come into the world pure and our interaction or experiences with the environment shape who we are. Which argument would this support?

   Nurture
   
   a. Jean Jacques Rousseau believed that children develop naturally and any interference from the environment would harm our natural development. Which perspective does this support?

   Nature

   b. Arnold Gessell was the first to systematically or scientifically investigate the development of children. From using naturalistic observation, watching students act in their natural environment, he believed that the growth of an organism occurs on its own based on a predetermined timetable and without the aid of the environment, which he called ____________________

   c. John B. Watson, founder of American behaviorism, believed that during a child’s life, nurture is solely responsible for any development. Who was actually the first psychologist to consider the interaction of nature and nurture is responsible for children’s cognitive development?

   Jean Piaget

Dimensions of Early Physical Development

3. The beginning of human development occurs when a new cell created by the fertilization of the ovum by the sperm is formed called a zygote

a. Identify the 3 stages of prenatal development and explain what is occurring in each stage.

   1. **Germinal stage** zygote begins to divide into more cells

   2. **Embryonic stage** basic life support systems begin to form

   3. **Fetal stage** roughly the last seven months of prenatal development
Prenatal Risks

4. During prenatal development, what protects and also allows nutrients to reach the fetus?

   Placenta

   a. Certain harmful agents, however, sometimes do pass through the placenta and could cause damage or consequences to the fetus. These harmful agents are called?

   b. Some teratogens include nicotine, cocaine, and alcohol, which when a mother drinks alcohol during the prenatal period could result in ___________________________, which is characterized by mental impairments and facial impairments.

The New Baby

5. Babies are born with reflexes, which are involuntary, unlearned motor skills that are performed without any outside influences. Characterize the following reflexes:

   a. Grasping/palmer- placing any object in the palm of the baby’s hand will cause the baby to grab hold of that object tightly

   b. ________________________ lightly touching/rubbing the cheek will cause the baby to turn toward that side in preparation for nursing. The baby is vigorously “routing” for the mother’s nipple (source of nourishment)

   c. Sucking- inserting an object into the baby’s mouth will cause the baby to begin the act of obtaining food- typically follows the rooting reflex

   d. Babinski lightly moving a finger upward on the baby’s foot causes the toes to fan outward

   e. Swallowing- placing liquid in a baby’s mouth will elicit this reflex

   f. Stepping- baby will step when held upright- fades after 2 months and return after 8 months when baby is capable of walking

   g. Moro- when startled or dropped, the baby will exhibit this reflex by flinging the arms outward and then inward across the chest- will disappear after 2 months

Temperament

6. Babies struggle to communicate because their brains are not fully developed. Psychologists have noted that babies have a natural tendency to express emotions and needs in a particular way referred to as ________________________, which supports nature, but later can be affected by nurture.
Developmental Theories of Piaget
Jean Piaget’s Terminology

7. According to Piaget, each child develops a mental representation or map of the environment or world based on experiences called a _______________

   a. An attempt to integrate new information into an existing schema is referred to as __________________

   b. Accommodation is defined as: __________________________

Jean Piaget’s Stage Theory

8. Jean Piaget believed that children develop cognitively through a series of stages, each stage built or expanding on the previous one. Each child must pass through each stage to reach the next stage.

   I. Sensorimotor stage: (birth- 2 years) learning though one’s senses

      a. The belief that an object exists despite its being out of sight is called ______________

      b. If a child does not achieve object permanence then what is out of sight is out of mind

   II. Preoperational stage: (3-7 years) brain is still preoperational- not completely ready yet

      a. Understanding the world through the child’s own perspective; the inability to see the world through another’s perspective (not same as selfishness) refers to ______________

      b. An understanding that despite an apparent change in size/shape/length, the substance or amount remains constant or the same. This is referred to as ______________

      c. What is animism?

         Belief that inanimate objects share human characteristics such as feelings

      d. The belief that events of nature are man-made is referred to as artificialism

   III. Concrete operational stage (7-11 years) grasping or understanding of concrete/physical items.

      a. The process of putting objects into a series (smallest to largest) or putting objects that share similar characteristics (such as color or size) into the same category is referred to as seriation

      b. What is reversibility?

         Understanding that concepts can be reversed/ 8+4=12/ 12-4=8
IV. Formal operational stage (12 and up) child begins to think abstractly and hypothetically - weighing several options at once/while considering the consequences for their actions.

a. An individual’s belief that he or she is invincible and will not be harmed in any instance; he or she also believes that his or her ideas and opinions are unique and special. This is referred to as personal fable developed by David Elkind.

   a. David Elkind also believed that everybody is looking at one, who is on a stage for others to watch is called imaginary audience.

**Strengths and Weaknesses of Piaget’s Stage Theory**

9. Piaget was the first psychologist to suggest children progress cognitively through a series of stages. However, many present psychologists question his theory.

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>Piaget identified changes that occurred cognitively</td>
<td>Cognitive changes that take place during each stage are not as rigid as Piaget thought</td>
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<tr>
<td>The child is an active learner in the environment</td>
<td>Some children can understand higher level concepts before chronologically being in the next stage. Piaget thought</td>
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<tr>
<td>Piaget pioneered or started research in child development</td>
<td>Cognitive development does not appear to be as culturally universal as Piaget hypothesized</td>
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### 1. FAS or fetal alcohol syndrome is a leading cause of mental impairment; when alcohol affects it is referred to as a(n) *RC: Remember when a RAT bites you it can be bad*.

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<tr>
<td>B)</td>
<td>Accommodation</td>
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<tr>
<td>C)</td>
<td>Teratogen</td>
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<td>D)</td>
<td>Embryonic</td>
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<td>E)</td>
<td>Zygotic</td>
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### 2. According to Thomas and Chess, a natural tendency to emotionally respond to certain stimuli is referred to as: *RC: remember dogs are born with natural temperaments- gulden’s are friendly dogs*.

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<td>C)</td>
<td>Teratogens</td>
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<tr>
<td>D)</td>
<td>Seriation</td>
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<td>E)</td>
<td>Temperament</td>
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### 3. Jesse rolls the globe down the stairs and says, "ball." Mommy replies, "Jessie that is not a ball don't roll the globe!" According to Piaget, this correction is called: *RC: remember the CC stands for Correct and Change*.

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<td>C)</td>
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<tr>
<td>D)</td>
<td>Seriation</td>
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<td>E)</td>
<td>Reversibility</td>
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### 4. Which of the following examples best exemplifies the concept of object permanence? *RC: remember you retain a permanent image of an object that you can't see any more*.

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<table>
<thead>
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<tbody>
<tr>
<td>A)</td>
<td>Julie drops a toy off her high chair and continues to look on the ground despite that she can't see it.</td>
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<tr>
<td>B)</td>
<td>Richard holds up his hand on the phone indicating to his grandfather that he is four years old.</td>
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<td>C)</td>
<td>Richard understands that even though different types of containers can show having more or less; if the same amount of liquid is in each container there is no difference.</td>
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<tr>
<td>D)</td>
<td>June thinks that all birds fly despite if she is told differently.</td>
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<tr>
<td>E)</td>
<td>Rick is able to stack objects and then reverse in a separate direction.</td>
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### 5. Linda brags that she has more popcorn than all of her friends. The teacher explains to her that she ran out of bowls and had to give her a taller container that makes it look like she got more popcorn. Clearly Linda does not understand which of the following concepts? *RC: Think of energy drinks bottled in tall containers to give the idea there is more liquid*.

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<tbody>
<tr>
<td>A)</td>
<td>Egocentrism</td>
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<td>B)</td>
<td>Law of conservations</td>
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<tr>
<td>C)</td>
<td>Law of gravity</td>
</tr>
<tr>
<td>D)</td>
<td>Object permanence</td>
</tr>
<tr>
<td>E)</td>
<td>Seriation</td>
</tr>
<tr>
<td>Key Term</td>
<td>Definition</td>
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</tr>
<tr>
<td>Developmental psychology</td>
<td>Study of human development and changes that occur throughout life</td>
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<tr>
<td>Nature</td>
<td>The genetic role on development</td>
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<tr>
<td>Nurture</td>
<td>The environmental role on development</td>
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<tr>
<td>Tabula rasa</td>
<td>According to John Locke, people are born with a blank slate, which is dependent on environmental influences</td>
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<tr>
<td>Maturation</td>
<td>Growth of an organism occurs on its own and is has a predetermined time table of development</td>
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<tr>
<td>Zygote</td>
<td>A new cell created by fertilization</td>
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<tr>
<td>Germinal (zygotic) stage</td>
<td>The zygote divides into new cells</td>
</tr>
<tr>
<td>Embryonic stage</td>
<td>Life support systems start to form</td>
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<tr>
<td>Fetal stage</td>
<td>The final 7 months of development</td>
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<tr>
<td>Placenta</td>
<td>Protects the fetus through filtering out harmful agents</td>
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<tr>
<td>Teratogens</td>
<td>Harmful agents that could pass through the placenta and negatively affect the fetus</td>
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<tr>
<td>Reflexes</td>
<td>Involuntary and unlearned motor skills that enable survival</td>
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<tr>
<td>Rooting reflex</td>
<td>A reflexive behavior that includes touching a baby’s cheek and their head moving in that direction anticipating food</td>
</tr>
<tr>
<td>Temperament</td>
<td>According to Thomas and Chess, natural tendency to express emotions that include easy, difficult, or slow-to-warm-up</td>
</tr>
<tr>
<td>Schema</td>
<td>According to Jean Piaget, a mental representation or thought of a place, person, or thing established through experience</td>
</tr>
<tr>
<td><strong>Assimilation</strong></td>
<td>Blending new information from the environment into an existing schema</td>
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<tr>
<td><strong>Accommodation</strong></td>
<td>New information that modifies or changes and existing schema</td>
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<tr>
<td><strong>Stage theory of cognitive development</strong></td>
<td>According to Jean Piaget, a child develops cognitively through the sensorimotor, preoperational, concrete, and formal operational stages.</td>
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<tr>
<td><strong>Object permanence</strong></td>
<td>A child’s searching for an object that is no longer visible, which demonstrates the beginnings of memory</td>
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<tr>
<td><strong>Egocentrism</strong></td>
<td>Understanding the world through one’s own perspective and failing to see other people’s perspectives</td>
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<tr>
<td><strong>Animism</strong></td>
<td>The belief that inanimate objects share human feelings</td>
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<tr>
<td><strong>Artificialism</strong></td>
<td>The belief events that occur in nature are caused by humans</td>
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<tr>
<td><strong>Conservation</strong></td>
<td>The understanding that changes in shapes or containers do not alter the amount within</td>
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<tr>
<td><strong>Seriation</strong></td>
<td>The ability to place objects in a series or category</td>
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<tr>
<td><strong>Reversibility</strong></td>
<td>The understanding that concepts can be reversed</td>
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<td><strong>Abstract thought (hypothetical thought)</strong></td>
<td>Examining several thoughts or decisions before making a choice</td>
</tr>
<tr>
<td><strong>Personal fable</strong></td>
<td>According to David Elkind, the belief one is invincible and nothing terrible can occur</td>
</tr>
<tr>
<td><strong>Imaginary audience</strong></td>
<td>According to David Elkind, the belief that everyone is concerned with what you do</td>
</tr>
<tr>
<td><strong>Information processing model of cognitive development</strong></td>
<td>The belief that cognitive development is continuous in growth and development</td>
</tr>
</tbody>
</table>
1. The growth of an organism that occurs naturally and is predetermined unaffected by environmental factors.

2. Harmful agents that could pass through the placenta and affect fetal development.

3. A type of reflex that when touched on the cheek the baby will turn their head in that direction anticipating food.

4. A natural tendency to express emotions and needs in a particular method through an easy, slow-to-warmup, or difficult manner.

5. A mental representation or map of the environment or world based on active experiences.

6. Integrating or blending new information into existing schemas.

7. Modification or changing of an existing schema due to new information.

8. Searching for an object that is no longer visible through demonstration of memory.

9. An understanding of the world through one’s perspective and a failure to see other people's perspectives.

10. The understanding that despite changes in shape the amount within stays the same.
A. Developmental psychology- studies the course of social, emotional, moral, and intellectual development over time
   1. Stage theorists- assume that individuals progress stages in a particular order
   2. Nature vs. Nurture- products of genetics or environment
   3. Nativists and evolutionary theorists- argue that children’s brains are prewired to readily understand certain concepts
   4. Longitudinal study- long-term study over same people
   5. Cross-sectional study- compare and contrast different age, genders, backgrounds
B. Prenatal development- starts at conception ends at birth
   1. Genes- biochemical units of heredity that determine how cells become specialized for various functions- hair
   2. Zygote- first two weeks- Germinal stage- cell divides rapidly
      a. Attaches to placenta for nourishment
   3. Embryo- embryonic stage- developing human organism from two weeks to eighth week
      a. Organs begin to form and function
      b. Teratogens- harmful agents like viruses and drugs that can get past placenta- AIDS/ heroin/ nicotine
         i. Fetal alcohol syndrome
   4. Fetus- fetal stage- developing human organism from nine weeks to birth- longest prenatal period
   5. Critical period- an interval during which certain kinds of growth must occur if development is to proceed normally
C. The Newborn
   1. Survival reflexes- automatic and unlearned
      a. Sucking reflex
      b. Rooting reflex- touch on cheek and baby turns in direction
      c. Swallowing reflex
      d. Grasping reflex
      e. Stepping reflex- leads to walking movement
      f. Babinski- curling of toes/ fingers
      g. Moro- throwing arms out/ arching back/ swinging arms back in like to hold something
   2. Temperament- Thomas and Chess- emotional reactivity and intensity/ long-lasting
      a. Easy- routines, generally happy
      b. Difficult- intense emotions, difficulty sleeping, eating
      c. Slow-to-warm up- shy- tends to withdraw
D. Physical Development
   1. Maturation- biological growth process uninfluenced by experience
      a. Rolling over then crawling then walking
   2. Vision is least developed sense
E. Cognitive Development
   a. Jean Piaget
   b. Cognition- all mental activities associated with thinking, knowing and remembering
   c. Schemas- help organize and interpret information through mental frameworks based on experience
      a. Assimilation- interpreting new experiences in terms of your existing schemas
b. Accommodation- adapting current schemas to incorporate new information

1. Sensorimotor stage- birth to 2 years
   1. Learning world though senses and motor skills
   2. Key events- object permanence- aware that things continue to exist when no longer there

2. Preoperational stage- 2-7
   1. Children begin to use symbols to represent things that are not present
      a. Symbolic thought- ability to use words, images, and symbols to represent the world
   2. Key events- pretend to play
      a. Egocentrism- inability to take another’s point of view/ language development
      b. Animism- believe that inanimate objects are alive
      c. Lack of reversibility- the inability to reverse a sequence of events or logical operations- pouring water from one glass to another glass would equal same amount of water
      d. Centration- tendency to focus, or center, on only one aspect and ignore all other aspects

3. Concrete stage- 7-11
   1. Thinking logically about concrete events- children’s thinking is no longer dominated by visual appearances
   2. Key events- Conservation- mass and volume stay the same despite changes in form of objects/ mathematical concepts

4. Formal Operational stage- begins around age 12
   1. Abstract reasoning- forming strategies by weighing consequences for actions and decisions
   2. Key events- potential for mature moral reasoning

5. Assessing Piaget
   1. Researchers believe cognitive development is continuous- not stage related
   2. Did not take culture into consideration

6. Information- processing model of cognitive development
   a. Model that views cognitive development as a process that is continuous over the lifespan and that studies the development of basic mental processes such as attention, memory and problem solving
Environmental Influences on Child Development
1. Who believed that cognitive development is influenced by one’s culture?
   Lev Vygotsky
   a. What did Lev Vygotsky disagree with Jean Piaget?
      Learn more difficult tasks at an earlier age
   b. According to Vygotsky, the number of tasks a child can complete with or without the aid of someone older is called ____________________________
   c. What else did Vygotsky believe could affect cognitive development?
      No stimuli in environment, nutrition, socio-economic factors

Attachment
2. During the first few years of life, a strong bond between the primary caregiver and the child develops refers to. This attachment leads to later personality development

Harry Harlow
3. Before Harry Harlow’s research, many believed that attachment was based on the mother providing food to the infant. Harlow’s famous study of monkeys provided 2 cages: one cage with surrogate mother comprised of wires and a bottle from which the baby monkeys could feed/ and another cage with a surrogate mother draped in a soft terrycloth, but no food provided. Harlow found that the monkeys spent more time with the terrycloth monkey thus showing that there is more to attachment than just food.
   a. From Harlow’s conclusions, the touch of another provides a sense of security called ____________________________.

Konrad Lorenz
4. According to Konrad Lorenz, there is a time frame during which a stimulus must be experienced in order for a certain stage of development to occur - this is called the ____________________________.
   a. Lorenz found that during the critical period, the geese formed an attachment to him instead of the mother. The eliciting of behavior due to exposure of a certain stimulus during the critical period is called ____________________________
Attachment in Infants

5. Mary Ainsworth measured different types of attachment. In her “strange situation” scenario introduced an infant to new people. While the new person was in the room, the caregiver would leave the room, leaving the child behind. Ainsworth would then observe what the child was like when the caregiver or mother returned. Describe the 3 attachment styles that she observed.

1. __________________: child seeks comfort from the caregiver when he or she returns.

2. Insecure attachment: two forms:

   • __________________: Child ignores the caregiver when the caregiver returns

   • __________________: Child happy to see caregiver when he/she returns, but then pushes caregiver away

Psychosocial Development

6. Erik Erikson, like Piaget, believed we developed in stages, but unlike Piaget, Erikson believed that we encounter a crisis during several stages of life. He believed like Freud that early childhood experiences can affect us, but also he believed that the environment could also impact us. What happens if a person does not resolve a particular crisis? Could affect next stage/ or later in life

7. Fill out an example for each Erikson crises

<table>
<thead>
<tr>
<th>Stage and Age</th>
<th>Crises</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth-12 months</td>
<td>___________________________</td>
<td>Caregiver provides needs: shelter, food/ if not child develops mistrust</td>
</tr>
<tr>
<td>1-2 years</td>
<td>Autonomy vs. shame &amp; doubt</td>
<td>Child learns to control environment/ going to the bathroom/ if made to be shameful may develop lack of self-confidence</td>
</tr>
<tr>
<td>3-5 years</td>
<td>Initiative vs. guilt</td>
<td>Child given more responsibility and independence/ if not allowed may develop low self-esteem and feel guilty</td>
</tr>
<tr>
<td>6-puberty</td>
<td>Industry vs. inferiority</td>
<td>Child wants to be productive and is eager to learn/ if not given opportunities may feel inferiority- play him/herself</td>
</tr>
<tr>
<td>Adolescence</td>
<td>___________________________</td>
<td>Try to figure out identity through different social peer groups/ if not accepted may develop identity confusion</td>
</tr>
<tr>
<td>Early adulthood</td>
<td>Intimacy vs. isolation</td>
<td>Search for stable relationships/ if not might become self-absorbed with themselves</td>
</tr>
</tbody>
</table>
Middle age | Generativity vs. stagnation | Give back to next generation- coaching, parent involvement in school/ if generosity not appreciated maybe become less involved

Old age | Integrity vs. despair | Reflect back on life/ either experience pride or regret

**Parenting Styles**

8. Diana Baumrind developed a list of 3 distinct personality styles. Explain the following parenting styles.

- Strict and relatively unsympathetic
  - Believe that what they say goes: “Because I said so!”
  - Child learns not to question authority

- Allows child to do as he or she pleases
  - Sets few, if any, boundaries
  - Allows the child to fend for him- or herself

- Compromising
  - Compassionate
  - Allows independence, but with limits

9. According to Baumrind, which parenting style produces the best, well-adjusted, respectful children?

a. What are the possible results for children of permissive and authoritarian parents?
   Produce socially inept children: aggressive, uncooperative, unfriendly, disrespectful

**Environmental Influences on Socialization**

**Social Skills**

10. Children are exposed to a variety of influences. Many skills are learned at an early age. The ability to share with others is learned through daily routines this leads to cooperation.
a. Children also learn the ability to relate to and understand others emotionally called **empathy**.

b. Children also learn the ability to understand how to control one’s emotions and their corresponding behaviors. This is referred to as **self-regulation**.

**Gender roles**

11. Understanding the roles of male vs. female behaviors and characteristics are learned at early age through interactions with others and society. This supports what theory of gender development?

   Social Learning theory

**Adolescence**

12. Adolescence typically begins the physical changes of the body as it prepares for the ability to sexually reproduce, and lasts until approximately the end of the teenage years or early twenties called **puberty**

   a. During puberty, essential reproductive organs begin to develop and work. These characteristics are referred to as ________________________

   b. The development of nonessential reproductive characteristics (such as body hair and the deepening of the voice) called ________________________
1. Richard feels confident when his mother is watching him do his homework; however when she leaves Richard starts making mistakes. According to Lev Vygotsky, Richard does not perform well when his mother is not near described in: *RC: remember when people are close by we are in the zone*
   A) Secure attachment   C) Zone of proximal development
   B) Ambivalent attachment   D) Trust vs. Mistrust
   E) Schematic theory

2. According to Harry Harlow, which of the following factors would contribute to a healthy and strong attachment? *RC: Think about why people hold hands or need to hug after a disagreement + no one likes to touch a hairy face except Harry Harlow*
   A) Touch and warmth   D) Touch and toys
   B) Food and touch   E) Toys and smiles
   C) Food and warmth

3. According to Mary Ainsworth, which of the following situations would describe a secure attachment? *RC: remember holding hands tells you the person likes you*
   A) A child runs to the furthest corner of the room when mom returns back to pick him up.
   B) A child cries when mom leaves; however avoids mom when she comes back later that day.
   C) A child runs to mom then pushes mom away when mom tries to hug him.
   D) A child cries when mom leaves but then gets excited when mom later returns.
   E) A child falls asleep when mom leaves and then yells at her when tries to wake him up.

4. A parent who is very demanding of their children characterized by discipline without rationalization while ignoring the child's point of view is described as which type of parenting style according to Diana Baumrind? *RC: remember authoritarians are like barbarians*
   A) Permissive   D) Nonconformist
   B) Indifferent permissive   E) Authoritarian
   C) Authoritative or democratic

5. The completion of puberty is characterized by the capability of the reproductive organs referred to as? *RC: remember the P stands for reProductive*
   A) Secondary sex characteristics   D) Temperament
   B) Primary sex characteristics   E) Teratogens
   C) Solidary characteristics
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Zone of proximal</strong></td>
<td>According to Lev Vygotsky, the measurement of what a child can do alone versus when other people are present</td>
<td>Most children tell their parents that they are fine, but once the parent leaves they call out for them to come back- home sickness</td>
</tr>
<tr>
<td><strong>development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attachment</strong></td>
<td>A strong emotional bond between caregiver and dependent</td>
<td></td>
</tr>
<tr>
<td><strong>Contact comfort</strong></td>
<td>According to Harry Harlow, attachment is strengthened through contact or touch between caregiver and dependent</td>
<td>Contact is necessary for security- when people hug or hold hands it always is a sign of affection and understanding</td>
</tr>
<tr>
<td><strong>Critical period</strong></td>
<td>A time frame in which certain stimuli must be introduced to ensure proper development</td>
<td>It is CRITICAL that you finish the test within the class PERIOD</td>
</tr>
<tr>
<td><strong>Imprinting</strong></td>
<td>According to Konrad Lorenz, certain behaviors are caused by exposure to a specific stimulus</td>
<td>Goslings will follow whatever they first see when are born- even if a dog that was present at their birth</td>
</tr>
<tr>
<td><strong>Secure attachment</strong></td>
<td>According to Mary Ainsworth, a child will show excitement when caregiver returns after being gone for a period of time</td>
<td>In daycare, workers will observe if the child is excited to see mom or dad when he or she picks them up</td>
</tr>
<tr>
<td><strong>Avoidant-insecure</strong></td>
<td>According to Mary Ainsworth, a child will ignore the caregiver when he or she returns</td>
<td>Maybe a reason why the child does not want to go home</td>
</tr>
<tr>
<td><strong>attachment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ambivalent-insecure</strong></td>
<td>According to Mary Ainsworth, a child will alter between excitement or resistance when caregiver reappears</td>
<td></td>
</tr>
<tr>
<td><strong>attachment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Psychosocial</strong></td>
<td>According to Erik Erikson, people encounter specific crisis during certain developmental stages that must be resolved in order for proper development to occur. These stages include: trust vs. mistrust, autonomy vs. doubt and shame, initiative vs. guilt, industry vs. inferiority, identity vs. role confusion, intimacy vs. isolation, generativity vs. stagnation, and integrity vs. despair</td>
<td>Another example of a Stage theory, by specific ages certain social skills have to be learned/ for example/ don’t learn trust then will not learn later intimacy</td>
</tr>
<tr>
<td><strong>development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Authoritarian</strong></td>
<td>According to Diana Baumrind, a very strict parenting style</td>
<td>Authoritarian is like a barbarian- very strict</td>
</tr>
<tr>
<td><strong>parenting style</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Permissive-indifferent</strong></td>
<td>According to Diana Baumrind, children do as they please as the parent does not show much interest in child’s development</td>
<td>With permissive parents you don’t need PERMISSION - you can do whatever you want</td>
</tr>
<tr>
<td><strong>parenting style</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

135
Table:<i> Authoritative-democratic parenting style</i>

<table>
<thead>
<tr>
<th>Authoritative-democratic parenting style</th>
<th>According to Diana Baumrind, a very compromising and caring parenting style that produces competent and independent children</th>
<th>AuthoritaTIVE is most SupporTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender roles</td>
<td>The behaviors, attitudes, and perceptions associated with a specific gender</td>
<td>A role is like an actor or actress portraying or acting to a specific role he or she has been assigned to play</td>
</tr>
<tr>
<td>Social learning theory</td>
<td>Gender development occurs through reinforcement, modeling and learning principles</td>
<td>You imitate a sport’s hero through dressing, acting, or thinking like him or her</td>
</tr>
<tr>
<td>Gender schema theory</td>
<td>Mental thoughts and perceptions result in automatic behaviors and attitudes</td>
<td>Schema involves thoughts- so whatever thoughts first enter your mind concerning the role of a woman or man</td>
</tr>
<tr>
<td>Puberty</td>
<td>Physical changes that occur as the body prepares to be able to reproduce</td>
<td></td>
</tr>
<tr>
<td>Primary sex characteristics</td>
<td>The reproductive organs that develop during puberty</td>
<td>Primary=reProductive</td>
</tr>
<tr>
<td>Secondary sex characteristics</td>
<td>The development of nonessential reproductive organs that include body hair, deepened voice, breast and hip development</td>
<td>Secondary traits are what defines you physically as man or a woman- “Looks are secondary”</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>1</td>
<td>According to Lev Vygotsky, the number of tasks a child can complete with or without the aid of someone older.</td>
<td>A) Identity vs. role confusion</td>
</tr>
<tr>
<td>2</td>
<td>According to Harry Harlow, the touch of another provides a sense of attachment or security.</td>
<td>B) Contact comfort</td>
</tr>
<tr>
<td>3</td>
<td>A time frame during which a stimulus must be experienced in order for a certain stage of development to properly occur.</td>
<td>C) Gender schema theory</td>
</tr>
<tr>
<td>4</td>
<td>According to Mary Ainsworth, a demonstration of a child crying when mother leaves the room followed by the mother returning and the child seeking comfort and displaying excitement.</td>
<td>D) Zone of proximal development</td>
</tr>
<tr>
<td>5</td>
<td>According to Erik Erikson, a child gains trust when mother or father meets the child's needs.</td>
<td>E) Primary sex characteristics</td>
</tr>
<tr>
<td>6</td>
<td>According to Erik Erikson, a searching for who one is and what one wants to do.</td>
<td>F) Trust vs. Mistrust</td>
</tr>
<tr>
<td>7</td>
<td>A type of parenting style that includes compromising, compassion, and allows the child to develop independence and maturity.</td>
<td>G) Critical period</td>
</tr>
<tr>
<td>8</td>
<td>A type of parenting style that allows children to do as they please through setting few rules and expectations.</td>
<td>H) Secure attachment</td>
</tr>
<tr>
<td>9</td>
<td>Gender is displayed through mental thoughts that are automatic responses to behavior and attitudes.</td>
<td>I) Permissive-indifferent</td>
</tr>
<tr>
<td>10</td>
<td>Sex characteristics that refer to essential reproductive organs.</td>
<td>J) Authoritative</td>
</tr>
</tbody>
</table>
Chapter 3  
Analogies of Psychology  
Section 2

A. Vygotsky’s Sociocultural Perspective
   a. Vygotsky—language foundation for social interaction and thought.
   b. Piaget believed language was a byproduct of thought.
   c. Vygotsky—children learn from interactions with other people
   d. Zone of proximal development—what a child can do by interacting with another person, but can’t do alone.

B. Social Development
   1. Attachment- emotional bond with another person- especially caregiver
   2. Attachment theory- an infant’s ability to thrive physically and psychologically depends in part of the quality of the attachment
      a. Harry Harlow- tested attachment on monkeys
      b. Not only who fed but also provided warmth and security formed attachments
   3. Familiarity- pull back from unfamiliar faces
      a. Critical period- period shortly after birth when an organism’s exposure to certain stimuli produces proper development
      b. Konrad Lorenz- found a newborn will follow first moving object it sees- known as imprinting/attachment hard to reverse
   4. Mary Ainsworth’s Stranger Situation
      a. Mother—were observed in a playroom under four conditions:
         1. Initial mother-child interaction
         2. Mother leaves infant alone in playroom
         3. Friendly stranger enters playroom
         4. Mother returns and greets child
      5. Forms of Attachment
         a. Securely attached- explores the room when mother is present, becomes upset and explores less when mother is not present, shows pleasure when mother returns
         b. Insecure attachment
            1. Avoidant attached- a form of insecure attachment in which child avoids mother and acts coldly to her
            2. Ambivalent attachment- a form of insecure attachment- upset when mother leaves, but when she returns child alternates between clinging to her and rejecting her
            3. Disorganized attachment- a form of insecure attachment- behavior is inconsistent and disturbed

C. Parenting
   a. Authoritarian- imposing rules and expecting obedience/ children tend to be unruly when authority not around
   b. Permissive- submitting to children’s desires, making few demands and little punishment
   c. Authoritative- making demands, setting rules, and discussing reasons for rules
      1. According to Diana Baumrind- authoritative parents produce children of high self-esteem, self-reliance and social competence

D. Adolescence
   a. Adolescence- transition from childhood to adulthood- puberty to independence
   b. Physical Development
      a. Puberty- sexual maturation capable of reproducing
         1. Primary sex characteristics- body structures- ovaries, testes that make sexual reproduction- develops during puberty
2. Secondary sex characteristics- nonreproductive sexual characteristics- female breasts, male voice, body hair
   a. Pubescence- the two year span before puberty when secondary sex characteristics develop
b. Adolescent growth spurt- period of accelerated growth during puberty, involving rapid increase in height and weight
c. Prefrontal cortex- appears to be the last are of the brain to fully mature
d. Menarche- first menstrual period, which occurs during puberty

3. Cognitive Development
   a. Formal Operational stage- develop adult thinking and reasoning based on formal thought, abstract thinking and hypothetical thinking

E. Social Development
   a. James Marcia- adolescents deal with their identity in four ways:
      1. Foreclosure- other people make decisions about identity
      2. Moratorium- wait to make decisions to later in life
      3. Identity diffusion- confused about identity
      4. Identity achievement- figure out and accept identity
   b. Erik Erikson- psychosocial development- certain issues peak different time periods
      1. Innate biological needs to form relationships (Darwin)
         a. Infancy- Trust vs. Mistrust- sense of basic trust
         b. Toddlerhood- Autonomy vs. Doubt and Shame- do things for themselves promoting self-esteem
         c. Early childhood- Initiative vs. Guilt- initiate tasks or carry out plans- sense of social responsibility and self-confidence
         d. Middle childhood- Competence vs. Inferiority- pride from doing tasks well-develops a sense of pride in schoolwork and social activities
      c. Identity- adolescent’s task have a sense of self through trial and error
         1. Identity crisis- a phase during which an adolescent attempts to develop an integrated self-image
         2. Adolescence- Identity vs. Role Confusion- trying to form a single identity through experimentation, rebellion, and optimism
      d. Intimacy- close, sharing, emotional and honest relationship with other people
         1. Young adulthood- Intimacy vs. Isolation- learning to love

F. Gender Role Development
   1. Gender- cultural, social, and psychological meaning that are associated with masculinity or femininity
   2. Gender role- behaviors, attitudes, and personality traits that are designated as either masculine or feminine in given cultures
   3. Gender identity- psychological sense of being male or female
      a. Social learning theory- gender roles are acquired through the basic processes of learning, including reinforcement, punishment, and modeling
      b. Gender schema theory- influenced by the formation of schemas, or mental representations, of masculinity and femininity
Lawrence Kohlberg’s Moral Reasoning

1. Lawrence Kohlberg’s “Heinz dilemma,” asked children to contemplate a moral dilemma that involved a man named Heinz, who had to make a decision to steal a drug that could possibly save his wife.

   a. According to Kohlberg, each child’s level of moral reasoning based on cognitive thinking

a. Describe each level and stage of Kohlberg’s moral reasoning:

   - Stage 1: Obedience orientation
     - Obey rules fear of punishment
     - Don’t cheat or get a detention

   - Stage 2: Personal gain (hedonistic) orientation
     - Do what is best for yourself
     - Cheat on test because you need an A

   - Stage 3: Good boy/ nice girl orientation
     - Act in way that is socially acceptable
     - Don’t cheat because good students don’t cheat

   - Stage 4: Law and order orientation
     - Understand that society needs laws to uphold society standards
     - If you cheat, you should be prepared to get punished

   - Stage 5: Contractual legalistic
     - Develop a social contract with each other- deciding what is good for all
     - Allow a person to cheat off you because their parents going through rough time

   - Stage 6: Universal ethical orientation
     - Certain ethical principles that all people believe in
     - Cheating is justified because test covered things not discussed
Criticism of Kohlberg

2. What has research sited about Kohlberg’s morality theory?
   First 2 levels are universal, but level 3 is more cultural specific

   A. What did Carol Gilligan suggest about Kohlberg’s morality?
      Was not aimed at women who emphasize social relationships

Physical, Social, and Cognitive Dimensions in Adult Development

3. Early adult years (20s-30s)
   Physical changes
   - Increase in physical abilities
   - Muscle mass stays the same or increases
   - Typically in top physical shape (20s)
   Cognitive changes
   - Increase in cognitive abilities (vocabulary, knowledge, understanding)

   Social changes
   - Search for life partner begins
   - Balance between work and marriage
   - May Create a family and have children.
     - Satisfaction with marriage may decrease during this time
     - Peer relationships may diminish due to increased family obligations

4. Middle adult years (40s-50s)
   Physical changes
   - Decline in senses, muscle mass, sexual functioning

   Cognitive changes
   - Increases in cognitive functioning- vocab, knowledge, understanding

   Social changes
   Midlife transition- people reevaluate what they have done so far
   Midlife crisis (Michael Levinson)- realization life is half over; may become angry and try to regain their youth- dating someone younger
   Middlescence (Gail Sheehy)- a second adolescence- reliving the life as now more affordable

5. Late adult years (60s and beyond)
   Physical changes
   - Decreases in sensing, digestion, height
Cognitive changes
- Decreased fluid intelligence, ability to think quickly and complete tasks quickly. Memory appears to fade typically related to episodic (event based) memories, which is consistent with fluid intelligence
- Staying mentally active slows down loss of fluid intelligence
- Increased crystallized intelligence - general/overall knowledge

Social changes
- Begins to lose friendships (due to death)
- Find current relationships more valuable

Two theories of Aging: Nature vs. Nurture

6. Describe the nature point of view: programmed senescence:
   Biologically programmed to die at certain age - longevity gene
   
a. The wear-and-tear (actively living approach) nurture point of view suggest when we are young our bodies can repair themselves as damage occurs, but as we age we lose our ability to repair ourselves eventually leading to death.

Death and Dying

7. Who believed that a dying person progresses through 5 distinct stages?
   Elizabeth Kübler-Ross M.D.
   
a. What are the five stages?

b. Some people argue that not every individual progresses in this order, while others believe that these are not stages, but rather emotions that some people experience
1. According to Lawrence Kohlberg, which of the following situations would describe Preconventional morality? *RC: remember Pre wants to be free*
   A) Jimmy does not talk during church so he won't be grounded and not allowed to be with his friends.
   B) Mary does not talk in class because no one else is talking.
   C) Richard believes that it is wrong to cheat on tests therefore does not cheat.
   D) Ray speeds to the hospital because everyone would.
   E) Sissy does not tell on her friend because she wants to be accepted.

2. According to Lawrence Kohlberg, when Larry decides not to take part in bullying towards a student because he believes it is wrong and unjust he is displaying which type of morality? *RC: a PhD is a post-degree indicating superior knowledge*
   A) Contractual  
   B) Obedience  
   C) Conventional  
   D) Preconventional  
   E) Postconventional

3. Who developed a theory of morality more suited towards the reasoning of women; disagreeing with Kohlberg's viewpoints of morality development? *RC: remember everyone stranded on Gilligan's island stressed their relationships with each other*
   A) Anna Freud  
   B) Mary Whiton  
   C) Carol Gilligan  
   D) Elizabeth Ross  
   E) Margaret Washburn

4. Which type of intelligence refers to a person's ability to think abstractedly or quickly; that often declines with age? *RC: remember when you pour water out of a glass the water goes down towards the ground*
   A) Crystallized  
   B) Schematic  
   C) Fluid  
   D) Pragmatic  
   E) Analytical

5. According to Elizabeth Kuber-Ross, which is considered the first stage of grieving either for family or the person experiencing the illness? *RC: Remember DABDA*
   A) Acceptance  
   B) Depression  
   C) Denial  
   D) Bargaining  
   E) Anger
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preconventional level of moral development</td>
<td>According to Lawrence Kohlberg, morality based on avoiding punishment or gaining reward</td>
<td>PRE means you want to be “Free” free from punishment</td>
</tr>
<tr>
<td>Conventional level of moral development</td>
<td>According to Lawrence Kohlberg, morality based on the approval of people and societal expectations</td>
<td>Conventional means CONSISTENT with how everyone else expects you to act and think</td>
</tr>
<tr>
<td>Postconventional level of moral development</td>
<td>According to Lawrence Kohlberg, morality based on personal expectations, beliefs, and values</td>
<td>Postconventional is like a post-degree or Ph.D. in morality- you have the highest morality</td>
</tr>
<tr>
<td>Women development of morality</td>
<td>According to Carol Gilligan, morality for women is based on upholding and maintaining relationships</td>
<td>On “Gilligan’s island” everyone had to get along to survive after being shipwrecked/ women always focus on the “we” in a relationship</td>
</tr>
<tr>
<td>Midlife crisis</td>
<td>According to Michael Levinson, the understanding life is half over and the reevaluation of goals and attitudes</td>
<td></td>
</tr>
<tr>
<td>Fluid intelligence</td>
<td>The ability to think abstractedly and quickly, which decreases as one gets older</td>
<td>When you pour fluid out of a glass the fluid goes DOWN like fluid intelligence</td>
</tr>
<tr>
<td>Crystallized intelligence</td>
<td>The general overall knowledge, which increase with age</td>
<td>Crystals underground become BIGGER as time goes on</td>
</tr>
<tr>
<td>Social clock</td>
<td>The preferred timing to accomplish certain social and life tasks</td>
<td>Most people have an “age” when they want to be married or have kids- a clock with events not numbers</td>
</tr>
<tr>
<td>Death and dying</td>
<td>According to Elizabeth Kuber-Ross, a person goes through five stages of grieving and death: denial, anger, bargaining, depression, and acceptance</td>
<td>DABDA</td>
</tr>
</tbody>
</table>
1. According to Lawrence Kohlberg, a type of morality dependent on gaining awards and avoiding punishment.  
A) Postconventional morality

2. According to Lawrence Kohlberg, a type of morality based on higher morality and personal expectations and individual beliefs.  
B) Midlife crisis

3. According to Lawrence Kohlberg, a type of morality that is based on being consistent with societal rules and other people expectations.  
C) Fluid intelligence

4. Developed a theory of morality for women based on upholding relationships.  
D) Denial

5. According to Michael Levinson, the understanding that life is half over and may experience anger and regret and therefore try to regain youthful activities.  
E) Carol Gilligan

6. The ability to think abstractedly or quickly which declines with age.  
F) Crystallized intelligence

7. General overall intelligence that increases with age.  
G) Elizabeth Kuber-Ross

8. Developed a theory of grieving and stages of death.  
H) Acceptance

9. According to Ross, the first stage of grieving.  
I) Preconventional morality

10. According to Ross, the last stage of the grieving process.  
J) Conventional morality
A. Morality
   1. Lawrence Kohlberg studied morality
   2. Moral reasoning- aspect of cognitive development that has to with how an individual reasons about moral decisions
   3. Levels of Morality
      a. Preconventional morality- avoid punishment/ gain reward
         1. Punishment and obedience- being obedient
         2. Mutual benefit- fair play- treat someone bad who treats you bad
      b. Conventional morality- desire to fit in/ strong desire to follow rules/ most adults in this stage/ start of formal operations
         1. Interpersonal expectations- behaving like a good student
         2. Law and order- uphold the law
      c. Postconventional morality- not too many get to this stage based on universal ethical rules
         a. Legal principles- upholding legal principles that encourage fairness and equality
         b. Universal moral principles- chosen by self-ethical reasons
   4. Carol Gilligan’s theory of Morality
      d. Developed a theory for women (Kohlberg’s theory based on men)

B. Adult and Aging- early adulthood- 20-35/ middle adulthood 36-64/ late adulthood 65 and over

A. Social Clock- preferred timing of social event- marriage, parenthood

B. Physical transitions
   1. Menopause- chances of reproduction declines
   2. Alzheimer’s disease- irreversible brain disorder characterized by deterioration of memory, reasoning, language, physical functioning/ decrease in the neurotransmitter- acetylcholine
   3. Senile dementia- mental disintegration that accompanies alcoholism, tumor, stroke and aging

C. Cognitive Changes
   4. Recall declines/ still able to recognize meaningful events
   5. Fluid intelligence- ability to reason speedily and abstractly- decreases with age
   6. Crystallized intelligence- accumulated knowledge- increases with age

D. Social Changes
   7. Erikson’s Life Commitments
      a. Intimacy- forming close relationships
         1. Intimacy vs. Isolation- young adulthood- learning to love and share- love and marriage
      b. Generativity- being productive and supporting of future generations- work and family
         1. Generativity vs. Stagnation- middle adulthood satisfaction found through family and work- a purpose to this
      c. Integrity vs. Despair- wisdom as outcome of lived life
1. Prenatal (before being born) development – germinal stage- cell divides rapidly/ embryonic stage- organs develop and is greatest risk of teratogens- any agent that impairs development such as alcohol (leading cause of mental retardation; Fetal Alcohol Syndrome), drugs, caffeine/fetal stage- longest period of prenatal development

2. Nature side of Development: Maturation- growth of an organism that is not influenced by environmental factors- puberty naturally occurs/ reflexes- involuntary, unlearned motor skills such as rooting flex- baby turning head when touched on the cheek for feeding/ Temperament- (Thomas and Chess) a natural tendency to express emotions and needs in a particular way- easy, difficult, slow-to-warm up

3. Cognitive Development (Jean Piaget) Piaget’s accommodation- new information that changes an existing schema- mental organization of information/ assimilation- blending new info into existing schemas- that expands schema but does not change

4. Piaget’s Stage theory- people go through specific stages at specific times- Sensory-motor stage includes object permanence (understanding that an object exists even though it cannot be seen)/ Preoperational stage- symbolic thinking (a box is a symbol for a fort) but no logical thinking includes egocentrism - inability to take another point of view/ Animism- belief inanimate objects share human feelings- teddy bear/ artificialism- belief events in nature are manmade- God bowling/ Concrete Stage- think logical only about concrete concepts (what is right in front of them- physical contact); includes conservation - recognizing that even though an item can change forms properties (amount) stays same / Formal operational stage- abstract reasoning which is forming hypothesis or if/ then scenarios- if I go out I could then get in trouble- start of good morals includes Personal fable- belief he or she is invincible nothing bad could happen and Imaginary audience- the belief that everyone is watching and concerned what he or she does

5. Lev Vygotsky- Zone or proximal development- measurement of what children can do alone versus when others, like parents, are present/ Scaffolding- giving more help when task is difficult and then as child masters task giving less help or as needed

6. Critical period- certain behaviors must happen at certain times- attachment must happen at birth/ language must happen by age 11-12 Konrad Lorenz - imprinting- following around what sees first after birth

7. Social Development- Attachment- Harry Harlow- examined what contributes to attachment which is a bond between caregiver and infant found: monkeys; contact comfort; cloth monkey and warmth form secure attachments- not food // Mary Ainsworth- measured attachment found: secure attachment- kid misses mom and becomes upset when mom leaves (known as the Strange Situation Experiment) and then show excitement when mom comes back/ avoidant attachment- insecure attachment shown by kid avoiding mom when she comes back/ ambivalent attachment- kid clings and then pushes away when mom comes back / Erik Erikson- Trust vs. Mistrust- believed that trust must happen to form attachment and also for later developmental tasks like identity in adolescence to happen

8. Parenting-Diana Baumrind- authoritative- also called democratic -as parents support and reason with children- best type- kids become independent and mature or instrumentally competent/ authoritarian- strict- kids don’t become independent and mature and often get in trouble/ permissive- parents don’t do anything- kids do whatever and questions whether parents care and prone to try to get attention- drugs, pregnancy
9. **Adolescence** - period between childhood and adulthood - puberty process include development of **primary sex characteristics** - sexual organs responsible for reproduction and **secondary sex characteristics** - nonreproductive characteristics like facial hair - widening hips/ Erik Erikson Psychosocial development: **Identity vs. role confusion** - adolescents search for identity during **Intimacy vs. isolation** young adults search for love

10. **Morality** - reasoning for choices - Lawrence Kohlberg - *Heinz Dilemma* - moral right vs. legal wrong - **Preconventional Morality** - based on avoiding punishments obtaining rewards/ Conventional morality - based on reputation or what others are doing or expect behavior of one should be - Postconventional morality - high ethics - personal reasons for choices/ Carol Gilligan opposed Kohlberg’s theory of morality because it did not address women rather thought women’s morality based on upholding maintaining relationships

11. **Adult and Aging** - **Social clock** - a preferred timing of social events like a person’s ideal age to get married/ **crystallized intelligence** accumulated knowledge - increases with age/ **Fluid intelligence** - ability to reason or come up with an answer quickly - decreases with age **Alzheimer’s disease** - irreversible brain disorder loss of memory, reasoning, and language - connected with decrease of the neurotransmitter AcH (acetylcholine) which is linked to memory and muscle memory/ **Senile dementia** - loss of mental reasoning due to a stroke, tumor, alcoholism, aging

12. Elizabeth Kuber Ross - DABDA - denial, anger, bargaining, depression, acceptance - the 5 stages of death and grieving
| Maturation- changes within the body due to the aging process (nature) | Vs. | Tabula rasa- according to John Locke we are a blank slate that requires learning (nurture) |
| Rooting reflex- touch a baby’s cheek and they turn head anticipating food | Vs. | Teratogens- harmful agents, alcohol, nicotine, that harmfully affect fetus |
| Assimilation-new information that blends with existing schema | Vs. | Accommodation- new information that modifies or changes existing schema |
| Object permanence- the recognition that something exists despite not being able to see it | Vs. | Preoperational stage- learning through symbolic thought |
| Egocentrism- inability to process another person’s point of view | Vs. | Conservation- ability to understand that although shape changes the amount within stays the same |
| Secure attachment- Ainsworth- a child misses caregiver when gone and shows excitement when caregiver comes back | Vs. | Insecure attachment- child either avoids or is ambivalent (can’t decide) how to feel when caregiver returns |
| Contact comfort- Harlow- contact and touch lead to security | Vs. | Imprinting- Lorenz- organism will follow whatever it first sees (within critical period- after birth) |
| Authoritative parenting- based on reasoning and role modeling produces competent child | Vs. | Authoritarian parenting- based on power and discipline- no input from child |
| Preconventional morality- Kohlberg-based on avoiding punishment or gaining award | Vs. | Postconventional morality- based on personal ethical viewpoints and reasons |
| Primary sex characteristics- sexual organs responsible for reproduction | Vs. | Secondary sex characteristics- nonreproductive characteristics such as facial hair (puberty) |
| Crystallized intelligence- accumulated knowledge that increases throughout a person’s life | Vs. | Fluid intelligence- person’s ability to think abstractedly or process an answer quacking that decreases over time |
| Alzheimer’s disease- a deterioration of the neurotransmitter acetylcholine | Vs. | Dementia- the process of getting older and the brain not processing information accurately |
1. Bailee loses interest in her toy when her father covers it with a blanket. According to Jean Piaget, Bailee has yet to obtain which cognitive milestone?
   (A) Egocentrism
   (B) Conservation
   (C) Object permanence
   (D) Self-regulation
   (E) Contact comfort

2. Every time Tim goes to the grocery store with his mother he spends an hour getting ready. When asked why he takes so long, he responds, “What if I see someone I know?” Tim is experiencing which of the following?
   (A) Personal fable
   (B) Imaginary audience
   (C) Conservation
   (D) Identity confusion
   (E) Thought disorder

3. Keiko drops out of her high school drama club and joins the rugby club instead in an effort to meet new people. According to Erikson’s psychosocial theory of development, Keiko is currently experiencing which of the following?
   (A) trust versus mistrust
   (B) (initiative versus guilt
   (C) secure attachment versus insecure attachment
   (D) identity versus role confusion
   (E) industry versus inferiority

4. Harry Harlow felt that for infant monkeys (A) the need for contact comfort is less important than the reduction of the hunger drive
   (B) the need for social interaction is clearly overestimated
   (C) the need for contact comfort is more important than the reduction of the hunger drive
   (D) infant monkeys raised in a rich, stimulating environment are more likely to be securely attached
   (E) there is a critical period during which imprinting must take place

5. Lightly touching an infant’s cheek will result in the movement of the infant’s mouth to whichever side of his face was touched. This is known as what type of reflex?
   (A) Babinski
   (B) Moro
   (C) Palmar
   (D) Sucking
   (E) Rooting

6. Students at Bayside High School are amazed by all the knowledge Dr. Jones possesses. Having taken psychology, you know that the professor’s extensive knowledge can likely be attributed to a high level of
   (A) fluid intelligence
   (B) crystallized intelligence
   (C) self-efficacy
   (D) wisdom
   (E) creativity

7. Maturation refers to
   (A) environmental influences that can potentially put the baby at risk for developing a disorder
   (B) development that occurs naturally, and without the influence of the environment
   (C) development that occurs because of the influence of the environment
   (D) the adaptation of new objects in an already existing schema
   (E) the implementation of a new schema to make sense of new information

8. Which of the following correctly represents Elizabeth Kübler-Ross’s theory of death and grief?
   (A) Denial, anger, fear, bargaining, acceptance
   (B) Fear, anger, bargaining, denial, acceptance
   (C) Denial, anger, curiosity, bargaining, acceptance
   (D) Denial, anger, bargaining, depression, acceptance
   (E) Anger, bargaining, grief, anger, acceptance
9. Brody is contemplating whether to cheat on his upcoming psychology examination. He knows that he needs to get an A on the test. However, he also recognizes that if he gets caught cheating, he will have to accept any punishment he receives. Brody then decides that getting an A on the exam outweighs the risk of getting caught. According to Kohlberg, Brody is currently at what level of morality?
(A) Preconventional
(B) Operational
(C) Post-conventional
(D) Concrete
(E) Conventional

10. The term used to define any agent that may interfere with development in a human fetus is called
(A) maturation
(B) a teratogen
(C) egocentrism
(D) the critical period
(E) a personal fable

11. According to Baumrind, the type of parenting that would most likely produce a cooperative, caring, and empathetic child is
(A) permissive
(B) avoidant
(C) egocentric
(D) authoritarian
(E) authoritative

12. According to Erikson, the first crisis encountered in human development is
(A) trust versus mistrust
(B) identity versus role confusion
(C) (shame versus doubt
(D) generativity versus stagnation
(E) intimacy versus isolation

13. Which of the following is an example of a secondary sex characteristic?
(A) increased amount of body hair
(B) decreased cognitive functioning
(C) increased cognitive functioning
(D) decreased language skills
(E) increased amount of sleep

14. Tommy, a toddler, is sitting in a room with his mother when a stranger enters, causing Tommy to cling tightly to his mother. His mother reassures Tommy that everything is all right and that he can play with the stranger. According to Mary Ainsworth, Tommy is displaying
(A) insecure attachment
(B) ambivalent/resistant attachment
(C) obstinate attachment
(D) secure attachment
(E) unasserted attachment

15. Erin believes that if she doesn’t play with her toys an equal amount of time they will become sad and lonely. According to Piaget, Erin is displaying
(A) animism
(B) egocentrism
(C) artificialism
(D) personal fable
(E) industry versus inferiority
1. **Answer:** C. Piaget’s earliest stage is sensorimotor. During this stage, the child improves in his or her sensory and motor skills, but is limited cognitively because he or she does not understand the principle of object permanence until about twelve months of age.

2. **Answer:** B. Adolescents reenter a phase of egocentrism that is similar to the egocentrism experienced in Piaget’s preoperational stage.

3. **Answer:** D. According to Erikson, adolescents search to find who they are and where they fit in society. Adolescence is a difficult time because people at age are substantially influenced by peers.

4. **Answer:** C. Harlow’s research was conducted with monkeys, but subsequent studies have humans raised in neglectful environments display same behaviors as Harlow’s test subjects raised alone. Harlow believed that the need for attachment and contact comfort is stronger than need for food.

5. **Answer:** E. Rooting allows the infant to turn toward a possible food source (nipple/breast). This reflex appears to be innate and not learned and occurs in all humans.

6. **Answer:** B. Crystallized intelligence is knowledge that one accumulates throughout a lifetime. Fluid intelligence is one’s ability to quickly process information. As a person ages, his or her fluid intelligence may decreases while overall crystallized intelligence increases.

7. **Answer:** B. Maturation is the development of an individual independent of environmental influences which occurs in an order sequential manner.

8. **Answer:** D. Kübler-Ross outlined the five stages of dying/grief: denial, anger, bargaining, depression, acceptance. Note that the friends and family members of the dying may also experience these stages.

9. **Answer:** A. Kohlberg’s first level of morality (preconventional) is centered around punishments, rewards, and what is best for the child.

10. **Answer:** B. Any substance may interfere with the development of the fetus is called a teratogen.

11. **Answer:** E. Parenting styles affect the development of the human. According to Baumrind, they also have long-reaching effects in future relationships. Studies indicate that authoritative (or democratic) parenting leads to more cooperative, socially well-adjusted children.

12. **Answer:** A. Erikson believed that human development was a result of the interaction between a person and his or her environment. His early stages focus on the parent-child relationship. A sense of basic trust in one’s primary caregiver will help an individual successfully resolve other crises.

13. **Answer:** A. Secondary sex characteristics are nonessential reproduction features.

14. **Answer:** D. The three attachment styles proposed by Mary Ainsworth show the attachment of the child and the parent. This type of attachment, according to Ainsworth, has long-lasting positive effects when it comes to later relationship building.

15. **Answer:** A. Animism is belief inanimate objects share human characteristics, such as sadness.
Midterm 1

• History of Psychology
• Research Methods
• Biological Psychology
• Developmental Psychology
<table>
<thead>
<tr>
<th>Key Terms</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introspection</td>
<td>A technique used by structuralists to look inward and study elements of consciousness- parts that make up an experience</td>
<td>Was not reliable because each day participants saw the stimuli different because they felt different which affected what they observed</td>
</tr>
<tr>
<td>Natural selection</td>
<td>Charles Darwin’s belief that nature selects organisms that are best suited to survive in a particular environment</td>
<td>Evolutionary perspective stresses how we survive- includes reproduction and instincts</td>
</tr>
<tr>
<td>John B. Watson</td>
<td>A Behaviorists focused on measurable and overt behavior- must see it to measure it</td>
<td>The B in John B. Watson stands for Behaviorism</td>
</tr>
<tr>
<td>Operational definition</td>
<td>Precise instructions that define how variables will be measured or manipulated, allow replication by other researchers</td>
<td>Operational definitions DEFINE how the experiment is going to OPERATE or run</td>
</tr>
<tr>
<td>False-consensus effect</td>
<td>A researcher’s belief that participants share the same attitudes or beliefs as he or she does on a survey</td>
<td>You Falsely believe everyone thinks like you why you are surprised when people disagree</td>
</tr>
<tr>
<td>Social desirability bias</td>
<td>Participants desire to answer or perform in a self-favoring way</td>
<td>Most people have a DESIRABLE opinion don’t want to admit to negative behavior</td>
</tr>
<tr>
<td>Case study/ case history</td>
<td>A detailed explanation of a single individual or rare phenomenon- cannot be applied to general population</td>
<td>CASE means ONE- nobody would buy a yearbook if it were a case study because there are no pictures of them</td>
</tr>
<tr>
<td>Experiment</td>
<td>Research manipulates or changes one variable to observe effects on another variable by holding it constant establishing a cause-effect relationship</td>
<td>Experiment means to change like you are going to change the way you study to see if it improves your grades</td>
</tr>
<tr>
<td>Independent variable</td>
<td>A variable that is manipulated or changed and is the main interest of the researcher</td>
<td>IN-dependent variable is what the researcher is IN-terested in” and often follows the “IF” in a hypothesis</td>
</tr>
<tr>
<td>Dependent variable</td>
<td>The variable shows measurement and influenced by the independent variable</td>
<td>The dependent variable DEPENDS on how you measure it; follows the “then”</td>
</tr>
<tr>
<td>Control group</td>
<td>The group that is held constant and for comparison and not exposed to the independent variable</td>
<td>Control group for comparison to see how much change actually occurs within the experimental group “The experimental group’s scores went up 5% compared to the control group</td>
</tr>
<tr>
<td>Experimental group</td>
<td>The group that is manipulated through exposure to the independent variable</td>
<td>The experimental group is being EXPERIMENTED WITH making them change something that they don’t do</td>
</tr>
<tr>
<td>Confounding or extraneous variable</td>
<td>Variables, not considered by the researcher, that could affect the measurement of the dependent variable/ ex: motivation, weather</td>
<td>People’s time in a mile (dependent variable) may be affected by the weather if it is windy and rainy the day of the timing (confounding variable)</td>
</tr>
<tr>
<td>Hindsight bias</td>
<td>The belief that the researcher foreseen the conclusion or knew the outcome the entire time</td>
<td>People often say AFTER the game they knew who was going to win, which shows that they were hoping for that team to win- had a bias for that team</td>
</tr>
<tr>
<td><strong>Placebo</strong></td>
<td>Non-active or fake substance or condition that helps to eliminate research participant bias</td>
<td>One method to see if people are faking affects of alcohol versus the actuality is to serve nonalcoholic drinks and observe how people then act</td>
</tr>
<tr>
<td><strong>Double-blind procedure</strong></td>
<td>A procedure where researcher does not know which participants are in control or experimenter group and participants do not know purpose/ measurement of experiment</td>
<td></td>
</tr>
<tr>
<td><strong>Longitudinal design</strong></td>
<td>A long-term study that examines the same people or phenomenon over an extended period of time- can be very expensive to conduct</td>
<td>If you theorize not being held as a baby will affect a willingness to hug another person as adult you would have to follow that person from baby to adulthood- a LONG TIME</td>
</tr>
<tr>
<td><strong>Cross-sectional study</strong></td>
<td>Examines and compares two diverse groups at same time- male/female</td>
<td>Helps to explain differences among people</td>
</tr>
<tr>
<td><strong>Random sampling</strong></td>
<td>Providing an equal chance or opportunity for every subject to be chosen for an experiment</td>
<td>Random sampling gets you into the experiment- if they opened a new school each person has a chance to attend</td>
</tr>
<tr>
<td><strong>Random assignment</strong></td>
<td>Randomly assigning or giving the participants of a study an equal chance of being assigned to the experimental or control group</td>
<td>You randomly ASSIGN people to the experimental or control group- if handpicked may be tempted to pick certain people to be in experimental group- those that may prove your study</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>The desired group chosen to be study</td>
<td>If you are studying high school seniors then your population would be seniors</td>
</tr>
<tr>
<td><strong>Representative sample</strong></td>
<td>A sample that was chosen from the desired population</td>
<td>Your sample REPRESENTS your population- so sample high school seniors</td>
</tr>
<tr>
<td><strong>Correlational research</strong></td>
<td>Research designed to look for possible relationships among variables, but does not offer cause-effect explanations</td>
<td>Can’t assume sports drinks make you run faster because other factors or variables also make you run faster- rather sports drinks may make possibly make you run faster</td>
</tr>
<tr>
<td><strong>Correlational coefficient</strong></td>
<td>A numerical value that shows the strength of a relationship</td>
<td>Closer a relationship is to 1.00 or -1.00 the stronger the relationship</td>
</tr>
<tr>
<td><strong>Scatterplot</strong></td>
<td>Represents variables and shows direction of possible relationships</td>
<td>Dots will start to show direction-</td>
</tr>
<tr>
<td><strong>Positive correlation</strong></td>
<td>A relationship where variables moves in the same direction- up or down</td>
<td>As long as it moves in the same direction it is a positive correlation</td>
</tr>
<tr>
<td><strong>Negative or inverse correlation</strong></td>
<td>A relationship that involves variable moving in an opposite directions</td>
<td>Breaking up is NEGATIVE because they moves in OPPOSITE directions</td>
</tr>
<tr>
<td><strong>Illusory correlation</strong></td>
<td>A relationship that is believed to exist but in actuality does not</td>
<td>Wearing a pair a particular pair of socks may make you hit more home runs</td>
</tr>
<tr>
<td><strong>Inferential statistics</strong></td>
<td>Allows a researcher to apply or infer his or her results to the general population</td>
<td>Infer means to cause- the stats show that eating candy causes tooth decay/ or 58% of kids that ate candy increased cavities</td>
</tr>
<tr>
<td><strong>Statistically significant</strong></td>
<td>Results not influenced by chance</td>
<td>NUMBERS never lie- or scale never lies</td>
</tr>
<tr>
<td><strong>Informed consent</strong></td>
<td>Participants actively agree to participate in an experiment</td>
<td>Consent means you are aware of what is going to happen in the experiment</td>
</tr>
<tr>
<td><strong>Debriefed</strong></td>
<td>Participants are allowed to view the results and provided information after the experiment to demonstrate that there was not DECEPTION used in the experiment</td>
<td>If your parents debrief you about prom then it occurs when prom is over and you are at home/ how can they debrief you before prom about what you did</td>
</tr>
<tr>
<td>Structure</td>
<td>Description</td>
<td>Analogy</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Myelin sheath</strong></td>
<td>Insults axon and speed up the neural impulse; deteriorates can lead to multiple sclerosis</td>
<td>Like the water in the slide that allows you to go fast down the slide</td>
</tr>
<tr>
<td><strong>Afferent (sensory) neurons</strong></td>
<td>Neurons that transmit information from the spinal cord to the brain and interpret sensory information</td>
<td>S= sensory neuron A= afferent neuron M= motor neuron E= efferent neuron</td>
</tr>
<tr>
<td><strong>Efferent (motor) neurons</strong></td>
<td>Neurons that send information from the brain to muscles and glands</td>
<td></td>
</tr>
<tr>
<td><strong>Interneurons</strong></td>
<td>Make up central nervous system and communicate internally between sensory and motor neurons</td>
<td>Interneurons are located WITHIN the spinal cord</td>
</tr>
<tr>
<td><strong>Action potential</strong></td>
<td>A neural impulse caused by a brief electrical charge that travels down neuron</td>
<td>Crossing the finish line or THRESHOLD you are moving at full speed</td>
</tr>
<tr>
<td><strong>Depolarization</strong></td>
<td>Input to a neuron that causes inside of the cell to become more positive as sodium ions enter the membrane causing an action potential</td>
<td>Like the runner who starts sprinting down and building up speed to cross the finish line</td>
</tr>
<tr>
<td><strong>Refractory period</strong></td>
<td>The time right after an action potential when a neuron is incapable of producing an action potential; referred to as hyperpolarization- the charge falling below -70</td>
<td>The runner who puts his hands on his or her knees because he or she needs a little extra time before able to run at full speed/ or waiting for the toilet water to get back to the original level before flushing again</td>
</tr>
<tr>
<td><strong>Threshold</strong></td>
<td>Minimum amount of stimulation necessary to generate an action potential</td>
<td>A runner who hits the finish line at full speed or pushing the turn style for a ride</td>
</tr>
<tr>
<td><strong>All-or-none response</strong></td>
<td>A neuron will either fire an action potential or will not and always at the same intensity</td>
<td>Like firing a shotgun the bullet comes out at the same speed each time fired</td>
</tr>
<tr>
<td><strong>Acetylcholine</strong></td>
<td>A NT that enables muscle action, memory, and learning; deterioration may lead to Alzheimer’s disease</td>
<td>A for acetylcholine and A for Alzheimer’s disease</td>
</tr>
<tr>
<td><strong>Endorphins</strong></td>
<td>A NT linked to pain control and pleasure</td>
<td>When people workout they release endorphins which block pain and make you feel good like “runner’s high”</td>
</tr>
<tr>
<td><strong>Central nervous system (CNS)</strong></td>
<td>Comprised of the brain and spinal cord</td>
<td>Brain and spinal cord located Centrally in your body</td>
</tr>
<tr>
<td><strong>Peripheral nervous system (PNS)</strong></td>
<td>Sensory and motor nerves that connect the body to the CNS</td>
<td>Peripheral means out like the exits off a freeway that take you away from the freeway</td>
</tr>
<tr>
<td><strong>Somatic nervous system</strong></td>
<td>Part of the PNS that governs voluntary movements of the body’s skeletal system</td>
<td>SOME people VOLUNTARY choose to dance</td>
</tr>
<tr>
<td><strong>Autonomic nervous system</strong></td>
<td>Part of the PNS that governs automatic or involuntary movements like heart beat</td>
<td>Autonomic means AUTOMATIC happens without any conscious effort</td>
</tr>
<tr>
<td><strong>Sympathetic nervous system</strong></td>
<td>Part of the autonomic nervous system that arouses the body; fight-or-flight response</td>
<td>S for sympathetic and S for speeds up</td>
</tr>
<tr>
<td><strong>Parasympathetic nervous system</strong></td>
<td>Part of autonomic nervous system that calms body down returning it to homeostatic state</td>
<td>Parasympathetic like a PARACHUTE-slow you down from so don’t crash</td>
</tr>
<tr>
<td><strong>Left hemisphere</strong></td>
<td>Responsible for language, logic, problem-solving, math</td>
<td>L for Language</td>
</tr>
<tr>
<td><strong>Right hemisphere</strong></td>
<td>Visual-spatial tasks, recognition of faces, creativity, musical ability</td>
<td>Right means you can answer right when it comes to remembering faces and songs</td>
</tr>
<tr>
<td><strong>Corpus callosum</strong></td>
<td>Neural fibers that connect the right and left hemisphere; is sometimes severed to reduce elliptic seizures</td>
<td>Like cables that connect your computer to your printer or mouse</td>
</tr>
<tr>
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<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Frontal lobe</strong></td>
<td>Responsible for controlling impulsive behavior, short-term memory, planning, and morality</td>
<td>You hit the FRONT part of your head when do something stupid because the frontal lobes are in charge of thinking</td>
</tr>
<tr>
<td><strong>Parietal lobe</strong></td>
<td>Receives tactile (touch) information from the body</td>
<td>Parietal is touch and at the top of the head like playing duck-duck goose and you hit the top part of a person’s head</td>
</tr>
<tr>
<td><strong>Occipital lobe</strong></td>
<td>Processes visual information and coordinates balance</td>
<td>O I Can SEE Or you go to DOC for eye glasses</td>
</tr>
<tr>
<td><strong>Temporal lobe</strong></td>
<td>Processes auditory information</td>
<td>You can HEAR the TEMPo of a song</td>
</tr>
<tr>
<td><strong>Wernicke’s area</strong></td>
<td>Association area located on the left hemisphere which is responsible for transforming spoken words into thoughts</td>
<td>Students have a hard time UNDERSTANDING DR. Wernicke</td>
</tr>
<tr>
<td><strong>Broca’s area</strong></td>
<td>Association area located on left hemisphere responsible for transferring thoughts into spoken language</td>
<td>Boca means mouth Or you have Broken speech</td>
</tr>
<tr>
<td><strong>Medulla</strong></td>
<td>Control heart-rate and breathing</td>
<td>Medulla allows ME to be alive</td>
</tr>
<tr>
<td><strong>Reticular formation</strong></td>
<td>Concentration of neurons controls wakefulness/arousal</td>
<td>Pay particular reticular attention</td>
</tr>
<tr>
<td><strong>Cerebellum</strong></td>
<td>Coordinates movement, balance, posture, implicit memories</td>
<td>Sara has great balance</td>
</tr>
<tr>
<td><strong>Cerebral cortex</strong></td>
<td>Outer layer of the forebrain; in charge of thinking, learning, consciousness</td>
<td>Cerebral is involved in thinking like a CPU of a computer</td>
</tr>
<tr>
<td><strong>Hypothalamus</strong></td>
<td>Maintains drives like eating, thirst, fornication, body temperature, controls the pituitary gland</td>
<td>The man’s part of the brain- pizza, drink</td>
</tr>
<tr>
<td><strong>Thalamus</strong></td>
<td>Brain’s relay center that directs sensory information to proper areas; except smell</td>
<td>Secretary who tells people where to go in the building except for people who smell</td>
</tr>
<tr>
<td><strong>Limbic system</strong></td>
<td>Associated with emotion, behavior, and long-term formation; considered to be pleasure system because of production of dopamine</td>
<td>Everyone feels good when they are doing the limbo dance</td>
</tr>
<tr>
<td><strong>Amygdala</strong></td>
<td>Associated with fear and recognition of facial expressions</td>
<td>Never make AMY mad- she is very emotional</td>
</tr>
<tr>
<td><strong>Hippocampus</strong></td>
<td>Forms new explicit memories and contain large amounts of acetylcholine</td>
<td>Hippos have good memories and never get lost on a college CAMPUS</td>
</tr>
<tr>
<td><strong>CAT or CT scan</strong></td>
<td>Produces an image of the brain</td>
<td>Like a PICTURE of a Cat on your shelf</td>
</tr>
<tr>
<td><strong>MRI</strong></td>
<td>Provides detailed view of tissue in the brain</td>
<td>MRI means MORE detail</td>
</tr>
<tr>
<td><strong>PET scan</strong></td>
<td>Uses a radioactive gel to measure glucose metabolism</td>
<td>PETs have to always be able to drink fluids</td>
</tr>
<tr>
<td><strong>Endocrine system</strong></td>
<td>Communication system uses of set of glands that produce hormones that carry messages within the bloodstream</td>
<td>Much slower than the nervous system which means messages do not move as fast</td>
</tr>
<tr>
<td><strong>Pituitary gland</strong></td>
<td>Considered the master gland that governs all other glands and regulates growth</td>
<td>Master P</td>
</tr>
<tr>
<td><strong>Maturation Chapter 3</strong></td>
<td>Growth of an organism occurs on its own and is has a predetermined time table of development</td>
<td>Your body has to be physically MATURE in your order for you to crawl or walk- no amount of learning will speed this up</td>
</tr>
<tr>
<td>Teratogens</td>
<td>Harmful agents that could pass through the placenta and negatively affect the fetus</td>
<td>TeRATogens- if a RAT bites you could cause problems or health issues</td>
</tr>
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</tr>
<tr>
<td>Rooting reflex</td>
<td>A reflexive behavior includes touching a baby’s cheek and head moving in that direction anticipating food- reflexes no input from brain but occur in spinal cord</td>
<td></td>
</tr>
<tr>
<td>Temperament</td>
<td>According to Thomas and Chess, natural tendency to express emotions include easy, difficult, or slow-to-warm-up</td>
<td>Temperament you are born with which then gives rise to personality development</td>
</tr>
<tr>
<td>Schema</td>
<td>According to Jean Piaget, a mental representation or thought of a place, person, or thing through experience</td>
<td>Schema is what comes to your mind when you think about things or a blueprint</td>
</tr>
<tr>
<td>Assimilation</td>
<td>Blending new information from the environment into an existing schema</td>
<td>The SS stands for SAME SCHEMA- does not change but becomes detailed</td>
</tr>
<tr>
<td>Accommodation</td>
<td>New information that modifies or changes and existing schema</td>
<td>The CC stands for CORRECT and CHANGE you- the schema changes</td>
</tr>
<tr>
<td>Stage theory of cognitive development</td>
<td>According to Jean Piaget, a child develops cognitively through sensorimotor, preoperational, concrete, and formal operational stages.</td>
<td></td>
</tr>
<tr>
<td>Object permanence</td>
<td>A child’s searching for an object that is no longer visible, which demonstrates the beginnings of memory</td>
<td>Before object permanence children like to play peek-a-boo because out of sight you are out of their mind</td>
</tr>
<tr>
<td>Egocentrism</td>
<td>Understanding the world through one’s own perspective and failing to see other people’s perspectives</td>
<td>Ego means I “I am the CENTER of attention” and don’t consider other people’s thoughts</td>
</tr>
<tr>
<td>Conservation</td>
<td>The understanding that changes in shapes or containers do not alter amount within</td>
<td>People believe taller the container, like an energy drink, more liquid</td>
</tr>
<tr>
<td>Abstract thought (hypothetical thought)</td>
<td>Examining several thoughts or decisions before making a choice- which occurs in formal-operational</td>
<td>Often leads to arguing in adolescence because you can generate your opinion and compare it to others “that’s not fair!”</td>
</tr>
<tr>
<td>Zone of proximal development</td>
<td>According to Lev Vygotsky, the measurement of what a child can do alone versus when other people are present</td>
<td>Most children tell parents they are fine, but once a parent leaves they want to come back- home sickness</td>
</tr>
<tr>
<td>Attachment</td>
<td>A strong emotional bond between caregiver and dependent</td>
<td></td>
</tr>
<tr>
<td>Contact comfort</td>
<td>According to Harry Harlow, attachment is strengthened through contact or touch between caregiver and dependent</td>
<td>Contact is necessary for security- when people hug or hold hands it always is a sign of affection and understanding</td>
</tr>
<tr>
<td>Critical period</td>
<td>A time frame when certain stimuli must be introduced to ensure proper development</td>
<td>It is CRITICAL that you finish the test within the class PERIOD</td>
</tr>
<tr>
<td>Imprinting</td>
<td>According to Konrad Lorenz, certain behaviors are caused by exposure to a specific stimulus</td>
<td>Goslings will follow whatever they first see when they are born</td>
</tr>
<tr>
<td>Secure attachment</td>
<td>According to Mary Ainsworth, a child will show excitement when caregiver returns after being gone</td>
<td>In daycare, workers will observe if the child is excited to see mom or dad when picks them up</td>
</tr>
<tr>
<td>Avoidant-insecure attachment</td>
<td>According to Mary Ainsworth, a child will ignore the caregiver when he or she returns</td>
<td>Maybe a reason why the child does not want to go home</td>
</tr>
<tr>
<td>Ambivalent-insecure attachment</td>
<td>According to Mary Ainsworth, a child will alter between excitement or resistance when caregiver reappears</td>
<td></td>
</tr>
<tr>
<td><strong>Psychosocial development</strong></td>
<td>According to Erik Erikson, people encounter specific crisis during certain developmental stages that must be resolved in order for proper development to occur. These stages include: trust vs. mistrust, autonomy vs. doubt and shame, initiative vs. guilt, industry vs. inferiority, identity vs. role confusion, intimacy vs. isolation, generativity vs. stagnation, and integrity vs. despair.</td>
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<tr>
<td><strong>Authoritarian parenting style</strong></td>
<td>According to Diana Baumrind, very strict parenting style. Authoritarian is like a barbarian- very strict.</td>
<td></td>
</tr>
<tr>
<td><strong>Permissive-indifferent parenting style</strong></td>
<td>According to Diana Baumrind, children do as they please as the parent does not show much interest in child’s development. With permissive parents you don’t need PERMISSION- you can do whatever you want.</td>
<td></td>
</tr>
<tr>
<td><strong>Authoritative-democratic parenting style</strong></td>
<td>According to Diana Baumrind, a very compromising and caring parenting style produces competent, independent children. Authoritative is most Supportive.</td>
<td></td>
</tr>
<tr>
<td><strong>Gender roles</strong></td>
<td>The behaviors, attitudes, and perceptions associated with a specific gender. A role is like an actor or actress portraying or a specific role.</td>
<td></td>
</tr>
<tr>
<td><strong>Social learning theory</strong></td>
<td>Gender development occurs through reinforcement, modeling and learning principles. You imitate a sport’s hero through dressing, acting, or thinking like them.</td>
<td></td>
</tr>
<tr>
<td><strong>Gender schema theory</strong></td>
<td>Mental thoughts and perceptions result in automatic behaviors and attitudes. Schema involves thoughts- thoughts concerning the role of a woman or man.</td>
<td></td>
</tr>
<tr>
<td><strong>Primary sex characteristics</strong></td>
<td>The reproductive organs that develop during puberty. Primary=reProductive.</td>
<td></td>
</tr>
<tr>
<td><strong>Secondary sex characteristics</strong></td>
<td>The development of nonessential reproductive organs that include body hair, deepened voice, breast, hip development. Secondary traits are what defines you physically as man or a woman- “Looks are secondary”.</td>
<td></td>
</tr>
<tr>
<td><strong>Preconventional level of moral development</strong></td>
<td>According to Lawrence Kohlberg, morality based on avoiding punishment or gaining reward. PRE means you want to be “Free” free from punishment.</td>
<td></td>
</tr>
<tr>
<td><strong>Conventional level of moral development</strong></td>
<td>According to Lawrence Kohlberg, morality based on the approval of people and societal expectations. Conventional means CONSISTENT with how everyone else expects you to act and think.</td>
<td></td>
</tr>
<tr>
<td><strong>Postconventional level of moral development</strong></td>
<td>According to Lawrence Kohlberg, morality based on personal expectations, beliefs, and values. Postconventional is like a post-degree or Ph.D. in morality- you have the highest morality.</td>
<td></td>
</tr>
<tr>
<td><strong>Women morality</strong></td>
<td>According to Carol Gilligan, morality for women is based on upholding and maintaining relationships.</td>
<td></td>
</tr>
<tr>
<td><strong>Fluid intelligence</strong></td>
<td>The ability to think abstractedly and quickly, which decreases as one gets older. When you pour fluid out of a glass fluid goes DOWN.</td>
<td></td>
</tr>
<tr>
<td><strong>Crystallized intelligence</strong></td>
<td>The general overall knowledge, which increases with age. Crystals become BIGGER as time goes on.</td>
<td></td>
</tr>
<tr>
<td><strong>Death and dying</strong></td>
<td>According to Elizabeth Kuber-Ross, a person goes through five stages of grieving and death: denial, anger, bargaining, depression, and acceptance DABDA.</td>
<td></td>
</tr>
</tbody>
</table>
Sample Essay Questions

History of Psychology

1. Tracy has decided to major in psychology, but she’s unsure which particular area she wants to specialize in. She’s interested in find out what the following areas of study would focus on:
   a. cognitive
   b. biological
   c. clinical psychologist

2. The question of why individuals act certain ways has always been of interest to psychologists. Several perspectives have provided different explanations for this question. Describe the area of interest and key figures identified for each of the following psychological perspectives.
   a. humanistic
   b. behavioral
   c. psychodynamic

Research Methods

1. Professor Llama believes that watching cooking show on television increases a person’s cooking ability. Design the research method that would be used to test Professor Llama’s theory. Be sure to include each of the following:
   a. Identify which research method Professor Llama should use:
   b. Correctly identify the independent and dependent variable:
   c. List one potential confounding variable:
2. Identify three different types of research methods commonly used in psychological research. Identify the advantages and disadvantages of each method of research.

**Biological Psychology**

1. Describe the effects of brain damage on each of the following regions of the brain?

   a. Frontal lobe

   b. Temporal lobe

   c. Occipital lobe

   d. Parietal lobe

2. Neurotransmitters play a vital role in behavior. Discuss the functions of dopamine, serotonin, and endorphins; indicate if the NT is in excess and deficiency the implications.
Developmental Psychology

1. Discuss how each of the following viewed human development.
   a. Jean Piaget
   b. Lawrence Kohlberg
   c. Erik Erikson
   d. Lev Vygotsky

2. Jim is a sixteen-year-old who is contemplating dropping out of high school. Jim says, “Nobody understands me and everyone stares at me all the time! Plus, I have really big ideas, and my band is going as people appreciate something unique and truly culture-changing.” Explain how each of the following influences Jim.
   a. Formal operational stage
   b. Personal fable
   c. Imaginary audience
   d. Identity vs. role confusion
   e. Postconventional morality
1. A researcher is setting up a study to see if AP courses prepare students for college. He is sending a short survey to all of the students who have taken an AP course in the past. In this example who is considered the population?
   A) High school students  
   B) College students  
   C) Former AP students  
   D) Former AP teachers  
   E) Incoming AP students

2. A researcher is interested in testing whether lecturing will make a difference in a student’s AP Psychology score. In this example lecturing would be considered the
   A) Confounding variable  
   B) Independent variable  
   C) Dependent variable  
   D) Operational definition  
   E) Control group

3. A case study is a study
   A) of a single individual.  
   B) distributed to large groups of people  
   C) an examination of a person in their natural habitat.  
   D) a cause-and-effect study.  
   E) a relationships that does not actually exist.

4. Which explanation best describes the purpose of a correlational research design?
   A) The study of an individual over an extended period of time.  
   B) The study of specified groups in order to draw comparisons and differences.  
   C) The examination of relationships between variables in order to make predictions.  
   D) The study of cause-and-effect relationships.  
   E) To examines the opinions of large groups of people.

5. John B. Watson supported ________ viewpoint, which is the study of overt or observable behavior; emphasizing the process of learning through rewards, consequences, and observation learning.
   A) Structuralism  
   B) Cognition  
   C) Behaviorism  
   D) Psychodynamic  
   E) Biological

6. Operational definitions are
   A) the precise definitions on how each variable in an experiment will be used  
   B) the empirical data that can be observed  
   C) the variable that will show the results and the effects of the independent variable  
   D) variables that could affect the outcome of the experiment  
   E) the theory restated

7. A testable prediction for a study is known as a
   A) Theory  
   B) Hypothesis  
   C) Survey  
   D) Case study  
   E) Operational definition

8. Which perspective focused on the debate and influence of nature vs. nurture?
   A) Behavioral  
   B) Humanistic  
   C) Psychodynamic  
   D) Cognitive  
   E) Behavior-genetics
___ 9. A drawback with using a correlational study is that
A) people have a tendency to falsely answer questions.
B) cannot be applied to the general population.
C) could be influenced by confounding variables.
D) it is hard to track down participants after a period of time
E) cannot establish cause-and-effect inferences.

___ 10. Jimmy was randomly assigned to the group in an experiment that will be held for comparison and not be administered the independent variable. Which group is Jimmy a part of?
A) experimental group
B) control group
C) manipulation group
D) confounding group
E) applied group

___ 11. Random sampling is a
A) general or grand explanation, which makes predictions or observations.
B) specific group, community which is going to be studied.
C) process that allows each person within a population a chance of being chosen for a study.
D) testable prediction taken from a hypothesis.
E) process that allows each person an equal chance of being assigned to the control or experimental group.

___ 12. The belief that knowledge comes from experience; either direct observation or experimentation.
A) Structuralism
B) Correlational studies
C) Surveys
D) Empiricism
E) Functionalism

___ 13. A researcher simply believes that most people would agree with him that smoking is dangerous. Which statement describes this doctor’s notion?
A) Social desirability effect
B) Illusory correlation
C) Operational definition
D) False consensus effect
E) Confounding variable

___ 14. Debriefing is defined as
A) information cannot be released after the experiment.
B) cannot cause harm to the participants.
C) the right to know what the experiment is about.
D) the right to give a full explanation to the participants after the experiment.
E) having food ready after the experiment.

___ 15. Which school of psychology used the method of introspection to focus on the internal functions of the brain and body?
A) Functionalism
B) Structuralism
C) Humanistic
D) Psychodynamic
E) Behavioral

___ 16. The belief that a researcher knew the outcome throughout the experiment and stating their belief after the experiment is known as
A) overconfidence
B) hindsight bias
C) participant bias
D) critical thinking
E) the scientific method
17. A psychologist is studying the effects of parenting on independence by following a group of children for 20 years and reporting their changes and outcomes. Which type of study is this psychologist using?
A) Longitudinal
B) Experimental
C) Correlational study
D) Case study
E) Naturalistic observation

18. Dr. Monroe did not consider that how much sleep a student received the night before a test as possibly having an effect on the dependent variable. The lack of sleep is considered the
A) Independent variable
B) Dependent variable
C) Researcher bias
D) Confounding variable
E) manipulation of the experiment

19. Dr. Morgan is interested in researching whether a protein shake drank before a test will improve a student's test score. In this experiment the student's test score is considered the
A) Independent variable
B) Confounding variable
C) Item of interest
D) Operational variable
E) Dependent variable

20. Who believed and supported interactive dualism as the idea that the mind and body are different but do interact and influence one another.
A) Wilhelm Wundt
B) Rene Descartes
C) Charles Darwin
D) William James
E) Aristotle

21. Which part of the brain controls eating, drinking, body temperature and provides a link between the brain and the endocrine system?
A) Parietal lobes
B) Temporal lobes
C) Amygdala
D) Hypothalamus
E) Hippocampus

22. ________ scan measures brain activity through injecting a radioactive glucose that allows to observe how the brain is functioning.
A) MRI
B) CAT
C) FRMI
D) PET
E) EEG

23. ________ neurons carry sensory information through afferent nerves in the peripheral nervous system where ________ travel within the central nervous system then ___________ neurons travels back through efferent nerves in the peripheral nervous system allowing a response or movement.
A) Motor; Sensory; Interneurons
B) Interneurons; Motor; Sensory
C) Sensory; Interneurons; Motor
D) Motor; Interneurons; Sensory
E) Interneurons; Sensory; Motor

24. ________ connects the left and right hemisphere.
A) Hypothalamus
B) Hippocampus
C) Pons
D) Medulla
E) Corpus callosum
__ 25. Multiple sclerosis could disintegrate a neuron's __________, which ultimately could affect the speed of a neural impulse.
   A) Dendrites  
   B) Axons  
   C) Myelin sheath  
   D) Synapse  
   E) Nodes of

__ 26. Which part of the brain controls balance and coordinates movements?
   A) Medulla  
   B) Thalamus  
   C) Reticular formation  
   D) Hypothalamus  
   E) Cerebellum

__ 27. A message from another neuron causes the inside of the receiving neuron to become positive as sodium ions start to enter leading to an action potential. This process is referred to as
   A) depolarization  
   B) repolarization  
   C) all-or-none response  
   D) hyperpolarization  
   E) synaptic discharge

__ 28. ______ lobes control vision; ______ lobes control audition or hearing.
   A) Occipital; temporal  
   B) Frontal; parietal  
   C) Occipital; frontal  
   D) Occipital; parietal  
   E) Temporal; occipital

__ 29. Which lobe is connected with thinking, planning, and emotional control?
   A) Frontal  
   B) Occipital  
   C) Temporal  
   D) Parietal  
   E) Hippocampus

__ 30. A person's broca's area on his left hemisphere was affected when he experienced a stroke. What ability could be affected?
   A) understanding what others say  
   B) being able to speak  
   C) being able to touch his nose  
   D) reading  
   E) writing

__ 31. ______ is a drug designed to mimic a neurotransmitter; whereas ______ drugs block the function of a neurotransmitter from occurring.
   A) antagonist; agonist  
   B) hormone; synaptic  
   C) agonist; antagonist  
   D) efferent; afferent  
   E) afferent; efferent

__ 32. Which part of a neuron receives information from other neurons?
   A) Axon  
   B) Dendrites  
   C) Myelin sheath  
   D) Axon terminals  
   E) Soma

__ 33. ______ is a relay for all sensory information excluding ______.
   A) Hypothalamus; smell  
   B) Pons; smell  
   C) Thalamus; vision  
   D) Thalamus; smell  
   E) Thalamus; hearing

__ 34. The endocrine system is comprised of ______ that circulate in the bloodstream.
   A) pons  
   B) neurotransmitters  
   C) neurons  
   D) hormones  
   E) agonist
35. Which nervous system consists of the brain and spinal cord?
   A) Central nervous system
   B) Peripheral nervous system
   C) Sympathetic nervous system
   D) Somatic nervous system
   E) Autonomic nervous system

36. What state does a neuron have to be in in order for an action potential to occur?
   A) All-or-none
   B) Resting potential
   C) Threshold
   D) -50 charge
   E) Postsynaptic state

37. ______ coordinate movements on the left side and right side of the body as well as dreams. ______ controls heartbeat and breathing, and ______ controls wakefulness and arousal.
   A) pons; medulla; reticular formation
   B) medulla; pons; reticular formation
   C) hippocampus; hypothalamus; reticular formation
   D) pons; hippocampus; medulla
   E) pons; hypothalamus; medulla

38. ______ nervous system, which is part of the peripheral nervous system, controls voluntary bodily movements.
   A) Automatic
   B) Efferent
   C) Afferent
   D) Sympathetic
   E) Somatic

39. Sensory neurons travel through _______ nerves and motor neurons travel through _______ nerves.
   A) Efferent; afferent
   B) Afferent; efferent
   C) Typical; afferent
   D) Topical; efferent
   E) Dendritic; typical

40. What is a chemical messenger that travels through gaps or synapses between neurons?
   A) Interneuron
   B) Dendritic neuron
   C) Axonic neuron
   D) Neurotransmitter
   E) Efferent neuron

41. Jimmy is trying to figure out who he is. He is constantly exploring different types of roles, values, and friends. Which Erik Erikson stage is Jimmy presently confronting?
   A) generativity vs stagnation
   B) intimacy vs isolation
   C) trust vs mistrust
   D) initiative vs guilt
   E) identity vs role confusion

42. Jimmy was able to tell his teacher that even though the taller beaker appears to have more liquid; it is still the same amount that is in the round beaker. This is an example the achievement of __________, which takes place in Piaget's __________ stage.
   A) conservations; preoperational
   B) conservations; sensorimotor
   C) conservations; concrete
   D) object permanence; sensorimotor
   E) object permanence; concrete

43. According to Lev Vygotsky, the measurement or indication of what a child can do alone versus when other people are present is referred to as
   A) zone of proximal development
   B) assimilation
   C) accommodation
   D) imprinting
   E) attachment
__ 44. Who would best support this statement: "Morality is based on upholding relationships, which are especially important for women."
A) Jean Piaget
B) Erik Erikson
C) Lawrence Kohlberg
D) Jimmy
E) Carol Gilligan

__ 45. Fluid intelligence is best described as
A) accumulated knowledge acquired throughout a lifetime
B) how fast one is able to reason or come with an answer, which increases with age
C) how fast one is able to reason or come with an answer, which decreases with age
D) the emotional significance of another person
E) reproduction ability declining

__ 46. An emotional bond between a caregiver and another person is called
A) Assimilation
B) Lack of reversibility
C) Teratogens
D) Animism
E) Attachment

__ 47. Jimmy does not cheat on a test because simply the teacher has a rule that does not allow teaching. This is an example of
A) Preconventional morality
B) Adolescence morality
C) Conventional morality
D) Postconventional morality
E) Formal morality

__ 48. Jimmy's father does not seem to want to be bothered with what Jimmy says or does. Jimmy feels that though his father does not care about him. Jimmy's father would be classified as a
A) Authoritative parent
B) Authoritarian parent
C) Permissive parent
D) Harmonious parent
E) Nonconformist parent

__ 49. The rooting reflex is defined as
A) necessary for feeding- touch a baby on the cheek and the baby turns his or her in that direction
B) babies holding onto whatever touches their palm
C) the babies toes and fingers curling up when stroked
D) the first two weeks of development
E) occurring within the mother during conception

__ 50. Thomas and Chess believed that people born with a specific type of emotional intensity that persisted throughout a person's life- this is referred to as
A) Assimilation
B) Reflexes
C) Accommodation
D) Schemas
E) Temperament

__ 51. Jimmy is told to act like a man and don't show tears when he is upset. This is an example of a
A) gender identity
B) personal fable
C) gender role
D) morality concern
E) spotlight effect
52. A time period where certain developmental procedures have to take place in order for development to continue positively is referred to as
   A) Chromosomes  
   B) Reflexes  
   C) Critical period  
   D) Sex linked characteristics  
   E) assimilation

53. Deterioration of the neurotransmitter AcH is connected with which disease?
   A) Parkinson's disease  
   B) Senile dementia  
   C) Alzheimer's disease  
   D) Schizophrenia  
   E) Bipolar disorder

54. Schemas are
   A) the biological growth process that is not affected by learning  
   B) mental organizations or frameworks that help to interpret and organize information  
   C) a specific type of emotional intensity present at birth  
   D) critical periods where certain developmental tasks must take place  
   E) sensory changes during the first two years of birth

55. Object permanence is described as the
   A) ability to recognize that although the shape of the container changes the amount stays the same  
   B) searching for an object that no longer can be seen  
   C) inability to take into consideration another point of view  
   D) belief that inanimate objects are alive  
   E) blending new information into existing schemas

56. Harmful agents that could affect the development of the fetus are
   A) Assimilation  
   B) Accomodation  
   C) Teratogens  
   D) Ego complex  
   E) Zygotic

57. The organs that are responsible for sexual reproduction are referred to as
   A) secondary sex characteristics  
   B) primary sex characteristics  
   C) imprinting  
   D) bold sex characteristics  
   E) attachment functions

58. Jimmy feels embarrassed when asked if boys should play with dolls. Jimmy's embarrassment or thoughts that dolls are meant for females would be supported through the
   A) ego integrity theory  
   B) attachment theory  
   C) social learning theory  
   D) gender schema theory  
   E) imprinting theory

59. Egocentrism is defined as the
   A) belief that inanimate objects are alive  
   B) the inability to reverse the sequence of actions or events  
   C) the inability to take into consideration another person's point of view  
   D) abstract reasoning  
   E) continued searching for an object that is no longer present

60. Jimmy was just told that how he learned to type was incorrect. Jimmy's teacher told him that he would have to learn the proper technique in order to type correctly. This new technique that Jimmy has to learn would be an example of
   A) maturation  
   B) assimilation  
   C) temperament  
   D) reflex design  
   E) accommodation
Cognition
Chapter 4
Brain and Reaction Time

1. Which part of the brain is responsible for short-term memories?
   
   A. Which part of the brain is responsible for formation of long-term explicit memories?

Mental Representation: The ingredients of Thought

2. What is a mental category with shared characteristics or similar features?
   
   A. What is the best example from a concept?
      
      i. What is concept that has to be defined by rules or logic?
      
      ii. What is a concept that is formed from everyday experiences and common sense?
   
   B. What is a mental framework or thought process refer to?
   
   C. What is a personal view on how a sequence of events, actions will play out?
   
   D. How is a mental model applied?
      
      i. How is a cognitive map used?

Thinking Strategies

3. What is reasoning?
   
   A. Identify the two types of reasoning procedures?

Formal Reasoning

4. What type of reasoning is used to make a conclusion that is based on the truth of the premise or a logical rule?
   
   A. What is an example of formal reasoning that is a systematic procedure or step-by-step procedure that guarantees a solution?
      
      i. Why are algorithms often used?
   
   B. What is a syllogism?
Informal Reasoning

5. What is informal or inductive reasoning?
   
   A. What is a rule of thumb or cognitive shortcut used to solve a problem?
      
      i. What is an advantage and a disadvantage of applying a heuristic?

6. Which type of heuristic is based on a person’s present information or state of mind; what a person knows at a particular time of making a decision?
   
   A. Give an example:

7. Which type of heuristic is based on how well information matches or represents a person’s prototype or ideal thought of that information?
   
   A. Give an example:

8. Which type of heuristic relies on a starting point or prior knowledge, but often gets adjusted with contradictory information?
   
   A. Give an example

Read the following passage and highlight the correct terminology that describes the heuristic:

During a discussion in Tom’s political science class, Tom’s professor sited many reasons to support a new bill of legislation, as Tom listened he started to think that his Dad was wrong who he had agreed with for many years. (Anchoring heuristic)

Mary could not believe that a famous athlete was caught using illegal drugs, because she had always thought that athletes do not use drugs and are very health conscious. (representativeness heuristic)

Larry just saw a commercial for a pizza place on television and decided to place an order from that particular pizza establishment. (availability heuristic)

Problem-solving

9. Which type of problem-solving strategy involves identifying a final goal and developing steps to achieve that goals?
   
   A. What problem-solving strategy involves stepping back or away from a problem to gain a fresh perspective?
Chapter 4

Analogies of Psychology

B. What is often a result of applying incubation, where the solution just comes to you based on similarities to things in the past?

C. What refers to coming up with an answer without any conscious awareness?

**Obstacles to Problem-Solving**

10. How does mental set occur?

   A. What refers to the inability to see an object for other purposes or functions other than its intended use?
      
      i. Give an example:

   B. What is the tendency to only accept information that supports your beliefs, while ignoring any information that does not support your opinions?

**Decision-Making**

11. How is each decision based?

   A. What is the belief that the probability of a random sequence, how things will play out is based on a preceded behavior or what you do before the event?

   B. How a person alters or presents the wording of a statement can often influence a person’s decision?
      
      i. Give an example:

12. What does it refer to when a person clings or stick with a preexisting belief even though there is now contradictory information proving that belief wrong?

13. The tendency to have a previously mistake or wrong thought interfere or prevent the person from learning the correct information?

14. Describe the three types decision-making models:

   A. Single-feature model:

   B. Elimination-by-aspects model:

   C. Additive model:
Read the following passage and indicate which type of problem and decision-making techniques a person is presented with as they shop throughout the mall.

When Tom walked into the health store the manager presented Tom with a new herbal supplement that is 97% effective for reducing cholesterol. Based on that statistic Tom decided to buy the supplement. When Susan went into the exercise store she had already made up her mind to buy a certain type of bike, when the salesperson suggested a higher-rated bike, Susan did not seem to be listening to what he had to say and proceeded to buy the bike she originally wanted. Stewart and his friend were discussing a new television set when Stewart’s friend disagreed with him about the resolution of the TV. His friend went as far to pull up the correct information on his phone and Stewart still did not believe he was wrong. Dave heard incorrectly on the radio that a certain company was still making cell phones, when he went to the store and was told that company went out of business, Dave did not accept the truth and went to another store and asked for that phone.

Language and its Elements

15. Identify the three characteristics that separate human language from animal communication:
   A. Syntax and semantics:
   B. Infinite creativity:
   C. Displacement

16. What is smallest unit of sound?
   A. What is the smallest meaning in language such as a prefix or suffix?
   B. Syntax:
   C. Semantics:
Understanding Speech

17. Which part of the brain is responsible for understanding and turning audible words into speech or response?

    A. What refers to the combination of hearing and vision which allows to understand speech?

Development of Language

18. Identify what occurs during the first year of language development?

    A. Second year of language development:

Acquisition of Language

19. Who developed the Behavioral theory of Language Acquisition?

    A. How is language developed through this model?

    B. What can this theory not account for?

20. Who supported the Biological theory of Language Acquisition?

    A. What idea supported the premise that language is innate or born with?

    B. What did Noam Chomsky term the idea that all humans were born with innate knowledge for the basic structure of grammar?

        i. What other premise supported the idea of Chomsky’s universal grammar?

21. What did Benjamin Whorf believed about language development?

    A. What does Whorf’s Linguistic determinism (linguistic relativity theory) describe?

        i. Give an example:
Memory

22. Describe the three parts to the memory process:

A. Encoding:

B. Storage:

C. Retrieval:

Models of Memory

23. Which model suggest that new information is integrated with existing memories resulting in changing a person’s overall knowledge base?

A. Describe the Atkinson and Shiffrin information processing model?

Sensory Memory

24. Who studied sensory memory?

A. How did he study sensory memory?

B. Which type of sensory memory is retained for less a second?

C. Which type of sensory memory tends to be retained for a few seconds?

i. What is the process of the information going from sensory to short-term memory?

Short-term memory

25. Which type of memory stage receives information from sensory memory and then uses long-term memory to understand the incoming sensory information?

A. What refers to the process of how you work or decode the information while it is being interpreted in short-term memory?
B. What is the duration for working with information in short-term memory?
   i. What is a method of increasing the duration through just constantly repeating an item multiple times?

C. Who stated that short-term memory is limited to the magic number 7 +/- 2 items?
   i. What method increases the capacity through the process of grouping items into meaningful units?

**Long-term Memory**

26. Describe long-term memory?

   A. What does the Levels of Processing theory suggest?
      i. What is the application of personal meaning and extended understanding to help ensure information is encoded into long-term memory?

**Types of Long-term Memory**

27. What type of memory requires conscious thought to recall?

   A. An explicit memory that involves personal memory or meaning?
      i. Example:

   B. An explicit memory that pertains to general knowledge which everyone is aware of?
      i. Example;

28. What type of memory does not require conscious thought to recall?

   A. An implicit memory that is used to perform skills or muscle movements?
      i. Example:

29. A type of memory that refers to remembering to perform or do something in the future?

   i. Example:

30. A type of memory that refers to remembering if one did something in the past?

   i. Example:
Read the following passage and identify the types of memories Pete had when he told a story about his first day of college:

When Pete came back to his old high school to give advice to high school seniors about what to expect their first day of college he knew they were studying types of memory so he decided to quiz them as he told his story. As Pete instructs the class, he begins by saying, “Let me tell you about my first day of college, which is considered what type of memory?”

“______________________” “I was worried I would mess up so I wrote myself a note to remind me not to forget to bring my class schedule the following day, which type of memory is that?”

“______________________” “Luckily, I learned how to type in high school, so I was able not to able to listen to the professor without focusing on the typing, that memory is a?”

“______________________” “The course was psychology, which I was very familiar with so when the professor asked who was the father of psychology the entire class knew the answer, that’s because it is?”

“______________________” “Later in the day I panicked because I thought I had left my wallet in class, but then remembered I gave it to my friend before class, which type of memory was that?”

Organizing Long-term Memory

31. How does the hierarchical model organize memories?

A. How does the semantic network model organize memories?

i. What refers to unconscious process for activating associations in the semantic network model?

Encoding into Long-term Memory

32. What is automatic processing?

A. Which type of encoding requires attention and conscious effort?
33. Identify the types of effortful encoding processing?

A. Rehearsal:

B. Spacing effect:

C. Overlearning:

D. Self-reference effect:

E. Semantic encoding:

Read the following passage about a teacher who offers workshops for students who struggle in class. Identify which methods are being used to help a student improve their study skills:

Today we are going to talk about how to improve our study habits. First, when you think you know the material study it again and again you can never know too much just too little. ____________________________ Next, always use your life and your experiences as a method to remember the material; the more you can relate to the material the easier it will be to remember. _________________________ Third, always provide meaning to what you are trying to remember; the more meaningful the easier it is to remember ___________________________ Forth, always study at different times; not all at once- three nights of studying is better than one night of cramming. ________________________.

Retrieving Long-term Memory

34. What refers to the process of getting memories out of long-term memory?

A. What are retrieval cues?

B. When does retrieval cue failure occur?

i. Give an example of retrieval cue failure?
35. How does serial position effect occur?

A. What refers to the first part of a list that people often remember?

B. What refers to the last part of a list which people also tend to remember?

C. What is a way of remembering items in the middle of the list if those items are unique and different?

Factors that affect Retrieval

36. What does the encoding specificity principle state?

A. What refers to retrieving information in the same contextual setting which information was encoded or learned?

B. What refers to emotions and mood acting as retrieval cues? Give an example:

C. What refers to a person’s internal state acting as a retrieval cue? Give an example:

37. What is a flashbulb memory? Give an example:

A. What refers to long-term memories that are especially resistant to forgetting and are likely to last a lifetime?

Constructing Memories

38. What does the Parallel distributed processing model suggest for how memories are integrated?

A. How does this help to learn new material?

39. What are established mental representations or blueprints of various things?

A. How can schemas distort memories?

40. Who studied how memory construction can alter memories?
A. What is the misinformation effect?

B. How did Loftus study the misinformation act?

C. What is a memory distortion in which a new memory is actually based on an unrecalled memory?

D. What is imagination inflation?
   i. What is the process of deciding whether memories are based on one’s perceptions of actual events or one’s thoughts and imaginations?

41. Who developed a concept of source monitoring or source amnesia that memories are formed without time or place?

Forgetting

42. Who researched factors that affect forgetting?
   A. What did he discover explained through the Ebbinghaus forgetting curve?

Factors that affect Forgetting

43. When does encoding failure occur?

44. What does the interference theory suggest about memory construction and retrieval?
   A. What refers to a new memory interfering with remembering an old memory?
      i. Give an example:
   B. What refers to an older memory interfering with remembering a new memory?
      i. Give an example:

Motivated Forgetting

45. What is suppression?
A. What is the unconscious forgetting of information?

**The Decay Theory**

46. What theory suggests that people forget memories that they are not actively using?
   
   A. What does a memory create in the brain?
   
   B. Do all researchers agree with this theory?

**Biological Basis for Memory**

47. What did Karl Lashey learn about memories and the brain?
   
   A. Who discovered that the formation of memories cause certain neurons to fire at the same time leading to dendrites becoming larger thus shrinking the synapse and creating a memory path or trace?
      
      i. What did he term this process?
   
   B. In the hippocampus which neurotransmitters help to form these paths?

**Amnesia**

48. What is amnesia?
   
   A. Which type of amnesia is the inability to remember events from the past, specifically episodic memories from an injury to the brain?
   
   B. Which type of amnesia is the inability to form new memories through damage to the hippocampus?
      
      i. Who did researchers study this type of amnesia?
      
      ii. What did this type of amnesia affect in him?

**Brain Structure and Memory**

49. Identify the following parts of the brain and how they affect memory:
   
   A. Hippocampus:
   
   B. Cerebellum:
C. Amygdala:

D. Medial temporal lobe:

E. Prefrontal cortex:

F. Left frontal cortex and temporal lobes:

G. Right frontal cortex and temporal lobes:

**Improving Memory**

50. What are memory aids that improve information?

A. Give an example of an acronym?

B. What involves linking a mental image with the content that is to be remembered?

   i. Give an example:

C. What is the method of loci?

   i. Give an example:
## Chapter Summation “Buzz Word(s)”

<table>
<thead>
<tr>
<th>Term</th>
<th>“Buzz word(s)”</th>
<th>Term</th>
<th>“Buzz Word(s)”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept</td>
<td>Category</td>
<td>Prototype</td>
<td>Best, first example</td>
</tr>
<tr>
<td>Forma concept</td>
<td>Rules</td>
<td>Natural concept</td>
<td>Experiences</td>
</tr>
<tr>
<td>Schema</td>
<td>Blueprint of thought</td>
<td>Script</td>
<td>Routine</td>
</tr>
<tr>
<td>Mental model</td>
<td>Visual</td>
<td>Cognitive map</td>
<td>Mental map</td>
</tr>
<tr>
<td>Algorithm (formal)</td>
<td>Step-by-step guarantee</td>
<td>Heuristic (informal)</td>
<td>Short-cut, errors</td>
</tr>
<tr>
<td>Availability heuristic</td>
<td>Present state of mind</td>
<td>Representativeness heuristic</td>
<td>Matches, an opinion about something</td>
</tr>
<tr>
<td>Anchoring heuristic</td>
<td>Family opinions</td>
<td>Means-to-an-end</td>
<td>Eye on the prize</td>
</tr>
<tr>
<td>Incubation</td>
<td>Stepping away</td>
<td>Insight</td>
<td>“I know it”</td>
</tr>
<tr>
<td>Mental set</td>
<td>Stuck in your ways</td>
<td>Functional fixedness</td>
<td>Inability to see past obvious</td>
</tr>
<tr>
<td>Confirmation bias</td>
<td>Stubborn</td>
<td>Utility</td>
<td>Satisfaction</td>
</tr>
<tr>
<td>Gambler’s fallacy</td>
<td>Don’t’ jinx me</td>
<td>Framing effect</td>
<td>Wording</td>
</tr>
<tr>
<td>Belief perseverance</td>
<td>“I don’t believe it”</td>
<td>Belief bias</td>
<td>“I’m not wrong”</td>
</tr>
<tr>
<td>Syntax</td>
<td>Order</td>
<td>Semantics</td>
<td>Meaning</td>
</tr>
<tr>
<td>Displacement</td>
<td>The future</td>
<td>Phonemes</td>
<td>No meaning phony</td>
</tr>
<tr>
<td>Morphemes</td>
<td>More to it- meaning</td>
<td>Wernicke’s area</td>
<td>Understanding</td>
</tr>
<tr>
<td>McGurk effect</td>
<td>Hearing, seeing</td>
<td>Overextension</td>
<td>One word for all</td>
</tr>
<tr>
<td>Overregularization</td>
<td>Sitted</td>
<td>B.F. Skinner</td>
<td>Nurture- imitate</td>
</tr>
<tr>
<td>Noam Chomsky</td>
<td>Nature born to talk</td>
<td>Universal grammar</td>
<td>Innate grammar</td>
</tr>
<tr>
<td>Linguistic determinism</td>
<td>Where live leads to words used to think</td>
<td>Encoding</td>
<td>To put into memory</td>
</tr>
<tr>
<td>Overlearning</td>
<td>Study, study, study</td>
<td>Spacing effect</td>
<td>Little at a time</td>
</tr>
<tr>
<td>Self-reference</td>
<td>Relate then remember</td>
<td>Semantic encoding</td>
<td>Meaning</td>
</tr>
<tr>
<td>Iconic memory</td>
<td>Visual; very short</td>
<td>Echoic memory</td>
<td>Auditory; longer</td>
</tr>
<tr>
<td>Short-term memory</td>
<td>Limited</td>
<td>Working memory</td>
<td>Working the memory</td>
</tr>
<tr>
<td>Maintenance rehearsal</td>
<td>Repeat, repeat, repeat</td>
<td>Chunking</td>
<td>TGIF</td>
</tr>
<tr>
<td>Elaborative rehearsal</td>
<td>More meaning</td>
<td>Explicit memories</td>
<td>Thinking</td>
</tr>
<tr>
<td>Episodic memories</td>
<td>Personal</td>
<td>Semantic memories</td>
<td>“We all know that”</td>
</tr>
<tr>
<td>Implicit memories</td>
<td>No thinking</td>
<td>Procedural memories</td>
<td>Muscle memory</td>
</tr>
<tr>
<td>Prospective memory</td>
<td>Remind 101</td>
<td>Retrospective memory</td>
<td>“I did do that”</td>
</tr>
<tr>
<td>Permastore memory</td>
<td>Permanent</td>
<td>Cryptomnesia</td>
<td>Not what happened</td>
</tr>
<tr>
<td>Hierarchical model</td>
<td>Concepts</td>
<td>Semantic network</td>
<td>Associations</td>
</tr>
<tr>
<td>Priming</td>
<td>Just happens</td>
<td>Retrieval cues</td>
<td>Hints</td>
</tr>
<tr>
<td>Tip-of-the-tongue</td>
<td>“I know it; I just can’t remember”</td>
<td>Serial position effect</td>
<td>Middle</td>
</tr>
<tr>
<td>Primacy effect</td>
<td>First part</td>
<td>Recency effect</td>
<td>Last part</td>
</tr>
<tr>
<td>Term</td>
<td>“Buzz word(s)”</td>
<td>Term</td>
<td>“Buzz Word(s)”</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Von Restorff effect</td>
<td>Odd, middle</td>
<td>Encoding specificity</td>
<td>Where learned best remembered</td>
</tr>
<tr>
<td>Context-dependent cues</td>
<td>Same room same memories</td>
<td>Mood congruent</td>
<td>Happy mood happy memories</td>
</tr>
<tr>
<td>State dependent cues</td>
<td>Body cues</td>
<td>Flashbulb memories</td>
<td>Emotional memories</td>
</tr>
<tr>
<td>Parallel distributed processing model</td>
<td>Associations, tying together</td>
<td>Misinformation act</td>
<td>Loftus, wording effect</td>
</tr>
<tr>
<td>Source monitoring</td>
<td>No place; no time</td>
<td>Ebbinghaus forgetting curve</td>
<td>In one ear out the other</td>
</tr>
<tr>
<td>Retroactive interference</td>
<td>New prevents old</td>
<td>Proactive interference</td>
<td>Old prevents new</td>
</tr>
<tr>
<td>Suppression</td>
<td>Don’t want to think about</td>
<td>Repression</td>
<td>You will never think about</td>
</tr>
<tr>
<td>Decay theory</td>
<td>Don’t use you lose</td>
<td>Long-term potentiation</td>
<td>Memory path</td>
</tr>
<tr>
<td>Glutamate, Acetylcholine</td>
<td>Memory NTS, glue</td>
<td>Retrograde amnesia</td>
<td>Past</td>
</tr>
<tr>
<td>Anterograde amnesia</td>
<td>Future</td>
<td>Hippocampus</td>
<td>Explicit memory</td>
</tr>
<tr>
<td>Cerebellum</td>
<td>Implicit, muscle memory</td>
<td>Amygdala</td>
<td>Emotional memory</td>
</tr>
<tr>
<td>Medial temporal cortex</td>
<td>Long-term memory</td>
<td>Prefrontal cortex</td>
<td>Order of the memory</td>
</tr>
<tr>
<td>Acronyms</td>
<td>Chunking</td>
<td>Link method</td>
<td>Visual doing it</td>
</tr>
<tr>
<td>Method of loci</td>
<td>Method of place</td>
<td>Mnemonics</td>
<td>Aids</td>
</tr>
</tbody>
</table>
1. _________________ is the best or typical example of a concept, which is a mental grouping based on similar characteristics or ideas.

___ 2. Algorithm is an example of formal reasoning, which involves a step-by-step procedure; however does not guarantee a solution if used.
   A) True    B) False

___ 3. Jimmy decides to date a girl who his friends have been encouraging. Jimmy decided because this girl matches or is similar to his ideal type of a girl he would consider dating. This is an example of:
   A) anchoring heuristic       D) representativeness heuristic
   B) availability heuristic    E) incubation
   C) insight

4. Jimmy believes that every other high school is just like his high school when it comes to sports being offered. This reasoning is an example of an _________________ heuristic.

5. _________________ requires stepping back from a problem and later addressing the problem with a fresh perspective.

___ 6. Jimmy did not realize that he could have used a dime to turn a screw because he only saw a dime as a type of money. This is an example of
   A) incubation              D) confirmation bias
   B) intuition              E) belief bias
   C) functional fixedness

___ 7. Jimmy's friends are becoming frustrated with Jimmy's viewpoints about a certain person. Jimmy believes the person is a liar, even though Jimmy's friends have information that contradicts Jimmy's opinion. This is an example of
   A) framing              D) belief bias
   B) overconfidence       E) functional fixedness
   C) belief perseverance

___ 8. Phoneme is the smallest unit in language that carries meaning.
   A) True    B) False

___ 9. Who believed that language ability is innate, which states that people come predisposed to learn a certain language.
   A) B.F. Skinner              D) Benjamin Whorf
   B) William James            E) Jean Piaget
   C) Noam Chomsky

186
10. According to Benjamin Whorf, the linguistic relativity hypothesis states that our ability structures or influences the way we think.
A) True    B) False

11. ________________ is the process of getting or putting information into memory.

12. ________ processing allows you to remember certain things without making an effort or conscious effort to remember the information.
A) Effortful processing    D) Method of loci
B) Automatic processing    E) Encoding imagery
C) Rosy retrospection

A) True    B) False

14. Auditory sensory memory or echoic memory will last longer in duration than visual sensory memory or iconic memory.
A) True    B) False

15. ____________ is a technique which involves grouping items into meaningful bits of information that allows the capacity of short-term memory to increase pass 7 items/ +/- 2.

16. ____________ rehearsal is the mental or verbal repeating of items, which allows the duration of information in short-term memory to last longer than 20-30 seconds.
A) Elaborative    D) Maintenance
B) Selective attention    E) Working
C) Rosy retrospection

17. ____________ refers to an increase in neural firing allowing the dendrites of receiving neurons to grow, decreasing the gap or synapse between neurons, producing a memory path or trace in the brain enabling memories to be formed.
A) Dendritic firing    D) Elaborative rehearsal
B) Synaptic gap    E) Maintenance rehearsal
C) Long-term potentiation

18. Episodic and semantic information are considered explicit memories because these types of information require conscious thought in order to be recalled.
A) True    B) False

19. Personal information, such as your birth date or phone number is considered ____________ information classified as an explicit memory.
A) semantic    B) procedural    C) episodic    D) flashbulb    E) visual
20. How you ride a bike is considered procedural information classified as an implicit memory, which is processed by the cerebellum.
A) True    B) False

21. __________________ model states that long-term memories are organized through a network of associations, which when one memory is retrieved often other similar memories are also retrieved.

22. Students prefer multiple-choice test because then a student simply has to recognize a term or question to retrieve the memory of the answer.
A) True    B) False

23. The serial position refers to best remembering the first items (recency) and last items (primacy) of a list.
A) True    B) False

24. ________ memories are an example of the encoding specificity principle, which states that memories can be retrieved when certain environmental or content is again presented that were originally present when the memory was formed.
A) State-dependent    D) Encoding primacy
B) Mood-congruent    E) Encoding recency
C) Context-dependent

25. Retrieval cue failure, or ___________________________ occurs when a retrieval cue is not good or strong enough to trigger the memory.

26. Herman Ebbinghaus believed that information that is not immediately forgotten will go to long-term memory where it will be remembered for a long time.
A) True    B) False

27. Jimmy is becoming frustrated because he can't remember his new locker combination. He keeps on getting confused because all that he can remember is his old locker combination. This is an example of
A) Proactive interference    D) Decay theory
B) Retroactive interference    E) Tough luck
C) Encoding failure

28. Sally chooses consciously not to think about her ex-boyfriend. This would be an example of repression.
A) True    B) False
Cognition

1. What does cognition refer to?
   Mental processes that enable thinking, comprehending, and communication

2. The cerebral management of information received from our senses and transferred into concepts that are used to solve problems and make decisions is referred to as thinking

3. Psychologists are able to measure thought processes through reaction time, which is defined as: the time between presentation of a stimulus and the behavioral response

   a. Four factors that could affect the measurement of reaction time are:
      - The level of difficulty of the situation or question referred to as task complexity
      - The anticipation or prediction of a question or stimulus, which allow us to answer more quickly is called expectancy of an event
      - Our tendency to react in a predictable situation called stimulus-response compatibility- (already know what to do in certain situation- previous experience)
      - Responding too quickly or not thinking entirely about the situation often resulting in an error is called speed-accuracy tradeoff

The Brain and Reaction Time

4. The part of the brain that is responsible for processing new situations and tasks occurs in the ______________________

   a. Frontal lobes are responsible for short-term memories, but once information becomes familiar or well-mastered people rely on their ________________, which processes and forms explicit long-term memories.

Mental Representations: The Ingredients of thought

5. Fill out the following chart:

<table>
<thead>
<tr>
<th>Component of thought</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>________________</td>
<td>A category that encompasses information that shares similar features or characteristics</td>
</tr>
<tr>
<td>Component of a concept</td>
<td>The best example that incorporates all essential features of a concept; this differs from person to person and is based on experience</td>
</tr>
<tr>
<td>__________ __________</td>
<td>A concept that is defined by a set of rules</td>
</tr>
<tr>
<td>__________ __________</td>
<td>A concept formed through everyday experiences</td>
</tr>
<tr>
<td>__________ __________</td>
<td>A mental framework that helps organize information based on experiences</td>
</tr>
<tr>
<td>Script</td>
<td>A personal view on how an event will be played out, based on experience</td>
</tr>
<tr>
<td>__________</td>
<td>A mental representation of a situation, event, or object based on experience</td>
</tr>
<tr>
<td>__________</td>
<td>A mental representation of an environment</td>
</tr>
</tbody>
</table>
Thinking Strategies
6. A cognitive process used to reach a decision is called reasoning
   a. What are two types of reasoning skills? Formal and Informal

Formal Reasoning
7. When is formal reasoning (deductive reasoning) used?
   Used to justify a conclusion based on the truth of the premise
   a. Give an example: all dogs have tails/ kaylee is a dog/ so therefore kaylee has a tail
   b. A systematic procedure or step-by-step procedure used to guarantee a correct solution to a problem is called an ________________
   c. Although algorithms guarantee a solution they however are ________________

Informal Reasoning
8. When is informal reasoning (inductive reasoning) used?
   Used to form a conclusion based on the believability or accessibility of information
   a. A rule of thumb or cognitive shortcut used for problem solving is called a __________
   b. How heuristics different than algorithms?
      Heuristics allow quick decision
   c. What is a limitation of using a heuristic?
      Quickness can lead to incorrect answers

9. A type of heuristic that relies on a rule of thumb based on the most easily accessible information presently known to a person is called an ________________
   i. Give an example of availability heuristic: who has a greater population Canada or Australia? Most would say Canada because they know more about Canada

10. A type of heuristic that relies on a rule of thumb based on how well a situation matches a generalization or prototype we have about an established concept is called a ______________________
    i. Give an example of a representativeness heuristic: if a person was quiet and did not say much- would you think he is a boxer or a librarian?

11. Rules of them that rely on a starting or reference point to begin with and then adjust to accommodate information is called a anchoring and adjustment heuristic
    i. Give an example of an anchoring heuristic: students share same political beliefs as parents these initial beliefs (anchor) how we incorporate new beliefs (adjustment)
1. A mental category that is based on similar characteristics; either defined by a set of rules or natural experiences is called: *RC: Think of a playlist where the songs share similarities.*
   A) Script    B) Schema    C) Prototype    D) Concept    E) Algorithm

2. Each time Matt thinks about birds; the first bird that comes to his mind or his best example is a sparrow. In this example a sparrow would be considered his? *RC: Think of the first song in a musical playlist- it is often the best song or best example*
   A) Formal concept    B) Algorithm    C) Mental map

3. Which of the following procedures if followed will guarantee a successful outcome?
   *RC: Think of a step-by-step yahoo map- if followed precisely then you will get to your destination*
   A) Availability heuristic    B) Representativeness heuristic    C) Algorithm

4. Which of the following examples best describes a representativeness heuristic? *RC: Think about assuming- assumptions are based on how new information matches what we know about a topic or think we know*
   A) When asked if Larry is a bartender or personal trainer because Larry smokes people think he is a bartender.
   B) George orders pizza from a certain place because that is the only pizza place he is aware of in the area.
   C) Mary uses a step-by-step procedure to figure out a math problem.
   D) Tony forms an opinion on politics based on his parent's affiliation.
   E) June visualizes the building to navigate her way to a room.

5. When asked what college Troy is going to attend he quickly says State because that is the only college he knows about at that point in his educational career. *RC: Why food businesses advertise during dinner time is that they know that a person’s available information at the time of the decision will often lead to choosing that option.
   A) Anchoring heuristic    B) Representativeness heuristic    C) Script    D) Schema    E) Availability heuristic
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognition</td>
<td>The methods information is processed and manipulated in remembering, thinking, and understanding</td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td>The cerebral management of information that is received by the senses and placed into concepts for solving problems and making decision</td>
<td></td>
</tr>
<tr>
<td>Artificial intelligence</td>
<td>Scientific field that focuses on creating machines capable of performing activities that include intelligence performed by people</td>
<td></td>
</tr>
<tr>
<td>Concept</td>
<td>Mental category that is based on similarities</td>
<td>Like a playlist on your phone- like your workout songs- all are relatively the same type of songs or are similar</td>
</tr>
<tr>
<td>Prototype</td>
<td>The best or most typical example of a concept that is used for quick categorization of an item</td>
<td>The first song that you place on your playlist because it is the first song that comes to your mind and probably your favorite song</td>
</tr>
<tr>
<td>Formal concepts</td>
<td>A concept that is defined by specific rules</td>
<td>Prom is a FORMAL dance- there is an unwritten rule that you have to dress up</td>
</tr>
<tr>
<td>Natural concepts</td>
<td>A concept formed from everyday experiences</td>
<td>You NATURALLY have noticed that a car has 4 tires from your experiences</td>
</tr>
<tr>
<td>Schema</td>
<td>A mental representation or framework of people, places, or things that is formed through every day experiences</td>
<td>You have a mental picture or thought of most places, people, or things when they are mentioned or brought up</td>
</tr>
<tr>
<td>Script</td>
<td>A view on how a sequence should be followed in an experience or an event based on past experiences</td>
<td>You drive a car based on a script- open the door, fasten seat-belt, put key in ignition, turn key, put into drive, etc.</td>
</tr>
<tr>
<td>Mental model</td>
<td>A mental image of a situation, object, or event based on experiences</td>
<td>You can picture in your mind how to drive a car</td>
</tr>
<tr>
<td>Cognitive map</td>
<td>A mental map based on past experiences</td>
<td>You can picture in your mind how to get home- which is why you never use your GPS/ but go somewhere new you don’t have a cognitive map and you have to use GPS (which is like a cognitive map)</td>
</tr>
<tr>
<td>Formal reasoning (deductive reasoning)</td>
<td>Basing a decision on the truth of the premise or a logical rule</td>
<td></td>
</tr>
<tr>
<td>Algorithm</td>
<td>A step-by-step procedure used to guarantee a solution; often time-consuming</td>
<td>A YAHOO map is like an algorithm- it is step-by-step set of directions that if follow guarantees you get there</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Informal reasoning (inductive reasoning)</td>
<td>Forming a conclusion on the believability or how much information is available at time of the decision</td>
<td>Often when you look at a YAHOO map you take short-cuts, especially the first few steps</td>
</tr>
<tr>
<td>Heuristic</td>
<td>A rule of thumb or shortcut used in making a decision; saves time, but does not always guarantee a correct solution</td>
<td>How well your prototype MATCHES or REPRESENTS the item influences your decision/ same as an ASSUMPTION- you assume because he wears a tie he is a profession</td>
</tr>
<tr>
<td>Representative heuristic</td>
<td>Rule of thumb where decision relies on how well information matches the prototype</td>
<td>How well your prototype MATCHES or REPRESENTS the item influences your decision/ same as an ASSUMPTION- you assume because he wears a tie he is a profession</td>
</tr>
<tr>
<td>Availability heuristic</td>
<td>Rule of thumb where a decision depends on how much available information a person has about an item; first thing that comes to mind about an item</td>
<td>Why pizza places advertise on tv during dinner time- is the most RECENT or Available information you have at decision time is what you often will choose/ same as IGNORANCE- you only know about things that you have AVAILABLE information about</td>
</tr>
<tr>
<td>Anchoring and availability heuristic</td>
<td>Rule of thumb where a person has a starting point or previous knowledge about an item that either prevents learning of contradictory information or the person has to adjust what he or she knows</td>
<td>Most of your first thoughts about anything began at home- so home is your ANCHOR in which thoughts first began and school is where you ADJUST your thoughts</td>
</tr>
</tbody>
</table>
1. A part of the brain responsible for the formation of short-term memories. A) Anchoring and availability heuristic

2. A mental category that encompasses information that shares similar features or characteristics. B) Formal concept

3. The best example and often first thing that comes to mind of a specific concept. C) Algorithm

4. A concept that is defined by specific rules and specifications. D) Schema

5. Mental framework that helps organize information based on experiences. E) Prototype

6. A personal view on how a sequence of an event will play out based on prior experiences. F) Concept


8. A type of heuristic that relies on most accessible and present information at time of decision. H) Representativeness heuristic

9. A type of heuristic that relies on how well the information matches a generalization or prototype. I) Availability heuristic

10. A type of heuristic that relies on a starting point or reference point and adjusts to accommodate any new and contradictory information. J) Script
A. Cognitive psychology - study of the mental processes by which information from the environment is modified, made meaningful, stored, retrieved, used, and communicated with others
   1. Cognitive abilities - all mental activities associated with thinking, knowing, and remembering
   2. Information processing system - mechanisms for receiving information, representing it with symbols, and manipulating it - like a computer
      a. Thinking - manipulation of mental representations
      b. Reaction time - time between the presentation of a stimulus and an overt response to it
      c. Evoked brain potential - small, temporary change in EEG voltage that is evoked by some stimulus
B. Concepts - a mental grouping, or category based on shared similarity
   3. Formal concept - concept that can be clearly defined by a set of rules or properties - square has four sides
   4. Natural concept - concept that has no fixed set of defining features, but has a set of characteristic features - a house
      a. Prototype - best example incorporating the major features of a concept
      b. Closer the object is to the prototype the faster we can categorize it
      c. Proposition - mental representation of the relationship between concepts - a Dodge Viper is fast
   5. Concept hierarchies - keep mental information organized - take broad concepts and organize them more precisely - cars/ broken down into sports cars and SUV’s
      a. Schemas - generalizations about categories of objects, places, events, and people
      b. Script - a mental representation of familiar sequences of activity - sequence of going to a restaurant and ordering food
   6. Mental model - a representation of particular situations or arrangements of objects that guides our interaction with them - picture what someone is describing to you by combining your previous knowledge concerning concepts
      a. Image - mental representation of visual information
      b. Cognitive map - mental model of familiar parts of the environment - picturing your house at school
C. Thinking Strategies
   7. Reasoning - process by which people generate and evaluate arguments and reach conclusions about them
   8. Formal reasoning - process of following a set of rigorous procedures for reaching valid conclusions
      a. Algorithms - a logical rule or procedure that guarantees solving a problem - Length x Height
         a. Rules of logic - sets of statements that provide a formula for drawing valid conclusions
         b. Syllogism - an argument made up of two propositions, mental representations between concepts, called premises - drawing correct conclusions from a set of multiple statements/ premise 1 - AP is for seniors/ premise 2 - I am not a senior = I can’t take the class
9. Informal reasoning - process of evaluating a conclusion, theory, or course of action on the basis of the believability of evidence
   a. Heuristic - a simple thinking strategy that allows us to make judgments and solve problems - usually faster but more error prone - (short-cuts)
      a. Going right to the canned good isle to find baked bean - fast - but might not always be there
   b. Anchoring heuristic - mental shortcut that involves basing judgments on existing information - makes it hard to accept new information - like you have a mental anchor - if you were told it was actually warm in Alaska - you may only adjust your original thought of being cold be a few degrees - thought it was 10 degrees - someone tells you it is actually 80/ you only raise your estimate to maybe 40
   c. Representativeness heuristic - judging the likelihood of things in terms of how they seem to represent, or match, particular prototypes - (may ignore relevant information)
      i. Prototype: tough teacher - wears a tie, etc./ any teacher - you decide if he or she is a touch teacher based on how well they match your prototype of a tough teacher - tie
   d. Availability heuristic - estimating the likelihood of events based on their availability in memory, or how easy it is to bring available information out of long-term memory
      i. Question: Which is higher - breast or cervical cancer?
         Answer - which one you know more about based on what you heard
Problem Solving

Means-End Analysis

1. A problem-solving technique that relies on the identification of a final goal and the required steps needed to achieve that goal is called ______________________

Analogies

2. Finding similarities between a current problem and prior problems uses analogies

Incubation

3. Stepping back from a problem to allow the problem to eventually work itself out is referred to as ______________________

Insight

4. The sudden realization of a solution to a problem is called ______________________

Obstacles to Problem-solving

5. One obstacle to problem-solving is the tendency to approach a current problem with previous strategies that have worked in the past, limiting us to discovering new ideas. This is referred to as a ______________________

Functional fixedness

6. Another obstacle is the inability to see that an object could be used for different purposes other than the one it is originally designed for is called ______________________

   a. Give an example of functional fixedness: not realizing you can use a dime to turn a screw

Confirmation bias

7. When does confirmation bias occur?

   ______________________

Decision-Making

8. Decision-making involves evaluating the options presented to see if there is a favorable outcome. A measurement of satisfaction received by choosing that option is referred to as the utility. (what you get)

   a. The belief that the probability of a random sequence is influenced by a preceding behavior is called ______________________
b. Another factor that could influence a person’s decision is the wording or presentation of information which is called the ________________

a. Give an example of the framing effect: 90% fat free vs. 10% fat

Language and its Elements

9. All species can communicate, but psychologists suggest that true language (what separates us from animals) is based on the following characteristics:

a. The rules regarding the structure of grammar ______ and its meaning __________

b. The ability to generate an infinite number of sentences called infinite creativity

c. And the ability to communicate events in the future or in the past called displacement

d. The smallest basic units of sound that influence the production of speech such as consonants and vowels are called ________________

e. The smallest unit of meaning of language like a prefix or suffix is called a ________

Understanding Speech

10. Which part of the brain is responsible for turning audible words into thoughts? __________________________

11. Human speech also relies on vision to help decode what we hear. A combination of hearing and vision that allows us to understand speech is called the ________________

Development of Language

12. The acquisition of language is a long process, with the most significant milestones occurring in the first 3 years:

<table>
<thead>
<tr>
<th>Year of Life</th>
<th>Language displayed</th>
<th>Example</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Babbling stage</td>
<td>“gagaga”</td>
<td>One word that means multiple thing: “da” may mean “what’s that?” or “look over there”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td></td>
<td></td>
<td>Between 18 months to 2 years child starts to string words together like a telegram- “want juice”</td>
</tr>
<tr>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Three word stage</td>
<td>Use 3 word sentences: subject, verb, object</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Misapplication of grammar: “I sitted down”</td>
</tr>
<tr>
<td>Third</td>
<td>“wh” words</td>
<td>Use words who, what, where, especially why</td>
<td></td>
</tr>
</tbody>
</table>
Acquisition of Language

Researchers believe that there is a critical period or designated time to learn a language.

Behavioral Theory of Language Acquisition

13. According to Behaviorists, like B.F. Skinner language is developed by ____________________________.
   a. Positive reinforcement does account for children imitating their parents by repeating by what they say. However, what can’t the behavioral theory account for?
      The inaccurate pronunciation of words - which maybe genetic

Biological Theory of Language Acquisition

14. Children throughout the world seem to learn language at roughly the same time providing evidence that language is somewhat innate or born with. Noam Chomsky suggests that all humans have innate knowledge in all humans for the basic structure of grammar called ____________________________
   a. How does the critical period of language support the concept of universal grammar?
      There is a timeframe to learn a language - usually by age 12/ if not does not develop
   b. What other evidence supports Chomsky’s viewpoint of language development?
      Specific Language impairment (SLI) language is affected despite normal cognitive functioning

Culture, Language, and Thought

15. Culture and where you live does impact the way language develops. Benjamin Whorf developed the theory of linguistic determinism to explain how cultures do not use the same words. What is linguistic determinism?
   a. Give an example of how culture affects language.
      Inuits have over a 100 words that mean snow/ where is we have one
1. Vera is writing an English paper when she gets stuck on how to write the conclusion. At that point she decides to go on a walk to clear her head and then start fresh. Which problem-solving technique is Vera utilizing? *RC: Think about having to get out of the work cubical to generate new ideas*
A) Insight    B) Incubation    C) Fixation    D) Mental set    E) Writers block

2. A screw on Lisa's chair came loose when the student next to her suggested that she use a dime to tighten the screw preventing the chair from breaking. Lisa's inability to realize this herself is an example of: *RC: Think about becoming fixated or stuck on the original functions of objects*
A) Confirmation bias    D) Functional fixedness
B) Natural concept    E) Additive thinking
C) Algorithm

3. Which of the following examples exemplifies confirmation bias? *RC: Think about how you stop actively listening to someone who does not confirm or agree with your point of view*
A) Larry quickly agrees with Marcy because her opinion supports his established opinion about the topic.
B) Sue did not realize she could use her backpack as a pillow in the airport.
C) Jean steps outside to take a break before writing her paper.
D) George visualizes the city when picking a place to eat.
E) Ben explains how the answer just came to him during the math test.

4. A consonant is an example of which component of language? *RC: Remember there is more to a morpheme because it carries meaning*
A) Phoneme    B) Morpheme    C) Syntax    D) Semantics    E) Heuristic

5. A little boy says "da" to mean a variety of things; for example the dog, plate, fork, room. This is an example of which aspect of language development? *RC: Remember to generalize means to extend to everyone*
A) Overregularization    D) Framing
B) Overextension    E) Morephematic
C) Habituation
<table>
<thead>
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<th>Analogy</th>
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</thead>
<tbody>
<tr>
<td>Means-end analysis</td>
<td>Problem-solving technique that relies on identifying a final goal or outcome and the completing each step to reach that goal</td>
<td>You don’t spend money on fast food leading up to a vacation so you have money to go on vacation</td>
</tr>
<tr>
<td>Analogies</td>
<td>Looking for similarities between current or previous problems</td>
<td></td>
</tr>
<tr>
<td><strong>Incubation</strong></td>
<td>Taking a step back from a problem and then readdressing problem with fresh mind set</td>
<td>You step out of your work CUBE-ical when you can’t think of any new ideas</td>
</tr>
<tr>
<td>Insight</td>
<td>The sudden realization of a solution to a problem</td>
<td>A song that you could not identify earlier in the day suddenly comes to you later</td>
</tr>
<tr>
<td>Mental set</td>
<td>The tendency to approach current problem with solutions that worked in the past even if solutions no longer are effective</td>
<td>You are MENTALLY SET on the idea that if you wear a certain shirt to a social event you will be able to meet someone because it worked in the past</td>
</tr>
<tr>
<td>Functional fixedness</td>
<td>The inability to see an object with more than one purpose other than the original purpose or design</td>
<td>You are MENTALLY FIXED that the FUNCTION of a backpack is to carry books rather than understanding it could also be a pillow</td>
</tr>
<tr>
<td>Confirmation bias</td>
<td>Tendency to only accept information that support one’s opinion or belief while ignoring contradictory information</td>
<td>You are going to listen to people that are going to CONFIRM or agree with what you think or do</td>
</tr>
<tr>
<td>Hindsight bias</td>
<td>Tendency to admit after the results are given you knew the outcome the entire time</td>
<td>Hind means Rear/ most people announce after the game they knew who was going to win</td>
</tr>
<tr>
<td>Utility</td>
<td>A measurement of satisfaction with choosing an option</td>
<td>Everyone has an EXPECTATION or UTILITY of what determines a good night- meet or exceed the EXPECTATION and you tell everyone you had a good time</td>
</tr>
<tr>
<td>Gambler’s fallacy</td>
<td>Belief outcomes are influenced by what a person does before</td>
<td>Some people have a “special pencil” for when they take tests</td>
</tr>
<tr>
<td>Framing effect</td>
<td>Influencing a person’s decision by the way the information or question is presented</td>
<td>90% chance it will rain and people bring an umbrella to work/ but say 10% chance it won’t rain no one brings an umbrella- same percentage but framed differently</td>
</tr>
<tr>
<td><strong>Single-feature decision-making</strong></td>
<td><strong>Basing a decision on one single aspect</strong></td>
<td><strong>You choose a car based on one factor - PRICE</strong></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td><strong>Additive model for decision-making</strong></td>
<td><strong>Adding up the plusses or minuses for each alternative then making a decision</strong></td>
<td><strong>You choose a car by adding up the PLUSSES for each car and buy the one that has the most</strong></td>
</tr>
<tr>
<td><strong>Elimination by aspect</strong></td>
<td><strong>Evaluate choices then eliminate cars don’t meet expectations</strong></td>
<td><strong>You ELIMINATE cars that are not red</strong></td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td><strong>Communication of species either written, spoken, or nonverbal</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Syntax</strong></td>
<td><strong>Rules regarding the combining or words</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Semantics</strong></td>
<td><strong>The meaning of words and sentences</strong></td>
<td>**Most people know the meaning of a <strong>Se-MAN-tics</strong></td>
</tr>
<tr>
<td><strong>Infinite creativity</strong></td>
<td><strong>Ability to generate an infinite number of sentences</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Displacement</strong></td>
<td><strong>Ability to communicate events in the future or past</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Phonemes</strong></td>
<td><strong>Smallest unit of sound</strong></td>
<td><strong>Consonants</strong></td>
</tr>
<tr>
<td><strong>Morphemes</strong></td>
<td><strong>Smallest meaning in language</strong></td>
<td>**There is **MOR-<strong>pheme (meaning) than a phoneme</strong></td>
</tr>
<tr>
<td><strong>Wernicke’s area</strong></td>
<td><strong>Part of brain responsible for turning audible words into speech</strong></td>
<td></td>
</tr>
<tr>
<td><strong>McGurk effect</strong></td>
<td><strong>The combination of hearing and vision that allows us to understand speech</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Babbling stage of language development</strong></td>
<td><strong>Present in first year of language development characterized by uttering consonants and vowels</strong></td>
<td></td>
</tr>
<tr>
<td><strong>One-word stage of language development</strong></td>
<td><strong>Characterized by stating one word and often overextending that word to have multiple meanings</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Overextension of words</strong></td>
<td><strong>“Da” means a number of words</strong></td>
<td><strong>Da means dad, dog, car, food</strong></td>
</tr>
<tr>
<td><strong>Two-word stage of language development</strong></td>
<td><strong>Characterized by telegraphic speech, which sounds like a telegram</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Overregularization of words</strong></td>
<td><strong>Misapplication of rules of grammar</strong></td>
<td><strong>Sitted instead of sat</strong></td>
</tr>
<tr>
<td><strong>Behavioral theory of language acquisition</strong></td>
<td><strong>According to B.F. Skinner, language is learned through reinforcement and imitation</strong></td>
<td><strong>Hooked on Phonics is an example that supports Skinner’s theory, but can’t explain why some people have speech impediments that were exposed to normal speech</strong></td>
</tr>
<tr>
<td><strong>Biological theory of language acquisition</strong></td>
<td><strong>According to Noam Chomsky, humans have universal grammar, which is innate knowledge for basic structure of grammar</strong></td>
<td><strong>Chomsky “chopped” down trees in Nature/ nature meaning speech is natural</strong></td>
</tr>
<tr>
<td><strong>Linguistic determinism or linguistic relatively theory</strong></td>
<td><strong>Suggests that culture dictates structure of language, which then affects the how a person thinks about the environment</strong></td>
<td><strong>Your culture DETERMINES how you will talk (linguistic) live up North you use the word pop not soda</strong></td>
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<tr>
<td>___ 1. Stepping back from a problem to allow a fresh perspective and allow the problem to work itself out.</td>
<td>A) Incubation</td>
<td></td>
</tr>
<tr>
<td>___ 2. The inability to see an object as being used for other than its intended purpose.</td>
<td>B) Linguistic determination or relativity theory</td>
<td></td>
</tr>
<tr>
<td>___ 3. The tendency to accept information that supports our beliefs while ignoring information that counters our beliefs.</td>
<td>C) Morphemes</td>
<td></td>
</tr>
<tr>
<td>___ 4. Influencing the decision by altering words or how the information is presented.</td>
<td>D) Wernicke's area</td>
<td></td>
</tr>
<tr>
<td>___ 5. Part of the brain that is responsible for turning audible words into speech.</td>
<td>E) Universal grammar</td>
<td></td>
</tr>
<tr>
<td>___ 6. The smallest units of sound.</td>
<td>F) Overregularization</td>
<td></td>
</tr>
<tr>
<td>___ 7. The smallest units of language that carry meaning.</td>
<td>G) Confirmation bias</td>
<td></td>
</tr>
<tr>
<td>___ 8. Misapplication of rules of grammar, &quot;I sitted down&quot;</td>
<td>H) Framing effect</td>
<td></td>
</tr>
<tr>
<td>___ 9. Noam Chomsky's belief that humans are given innate knowledge specific to the basic structure of grammar.</td>
<td>I) Phonemes</td>
<td></td>
</tr>
<tr>
<td>___ 10. Benjamin Whorf's theory that culture and where one lives dictates type of language and language then dictates styles of thought.</td>
<td>J) Functional fixedness</td>
<td></td>
</tr>
</tbody>
</table>
A. Problem Solving
1. Means-end analysis- you continuously ask yourself where you are in relation to your final goal- then decide on the means by which you can get one step closer to it- developing a subgoal
2. Working backward- start backwards from your goal- running a marathon- route to run/ night before run/ workout up to run/ gear needed/ motivation to even run a marathon
3. Analogies- finding similarities between today’s problems and others you have encountered in the past- a fight with a present boyfriend or girlfriend/ compare to a fight with a past boy/girlfriend
4. Insight- sudden realization of the solution to a problem- you recognize that this problem is similar to one you had in the past
5. Trial and error- involves attempting different solutions and eliminating those do not work- dialing random phone number until you get the right one
6. Intuition- coming to a conclusion or making a judgment without conscious awareness of the thought process involved
7. Incubation- stepping back from a problem to allow the problem to work itself out.

B. Problem-solving Problems
1. Mental set- tendency to approach a problem in a particular way- especially a way that has been successful in past/ maybe not in the present
   a. Asking a person out/ may have worked in past/ might not work in the present
2. Multiple hypotheses
   a. Hearing a noise that could be explained by multiple reasons- difficult because of limited short-term memory capacity
3. Fixation- inability to see a problem from a new perspective
   a. Functional fixedness- tendency to think of things only in terms of their usual function/ using a coin to tighten a screw
4. Confirmation bias- tendency to focus on information that supports one’s thinking- type of anchoring heuristic/ only pay attention to advice that supports your ideas
   a. Overconfidence- when confidence is greater than a person’s accuracy
      ii. Underdogs playing dominant teams- not taking underdog seriously
5. Framing- way issue is worded or presented can influence decisions and judgments
   a. 90% of you will pass this course or 10% of you fail this course
6. Belief perseverance- clinging to one’s initial beliefs even after new information discredits the beliefs- prejudice behavior over time/ death penalty
7. Belief bias- tendency for one’s preexisting beliefs to distort logical reasoning- tendency not to accept a fact when you previously learned the information in the wrong- “Capital of Michigan is Lansing- NO - it is Detroit my Dad told me!”

C. Decision- Making
1. Amos Tversky and Daniel Kahneman- conducted research to discover factors that influence human judgment and decision making
   a. Utility- a subjective measure of value that each part, characteristic of decision has- being a doctor: positive utility- money/ negative utility- lots of hours
   b. Expected value- total benefit to be expected if a decision were to be repeated several times- deciding to date someone- looking past the first date- to other dates- prom- vacations
2. Decision-Making Models
   a. Single-feature model- you base your decision on one single feature- deciding on a date- decision based on who has nicest car
   b. Additive model- adding up the pluses for each alternative and then comparing- deciding on a date- 5 pluses for one guy/ 3 pluses for another guy- go with the 5 plus guy
   c. Elimination by Aspects model- evaluate choices and eliminate ones that do not meet your criteria/ deciding date- cross off a guy who does not have a car

D. Artificial Intelligence- science of designing and programming computer systems to do intelligent things and to stimulate human thought processes- such as intuitive reasoning

E. Language- spoken, written, or gestured words we combine them to communicate meaning
   a. Building Blocks of Language
      1. Phoneme- in spoken language- smallest distinctive sound unit
      2. Morpheme- in language- the smallest unit that carries meaning- maybe a word
      3. Word- unit of language composed of one or more morphemes
      4. Grammar- in language, a system of rules that enables us to communicate with and understand others
         a. Semantics- set of rules which we derive meaning from morphemes, words, and sentences in a given language- study of meaning/ adding ed means happen in the past
         b. Syntax- rules for combining words into grammatically sensible sentences in a given language/ adjectives before nouns

F. Language acquisition
   1. Noam Chomsky- Linguist who argues children have predisposition to learn language, brains were hard-wired to pick up vocabulary and rules of grammar
      a. Universal grammar- innate knowledge for an understanding of grammar
   2. B.F. Skinner- American psychologist who argued that children learn language through associations, imitation and reinforcement

G. Language Stages
   1. Babbling stage- beginning 3-4 months- stage of speech development the infant spontaneously utters various sounds at first unrelated to the household
   2. One-word stage- stage of speech development from about age 1-2 during which child speaks in single words/ ma or pa
      a. Overextension of words- “da” may mean- what’s that?
   3. Two-word speech- around age 2- child uses mostly 2 word statements
      a. Telegraphic speech- in two-word stage- child speaks like a telegram- using mostly nouns and verbs- “go car”
      b. Overregulazation of words- “I sitted down” not knowing rules of grammar
      c. No three-word stage- children learn rapidly about 5000 words a year- most from out of school

H. Thinking and Language Together
   4. Benjamin Whorf- Linguist who developed the linguistic relativity hypothesis
      a. Linguistic relativity hypothesis- idea that our language structures the way we can think about the world- more languages you learn the more it affects the way you think about the world
Memory

1. The mental processes needed to acquire, retain, and retrieve information refers to memory
   
   a. The process of acquiring and entering information into memory is called encoding
   
   b. Maintaining the encoded information over a period of time so it can later be retrieved refers to storage
   
   c. Process of accessing or getting information out of memory is called retrieval

Models of Memory

2. A model in which new information is integrated with existing memories, resulting in a change in a person’s overall knowledge base refers to the parallel distributed processing model
   
   a. Each unit of information allows a neural network to form
   
   b. Parallel processing allows multiple networks in the brain to process different kinds of sensory information at the same time.

3. A model in which memory must be processed through three stages (also called the Atkinson-Shiffrin model): sensor memory, short-term memory, and long-term memory is called the information processing model

Storing Memories

Sensory Memory

4. Who was among the first to study sensory memory?
   
   George Sperling
   
   a. From his Sperling’s observations, when he presented a series of letters to subjects, even though they all reported seeing the letters, they mostly could only recall a few of the letters. This led Sperling to believe sensory memory is very brief allowing many sources of sensory information to be registered at the same time.
   
   b. Visual sensory memory, also called ________ memory, is very brief- less than a second
   
   c. Auditory memory, also called ________ memory, tends to be retained for a few seconds- longer than iconic memory
Short-term memory

5. Receives information from sensory memory and then uses information from long-term memory to make sense of present information is called ____________________

   a. What is working memory?

   ___________________________________________________________

   b. The duration of short-term is about 20-30 seconds, meaning we have about 20-30 seconds to comprehend new information. However, repeating a unit of new information over and over allows information to be active in short-term longer. This technique is called ________________________________

   c. George Miller discovered that short-term memory is also limited in capacity, which he described as _________________________

      i. To increase capacity of short-term memory, grouping items or units into meaningful chunks of information, like an acronym (TGIF), this is referred to as ________________________________

Long-term memory

6. What is long-term memory?
   The “warehouse” that stores a limitless amount of information over period of time

Encoding information into Long-term Memory

7. Encoding information is the process of transferring information from short-term memory to long-term memory. Maintenance rehearsal keeps information active in short-term memory; however does it allow the information to go to long-term memory? NO The application of personal meaning and understanding helps ensure the information is encoded into long-term memory. This process is called ________________________________

Types of Long-term memory

8. What are explicit memories? Give an example.

   __________________________________________________________

   a. Type of explicit memory that includes personal meaningful memories is called ___________________________ like your birthday.

   b. Type of explicit memory that includes general common knowledge that everyone shares is called ___________________________ like capital of a state.
9. What are implicit memories? Give an example.

________________________________________________________________________

   a. Implicit memories rely on procedures, for example tying your shoes, shooting a basket, typing a letter is called ____________________________

**Organizing Long-term memories**

10. Information is stored in long-term memory though associations and similarities comparable to how concepts are formed with a prototype representing each concept. Memories that are formed through associations are described through the ____________________________

   a. Each memory triggers another memory or is associated with another memory. A process that occurs often unconsciously and refers to triggering or activating associations between memories is called ____________________________

**Retrieving Long-term memory**

11. What are retrieval cues?

________________________________________________________________________

   a. When a retrieval cue does not trigger or retrieve a memory it is called ____________________________, which is also referred to as ____________________________. This demonstrates that the information is stored in long-term memory, but the retrieval cue is not strong or good enough to trigger.

   b. People often have easier time retrieving information in the beginning (primacy) and end (recency) of a list, while experiencing difficulties with information in the middle. This is called the ____________________________

**Methods of retrieving information**

12. What type of a test allows students to rely on the recognition of information - where the answers can trigger the memories by serving as a retrieval cue?
   Multiple-choice/ matching

   b. What type of a test allows students to used cued recall - where the question can be a retrieval cue?
      Fill-in-the-blank

   c. What type of a test, which students can struggle, used free recall - no hints?
      Essay
1. Which of the following statements accurately depicts the type and duration of sensory memories? *RC: Remember you use your eyes to see things and you have to hear an echo; also by the time you turn your head to look at something it is gone*
   A) Iconic memories refer to auditory and are very brief in duration
   B) Echoic memories refers to visualization and are very long in duration
   C) Iconic memories are longer in duration than echoic memories
   D) Iconic memories or visual are very short in duration compared to echoic or auditory memories.
   E) Iconic memories or visual are very long in duration compared to echoic or auditory memories.

2. Tom simply repeats an item over and over to keep it active in his short-term memory in hopes of getting it right on test. This method is referred to as: *RC: you keep on putting change in a parking meter repeatedly simply to maintain your parking spot*
   A) Elaborative rehearsal
   B) Chunking
   C) Maintenance rehearsal
   D) Heuristics
   E) Priming

3. Craig can remember specifically the first time he swam across the swimming pool on his own. This type of explicit memory is referred to as: *RC: remember the P is episodic stands for personal*
   A) Implicit memory
   B) Procedural memory
   C) Prospective memory
   D) Episodic memory
   E) Semantic memory

4. Jim knows how to swim across the pool. This ability is based on which type of memory? *RC: remember the first step in a procedure is the most important because the rest of the steps will just happen*
   A) Explicit
   B) Episodic
   C) Semantic
   D) Procedural
   E) Incubation

5. The process of memories unconsciously or automatically popping into your consciousness as described in the semantic network model is referred to as: *RC: think about a graduation speech how the mention of certain events cues or has many memories just pop into your thinking*
   A) Explicit
   B) Hierarchical modeling
   C) Insight
   D) Priming
   E) Retrieving
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>Mental processes associated with processing, retaining, and retrieving information</td>
<td></td>
</tr>
<tr>
<td>Encoding</td>
<td>Process of getting information into memory</td>
<td>Comparable to typing or putting information IN a document</td>
</tr>
<tr>
<td>Parallel distributed model</td>
<td>New information is blended with existing information resulting in a larger knowledge base</td>
<td></td>
</tr>
<tr>
<td><strong>Information processing model</strong></td>
<td><strong>Atkinson and Shiffrin</strong></td>
<td></td>
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<tr>
<td></td>
<td>Memory is processed through 3 levels or stages: sensory memory, short-term, long-term memory</td>
<td></td>
</tr>
<tr>
<td>Sensory memory</td>
<td>According to George Sperling, sensory memories are very brief; iconic or visual memory retained for less than a second, echoic or auditory memory is retained for a few seconds</td>
<td></td>
</tr>
<tr>
<td>Short-term memory</td>
<td>Selective attention moves information to STM where processed or thought about/ limited to 7 items +/- 2 and about 20-30 seconds in duration</td>
<td>Comparable to being on a game show- you only have 30 seconds to FIGURE out the answer</td>
</tr>
<tr>
<td>Working memory</td>
<td>How a person actively works with the information while in short-term memory</td>
<td>Refers to HOW you FIGURE out the problem on the game show</td>
</tr>
<tr>
<td>Maintenance rehearsal</td>
<td>Repeating an item repeatedly to keep the item active in short-term memory</td>
<td>Like talking on a pay phone- if you keep on putting quarters in you continue talking on the phone</td>
</tr>
<tr>
<td>Chunking</td>
<td>Grouping items into meaningful chunks to increase capacity of short-term memory</td>
<td>Some people learned the Great Lakes through the acronym HOMES- one word representing 5 things</td>
</tr>
<tr>
<td>Long-term memory</td>
<td>A warehouse for memories not restricted in amount or duration of information</td>
<td></td>
</tr>
<tr>
<td>Levels of processing theory</td>
<td>When information has more meaning and personal relevance will last for a longer duration in long-term memory</td>
<td></td>
</tr>
<tr>
<td>Elaborative rehearsal</td>
<td>The application of personal meaning and understanding of material being encoded into long-term memory</td>
<td>If someone asked you to ELABORATE on a topic they are asking you to provide more meaning or details</td>
</tr>
<tr>
<td>Explicit memories</td>
<td>Memories that requires thinking about or conscious recall in order to retrieve</td>
<td>In order to write explicit lyrics a person had to be THOUGHT into those lyrics</td>
</tr>
<tr>
<td>Episodic information</td>
<td>Type of explicit memory, that describes personal memories</td>
<td>The P in ePisodic stands for PERSONAL</td>
</tr>
<tr>
<td>Semantic information (memories)</td>
<td>Type of explicit memory, that describes general knowledge most people are aware of</td>
<td>Everyone knows what a MAN is semantic</td>
</tr>
<tr>
<td>--------------------------------</td>
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</tr>
<tr>
<td>Implicit memories (nondeclarative memories)</td>
<td>Memories that do not require any thought or thought or conscious recall</td>
<td>Tying your shoes does not require you to think- you can tie your shoes while talking on the phone because it does not require thinking</td>
</tr>
<tr>
<td>Procedural information (memories)</td>
<td>Type of implicit memory, that are procedures or how a skill that don’t require a thought process to perform</td>
<td>When something is learned as a procedure all steps are eventually learned as one step because the first step causes the next step to happen and so on</td>
</tr>
<tr>
<td>Prospective memory</td>
<td>Remembering to perform an action or behavior in the future</td>
<td>Some people dream of becoming a PRO in their FUTURE</td>
</tr>
<tr>
<td>Retrospective memory</td>
<td>Remembering things, events, or situations from the past</td>
<td>If you dress RETRO you are dressing from an earlier time</td>
</tr>
<tr>
<td>Hierarchical model of organizing memories</td>
<td>Long-term memories are organized or based on similarities how closely it matches the prototype</td>
<td>Similar to a filing cabinet- all the files are placed into folders based on similarities</td>
</tr>
<tr>
<td>Semantic network model of organizing memories</td>
<td>Long-term memories are based on associations</td>
<td>Most people associate the color red with apple- each time you think apple you think red</td>
</tr>
<tr>
<td>Priming</td>
<td>The unconscious process of activating and retrieving long-term memories</td>
<td>Thinking red AUTOMATICALLY is called priming</td>
</tr>
<tr>
<td>Retrieval cues</td>
<td>Hints that help retrieve long-term memories</td>
<td></td>
</tr>
<tr>
<td>Retrieval cue failure</td>
<td>Occurs when a retrieval cue is not strong or good enough to retrieve a memory</td>
<td>If a test question is not clear to you then the question is not a strong retrieval cue</td>
</tr>
<tr>
<td>Tip-of-the-tongue phenomenon</td>
<td>A retrieval cue that is not strong enough to trigger the memory</td>
<td>This is occurs when you say, “I know the answer, I just can’t remember right now.”</td>
</tr>
<tr>
<td>Serial position effect</td>
<td>The tendency to not be able to retrieve items in the middle of a list</td>
<td></td>
</tr>
<tr>
<td>Primacy effect</td>
<td>Remembering items in the first part of the list</td>
<td>P (primacy) comes before R (recency) in the alphabet</td>
</tr>
<tr>
<td>Recency effect</td>
<td>Being able to remember the last part of a list</td>
<td>Recency = Rear</td>
</tr>
<tr>
<td>Von Restorff effect</td>
<td>The ability to remember items in the middle list because are unique or stand out from the rest of the list</td>
<td>Von Restorff is an unique name</td>
</tr>
</tbody>
</table>
1. According to George Sperling, a type of visual sensory memory that is very short in duration, less than a second. A) Iconic memory

2. A part of short-term memory that refers to how a person actively works with the information. B) Episodic memory or information

3. A type of rehearsal that involves repeating items over and over to keep them active in short-term memory longer than the 20-30 second allotment. C) Maintenance rehearsal

4. Refers to the process of grouping items into meaningful units, like acronyms, to increase the capacity of short-term memory. D) Working memory

5. A type of explicit or conscious memory that includes personal information. E) Primacy effect

6. A type of explicit or conscious memory that includes general knowledge that most people are aware of. F) Semantic memory or information

7. A type of memory that includes procedural information and does not require conscious thought to retrieve. G) Implicit memories

8. An application of personal meaning and understanding to help ensure that information is encoded into long-term memory. H) Prospective memory

9. A type of memory that refers to remembering to perform an action or behavior in the future. I) Chunking

10. The tendency to remember the first part of a list. J) Elaborative rehearsal
A. Models of Memory
   a. Levels of Processing model- a view stating that how well something is remembered depends on the degree to which incoming information is mentally processed- Information processing model- Atkinson and Shiffrin- information is seen as passing through sensory memory, short-term memory, and long-term memory
      i. Selective attention- process of transferring sensory memory information to short-term memory
      ii. Maintenance rehearsal- repeating information over and over to keep active in short-term memory
      iii. Elaborative rehearsal- memorization method that involves thinking about how new information relates to already stored information in long-term memory
   b. Transfer-appropriate processing model- suggests that a critical determinant of memory is how well the retrieval process matches the original encoding process
   c. Parallel distributed processing model (PDP)- memory models in which new experiences change one’s overall knowledge base
   d. Multiple memory systems model- suggests that the brain contains several memory systems, each of which resides in a different area and each with a different purpose

B. Processes of Memory
   1. Encoding- process of getting information into the memory system
   2. Storage- retention of encoded information over time
   3. Retrieval- process of getting information out of memory storage

C. How we Encode
   1. Automatic processing- unconscious encoding of incidental information such as space, time, frequency, well-learned information- word meaning of a frequently used word
   2. Effortful processing- encoding that requires attention and conscious effort
      a. Rehearsal- conscious repetition of information either to maintain it in consciousness or to encode it for storage
      b. Spacing effect- tendency for distributed study or practice to yield better long-term retention that is achieved through massed study or practice
      c. Overlearning- rehearsal of information beyond the point where it has been learned- effective strategy for improving memory
      d. Herman Ebbinghaus- studied memory- found more rehearse the more retain
      e. Self-reference effect- relating information to your own life- very effective
   3. Encoding Meaning
      a. Visual encoding- encoding of picture images
      b. Acoustic encoding- encoding of sounds- especially sounds of words
      c. Semantic encoding- encoding of meaning of words

D. Memory Storage
   a. Information processing model- Richard Atkinson and Richard Shiffrin- information is seen as passing through sensory memory, short-term memory, and long-term memory each differing in duration and capacity
   b. Sensory memory- brief, initial coding of sensory information in the memory system
      1. Sensory registers- memory systems that hold incoming information long enough for it to be processed further
      2. George Sperling- flashed images of 12 letters on a screen- the letters were arranged in 4 rows/ participants were shown the letters for a few seconds/ they
reported 4-5 letters/ he found that if letters were shown with the addition of a tone- they could report more letters- concluded that sensory memory lasts only long enough, if paid attention, to transfer to short-term memory

a. Iconic memory- a momentary sensory memory of visual stimuli- a photographic picture image memory lasting no more than a few tenths of a second

b. Echoic memory- a momentary sensory memory of auditory stimuli- if attention is elsewhere sounds and words can still be recalled within 3 or 4 seconds

c. Short-term memory- conscious, activated memory system that information is stored more permanently or forgotten

1. George Miller- “Magical number Seven/ plus or minus Two”- capacity for short-term memory is around 7 units

a. Chunking- increasing the amount of information to be held in short-term memory by grouping items together into a meaningful single unit or chunk

b. Duration- duration of short-term memory is about 20-30 seconds before information is forgotten

c. Maintenance rehearsal- mental or verbal repetition of information in order to maintain it beyond the usual 20-30 second duration

2. Working memory- part of short-term memory- information that the person is actively working with

d. Long-term memory- the relatively permanent and limitless storehouse of the memory system

a. Elaborative rehearsal- rehearsal that involves focusing on the meaning of information to help encode and transfer to long term memory

b. Flashbulb memory- a vivid, clear memory of an emotionally significant moment or event

c. Long-term potentiation- an increase in a synapse’s firing efficiency- believed to be a neural basis of learning and memory- involve serotonin- the more the neuron’s fire the more efficient they become making it easier to fire in the future- causing a memory trace in the brain

d. Types of Long-term memory

1. Explicit memory- declarative memory- memory of facts and experiences that one must consciously retrieve and declare

a. Episodic information- events you have personally experienced

b. Semantic information- general knowledge and facts

c. Prospective memory- involves remembering to perform actions in the future

d. Retrospective memory- involves remembering events from the past or previously learned information

2. Implicit memory- nondeclarative memory- memory of skills and procedures- like how to walk or how to read- that are retrieved without conscious recollection

a. Procedural information- motor skills, actions, muscle memory
e. Organizing long-term memory
   a. Conceptual hierarchy- or Clustering- organizing items into related groups during recall from long-term memory- one car triggers other cars
   b. Semantic network model- describes units of information in long-term memory as being organized in a complex network of associations- ball-round-red
   i. Priming- a process that refers to activating and associating the strands of memories positioned in the semantic network. Priming often occurs unconsciously.

f. Serial position effect- tendency to recall best the first and last items in a list
   1. Primacy effect- characteristic of memory in which recall of the first two or three items in a list is good
   2. Recency effect- characteristic of memory in which recall is particularly good for the last few items of a list
Factors that affect Retrieval

1. Which principle states that retrieval is more effective when retrieval conditions are similar to those that were in effect when the information was encoded or learned?

   a. Moods can also be used to trigger memories- when a person is happy that happy mood tends to trigger or retrieve happy memories. This is referred to as __________

   b. A person’s internal state can also serve as a retrieval cue/ pain can trigger other painful memories or alcohol can trigger memories involving alcohol. This is called ______________

   c. What are flashbulb memories?

Constructing Memories

2. Which model suggests that semantic and episodic memories become integrated with existing information that alters a person’s general knowledge of the environment?
   Parallel distributed processing models (PDP)

3. Established metal representations of people, objects, and events are called _____________
   a. Can schemas distort memory? Yes or No

4. Who conducted research concerning misleading information and the formation of memories?

   a. In her experiment, people were shown the scene of a car accident and then asked a series of questions concerning the accident. When Loftus used different words such as “smashed” or “bumped” she noticed that the use of these words altered what people thought they saw- smashed resulting in a faster speed at impact. She concluded by presenting misleading information this could in fact change what people remember- she referred to this as the __________

Forgetting

5. Who was one of the first researchers to investigate the aspects of forgetting?

   a. Ebbinghaus, using himself as a subject, tried to memorize a list of nonsense syllables. He then plotted his remembrance over time. He discovered that what was learned is often quickly forgotten, but over time the forgetting levels off and remains in long-term memory for a period of time. What is not forgotten right away will often remain in memory for a longer period of time. This is referred to as the ______________
Factors that affect Forgetting
6. When information was never encoded or actually entered long-term memory then this is referred to as ______________________

7. What suggested that memories can interfere with each other, causing information to be forgotten? _________________________________

   a. A new memory that causes or interferes with your remembering an old memory is called ______________________

      a. The learning of a new locker causes you not to be able to remember your previous or last year’s locker combination is called ______________________

   b. An older memory that interferes with your remembering a new memory is called ______________________________________

      a. You keep on dialing your old cell phone number which is preventing you from learning or remembering your new locker combination is called ______________________________________

Motivated forgetting
8. A person who consciously chooses not to remember or forgot some bit of information is using suppression

   a. On the contrary, what is repression?

      Unconscious forgetting of information

Decay theory
9. How does the decay theory suggest people forget information?

      You forget what you don’t actively think about

   a. Is there debate if memories actually do just disappear? Yes or No

Biological Basis of Memory
10. Who suggested that memories are not isolated to one specific section of the brain, but rather several areas of the brain?

      Karl Lashley

11. What occurs when a neurotransmitter continuously lands on the dendrites of a neuron?

      _________________________________

   a. As a result, when the dendrites become larger what becomes smaller? _________________________________
b. Through constant firing, another neuron is triggered allowing the formation and later retrieval of the information. This is called _______________ ________________

c. In the hippocampus, what neurotransmitters are seen in long-term potentiation and memory formation? Glutamate and Acetylcholine

d. People with Alzheimer’s disease, a disease which affects people’s memory, have show a lack of which neurotransmitter? ________________

Amnesia
12. What are two types of memory loss?

a. An inability to remember episodic information from the past because of trauma or injury to the brain is referred to as ________________

b. The inability to form new memories is called ________________

c. Who was the subject that had his hippocampus destroyed to lessen the severity of his seizures resulting in the prevention of new memories, but still the ability to perform implicit procedures? H.M.

Brain Structure and Memory

13. Karl Lashley demonstrated that not one specific area of the brain is responsible for the brain. Identify the following areas of the brain in terms of their responsibilities for memory.

<table>
<thead>
<tr>
<th>Brain Structure</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>__________________________</td>
<td>Encodes new explicit memories to long-term memory/ (note it is the pathway through which all new explicit memories must go, not necessary where new memories are stored)</td>
</tr>
<tr>
<td>__________________________</td>
<td>Stores memories that involve movement and coordination/ implicit memories</td>
</tr>
<tr>
<td>__________________________</td>
<td>Encodes the emotional elements of a memory</td>
</tr>
<tr>
<td>Medial Temporal lobe</td>
<td>Encodes new explicit memories to long-term memory</td>
</tr>
<tr>
<td>__________________________</td>
<td>Processes memories involving a sequence of events; does not actually process the events- just the sequence that has taken place</td>
</tr>
</tbody>
</table>

Improving Memory
14. Memory aids that help to organize behavior are called mnemonics

a. An example of a mnemonic device that is similar to chunking is called acronyms

b. Another type of mnemonic device that uses imagery or places to tie to information is called the ____________________

218
1. Jenny and her friend had a heated disagreement and as the argument continued each started remembering other bad moments they had experienced together. This is an example of which type of retrieval cue? *RC: Remember happy mood equals happy memories*
   A) State-dependent       D) Emotional timing
   B) Flash bulb            E) Context-dependent
   C) Mood congruent

2. Who believed that as fast as you learn information is as fast as you forget it; or whatever is remembered is remembered right after you learn it described in his forgetting curve. *RC: if you can remember something in your second hour class that you learned in the previous hour then you will remember it the rest of the day*
   A) William James         D) Noah Choinski
   B) Mary Jones            E) Herman Ebbinghaus
   C) Elizabeth Loftus

3. Elizabeth Loftus believed if you presented incorrect information to a person you could disrupt the construct of that memory. For example, bumped vs. smashed could give people a different retrieval of the memory. This process is called: *RC: Lawyers can sometimes confuse people by misleading people with certain types of questions or words- their misrepresenting the situation*
   A) Misinformation effect  D) Confirmation bias
   B) Source monitoring      E) Source amnesia
   C) Proactive interference

4. Ralph cannot remember his locker combination from the previous year because he keeps on dialing his present locker combination. This is an example of which of the following concepts? *RC: remember retro means old*
   A) Retroactive interference  D) Syntax confusion
   B) Proactive interference    E) Framing effect
   C) Misinformation effect

5. Which of the following examples accurately describes anterograde amnesia? *RC: remember a person will not be able to get new material*
   A) Larry cannot remember any information prior to the accident.
   B) Anthony can only remember certain details about a car accident.
   C) George cannot move his left arm after his stroke.
   D) Cindy cannot form new memories since the surgery.
   E) Jesse cannot speak coherent words after his stroke.
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Encoding specificity principle</strong></td>
<td>Suggests that retrieval cues are more effective when the retrieval conditions are similar to when the information was originally encoded</td>
<td>Where you learn something (memory being formed) is where you best remember something (because it is a retrieval cue)</td>
</tr>
<tr>
<td><strong>Context-dependent memories (context cues)</strong></td>
<td>Retrieving information in the same context or setting that information was encoded in</td>
<td>If you were told in your bedroom not to forget your books you probably will not remember that until you get home and go into your bedroom</td>
</tr>
<tr>
<td><strong>Mood congruence effect</strong></td>
<td>Emotions and moods serve as retrieval cues for similar memories</td>
<td>Bad mood serves a retrieval cue to retrieve bad memories - which is why when you argue more bad memories are going to come up in the conversation</td>
</tr>
<tr>
<td><strong>State-dependent memory</strong></td>
<td>A person’s internal state, like hunger, serves as a retrieval cue</td>
<td>Being hungry will be a retrieval cue for other memories that involved being hungry</td>
</tr>
<tr>
<td><strong>Flashbulb memory</strong></td>
<td>Personal feelings and significance retrieve more vivid memories</td>
<td>Traumatic events like 9/11 are often told with very specific details</td>
</tr>
<tr>
<td><strong>Schemas</strong></td>
<td>Mental representations of people, places, events, or things</td>
<td>If the first thought about a kitchen is the image and thoughts of your kitchen then this makes it hard to visualize or think about other people’s kitchens</td>
</tr>
<tr>
<td><strong>Misinformation effect</strong></td>
<td>According to Elizabeth Loftus, the presentation of misleading information into established memories can distort or change the established memory</td>
<td>Lawyers may try to mislead witnesses by adding different viewpoints - this misinformation may cause accommodation or a schema to CHANGE</td>
</tr>
<tr>
<td><strong>Source monitoring (source amnesia)</strong></td>
<td>Memories that are often formed without reference to where or when</td>
<td>Most people have a hard time remembering when or where they heard something</td>
</tr>
<tr>
<td><strong>Ebbinghaus forgetting curve</strong></td>
<td>According to Hermann Ebbinghaus, information that is not initially forgotten after learning will be retained in long-term memory</td>
<td>If during 2nd hour you can remember a test question from 1st hour then you will more than likely remember that question the rest of the day</td>
</tr>
<tr>
<td><strong>Interference theory</strong></td>
<td>Memories can interfere with other memories causing one to forget certain information</td>
<td></td>
</tr>
<tr>
<td><strong>Retroactive interference</strong></td>
<td>New memory that interferes with remembering an old memory</td>
<td>RETRO MEANS CANT REMEMBER SOMETHING OLD</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td><strong>Proactive interference</strong></td>
<td>Older memory that interferes with remembering a new memory</td>
<td>PROACTIVE MEANS YOU CAN’T REMEMBER SOMETHING NEW</td>
</tr>
<tr>
<td><strong>Suppression</strong></td>
<td>Consciously or effort fully trying to forget something</td>
<td></td>
</tr>
<tr>
<td><strong>Repression</strong></td>
<td>Unconsciously forgetting often traumatic information</td>
<td></td>
</tr>
<tr>
<td><strong>Decay theory</strong></td>
<td>The belief that if a memory is not actively used or retrieved will disappear from long-term memory</td>
<td></td>
</tr>
<tr>
<td><strong>Long-term potentiation</strong></td>
<td>Formation of memories cause an increased firing between neurons, which in turn reduces the synapse between the neurons creating a memory trace or path in the brain</td>
<td>If you walk back-and-forth in the snow you will make a path- this path will make it easier to walk through the snow- when you study you walk back-and-forth with the material producing a path in your brain making it easier to remember the information</td>
</tr>
<tr>
<td><strong>Amnesia</strong></td>
<td>Severe memory loss</td>
<td></td>
</tr>
<tr>
<td><strong>Retrograde amnesia</strong></td>
<td>The inability to remember events and information from the past</td>
<td>RETRO MEANS Old</td>
</tr>
<tr>
<td><strong>Anterograde amnesia</strong></td>
<td>Inability to form new memories</td>
<td>“50 First Dates”</td>
</tr>
<tr>
<td><strong>Hippocampus</strong></td>
<td>Area of the brain that includes the pathway of the brain that encodes new explicit memories</td>
<td>Hippos THINK when they are on college CAMPUSES- explicit memories</td>
</tr>
<tr>
<td><strong>Cerebellum</strong></td>
<td>Part of the brain that involves the procedures of implicit memories</td>
<td>You use your cerebellum to walk- which does not require you to think when you walk- implicit memories</td>
</tr>
<tr>
<td><strong>Prefrontal cortex</strong></td>
<td>Area of the brain that process the sequences of memories</td>
<td>Get hit in the FRONT of heard you might not know how you got somewhere</td>
</tr>
<tr>
<td><strong>Mnemonics</strong></td>
<td>Memory aids that improve the encoding of information</td>
<td>HOMES TGIF</td>
</tr>
<tr>
<td><strong>Method of loci</strong></td>
<td>A mnemonic device that involves associating an item with a location or place item resides in</td>
<td>Picturing your room to remember where you put your book</td>
</tr>
<tr>
<td><strong>Link method</strong></td>
<td>A mnemonic device that involves associating an item with a task</td>
<td></td>
</tr>
</tbody>
</table>
1. A type of encoding specificity principle that suggests the retrieval information is easier in the same setting which information is encoded.

2. The suggestion the emotions and moods serve as retrieval cues for specific memories.

3. A person's internal state, such as hunger, can act as a retrieval cue.

4. A significant and emotional meaning of an event where the memory seems almost real.

5. The suggestion that semantic and episodic memories become integrated with existing information or memories.

6. Marcia Johnson's belief that memories are often formed without time or place.

7. Elizabeth Loftus's belief that providing misleading information into an already established memory could alter the memory—similar to accommodation.

8. Suggested that much of what is learned is forgotten and that information that is not quickly forgotten tends to be remembered the longest.

9. A type of interference where a new memory interferes with the remembering of an older memory.

10. Donald Hebb's belief that memories cause certain neurons to fire leading to the dendrites becoming larger thus reducing the synapse or gap between neurons producing a memory path or trace.
A. Retrieval Cues - a stimulus that aids the recall or recognition of information in stored memory
   1. Mnemonic devices - memory aids that use vivid images or organizational devices - best
      retrieval cues involve associations made at encoding
         a. Method of loci - a mnemonic device in which you associate items you want to
            remember with imaginary places - trying not forget keys - imagining sitting in car trying
            to start with no keys
         b. Peg-word system - a mnemonic device in which you associate items you want to
            remember with a list of peg words you have already memorized/ one is bun/ two is shoe/ three is tree
   2. Encoding specificity principle - the ability of a cue to aid retrieval depends on the degree to
      which it taps into information that was encoded at the time of the original learning
         a. Context-dependent memory - memory that can be helped or hindered by similarities or
            differences between the context in which it was learned and the context in which it is
            recalled
         b. State-dependent memory - memory that is aided or impeded by a person’s internal state
         c. Déjà vu - eerie sense that “I’ve experienced this before” cues from the current situation
            may subconsciously trigger retrieval of an earlier experience
         d. Mood-congruent memory - the tendency to recall experiences that are consistent with
            one’s current good or bad mood

B. Forgetting
   1. Encoding failure - information that never entered long-term memory from short-
      term memory/ much of what we sense we never encode
   2. Retrieval cue failure - inability of a retrieval cue to trigger a memory from long-
      term
      a. Tip-of-the-tongue - example of retrieval failure - involves the
         sensation of knowing that specific information is stored in long-
         term memory, but temporary unable to retrieve it
   3. Decay theory - gradual disappearance of the mental representation of a stimulus
      through not using or activating - an old phone number
   4. Hermann Ebbinghaus - Ebbinghaus Forgetting Curve - German philosopher who
      conducted pioneering memory studies - forgetting happens earlier and then levels
      off/ after a test you may forget much of the information, but the information you
      remember in a month will last a life-time
   5. Permastore memory - long-term memories that are especially resistant to
      forgetting and are likely to last a life time
   6. Interference theory - the process through which either the storage or the retrieval
      of information is impaired by the presence of other information
      a. Proactive interference - disruptive effect of earlier learning on the recall of
         recently stored information - last year’s locker combination prevents the
         memory of this year’s locker combination
      b. Retroactive interference - disruptive effect of new learning on the recall of
         previously stored information - this year’s class schedule prevents you
         from recalling last year’s class schedule
7. Motivated Forgetting  
   a. Sigmund Freud- founder of psychoanalysis  
   b. Repression- Freud’s theory of the process of moving anxiety producing memories to the unconscious  
8. Amnesia- loss of memory  
   a. Retrograde amnesia- inability to recall past memories that occurred before injury to the head  
   b. Anterograde amnesia- inability to form new memories after injury- damage to the hippocampus  
C. Memory Construction  
   1. Parallel distributed processing model (PDP)- memory models in which new experiences change one’s overall knowledge base  
      a. Schemas- mental representations of categories, objects, events, and people  
      b. Elizabeth Loftus- psychologist whose research established the constructed nature of memory  
      c. Misinformation effect- incorporating misleading information into one’s memory of an event- remembering an accident more serious than what it was  
      d. Source amnesia- attributing to the wrong source an event that we have experienced, heard about, read about, or imagined- also called source misattribution/ false memories  
      e. Cryptomnesia- a memory distortion in which a seemingly “new” memory is actually based on an unrecalled memory  
      f. Imagination inflation- asking people to vividly imagine an experience can significantly increase many subject’s beliefs that they actually had an experience similar to the imagined event  
      g. Reality monitoring- deciding whether memories are based on one’s perceptions of actual events or one’s thoughts and imaginations  
D. The Brain and Memory  
   a. Hippocampus- structure in the limbic system linked to explicit memories  
   b. Cerebellum- processes implicit memory- as well as coordinating voluntary movement and balance  
   c. Amygdala- processes emotion boosts activity in the brain’s memory-forming areas/ emotional memories  
   d. Left-frontal cortex and temporal lobes- calling a telephone number and holding it in working memory  
   e. Right side of frontal cortex and temporal lobe- recalling a scene
Chapter 4  Analogies of Psychology  Review

1. **Encoding** - getting info into memory / Storage - retention / Retrieval - getting information out of memory / **Long-term potentiation** - increased firing of neurons due to learning of new information resulting in a memory trace or path produced in brain which often involves the release of the neurotransmitters’ glutamate and acetylcholine / **Semantic network** - new information gets blended or associated with existing memory paths in the brain

2. **Automatic processing** - encoding that happens unconsciously like what you ate for lunch / **Effortful processing** - learning a phone number

3. **Atkinson and Shiffrin** - information processing model – information must pass through sensory, short-term, long-term memory / **Sensory memories** - iconic memory; visual sensory memory that is very brief compared to echoic memory; auditory sensory memory lasts longer than Iconic / **Selective attention** - what you pay attention to in the environment - is what moves information from sensory memory to short-term memory

4. **Short-term memory** - according to George Miller is limited in capacity to 7 items plus or minus 2 / **Working memory** - a person’s thinking abilities or methods of learning material used during short-term memory / for example using **chunking** - combining items into meaningful chunks like TGIF / and **Maintenance rehearsal** - repeating terms over and over keeps items active longer in short-term which is limited by a duration of 20-30 seconds

5. **Elaborative rehearsal** - providing meaning to information in short-term memory ensuring it goes to long-term memory / **Types of long term memory** - Explicit or declarative memory - facts and figures that require thinking to encode and retrieve (processed within the hippocampus); includes episodic memories - personal memories / and semantic memories - general knowledge that everyone knows / 2nd type of long term memory is Implicit or nondeclarative memories - implied memories that do not require thinking (processed in the cerebellum) - includes procedural memories like how to walk / Organizing long-term memory – hierarchical (like a filing system includes your concepts and prototypes) / **Semantic network** - organizing through association of items (red-fire engine) activated through the process of priming - happens unconsciously - say ball, red automatically associated

6. **Factors that affect Retrieval**: **Serial position effect** - items in the middle or most likely to be forgotten; **Primacy effect** refers to remembering items in beginning of list; **Recency effect** - refers to remembering items in the rear of list / **Interference theory** – **Von Restorff effect** - remembering an item in middle of list because it is different from other items

7. **Proactive interference** - impairment of new learning - old phone number preventing learning new phone number / **Retroactive interference** - impairment of old learning - this year’s locker combination prevents remembering last year’s locker comb / **Retrieval cue failure** - or tip-of-the-tongue phenomenon - when retrieval cue is not strong to trigger information in long-term memory / **Encoding failure** - information never when into long-term memory / **Encoding specificity principles** - context dependent memory - retrieval best when retrieval is in same context or room that information was learned or encoded / **Mood congruent cues** - happy moods retrieve happy memories / **State dependent cues** - internal states like hunger retrieve memories where one was hungry / **Mnemonic devices** - memory aids - method loci - using mental image of items and their locations to remember also called **Imagery** - using visual memories to figure out problems
8. **Misinformation effect** (Elizabeth Loftus) - giving wrong information could affect memories by providing new information or contradicting similar to Piaget’s accommodation- new information that changes an existing schema- mental organization of information

9. **Amnesia**: Anterograde amnesia- prevention of new memories due to damage of the hippocampus/ Retrograde amnesia- loss of past memories due to trauma to head/ Source monitoring or source amnesia- memories are often formed without time or place which makes it hard to remember when heard or saw an event

10. **Concept**- mental grouping based on similarities between items- *formal concept* - mental group defined by strict rules like a square and *natural concept* - concept formed from everyday experiences / *prototype* - best example of that mental grouping or concept that when information matches prototype leads to quick classification of the item

11. Solving problems and making decisions: Formal reasoning: **Algorithm** - step-by-step procedure that guarantees solution / Informal reasoning- heuristic – rule of thumb, shortcut of algorithm that might not give correct solution / **anchoring heuristic** - old information that is a mental anchor (opinions) and prevents new learning and connections or requires use of adjustment / **representativeness heuristic**- decision based on how well information represents prototype- may not be accurate (all people who wear ties are successful) / **availability heuristic**- decision based on a person’s available information that allows a quick decision (may think breast cancer is most prevalent form of cancer because you know more or hear more about breast cancer and why colleges constantly send you information about their school)

12. Obstacles to Problem Solving: **Functional fixedness** - inability to see an object has more than one use other than its original use/ **mental set**- approaching a problem the same way that was successful in past but no longer is successful but still do/ **Confirmation bias** - only considering information that supports your viewpoints or opinions- similar to an anchoring heuristic/ **Framing** - the way information is presented affects the way people think- 90% fat free/ **Belief perseverance**- clinging to an existing belief or opinion regardless of new contradictory information/ **Belief bias**- when you learn incorrect information and it prevents you from learning the correct information

13. Overcoming obstacles- **incubation**- stepping back from a problem to see a new perspective/ **insight**- the sudden realization to a problem

14. **Language**- Babbling stage (prelinguistic stage)- One word stage- Two word stage includes telegraphic speech- “daddy big” and overregulation- “I goed there”/

15. **Language Development**: Noam Chomsky- language is innate (born with universal grammar- innate knowledge for development of language versus B.F. Skinner- language is learned through reinforcement and modeling parent but CANT explain development of speech impediments which are more innate/ **Linguistic relativity hypothesis** (Benjamin Whorf) - language and cognition influence each other causing to improve each other- our culture will affect the way we think which will affect the way we talk/ like Americans having many words that describe time

16. **Grammar**: **Semantics**- rules that establish meaning of words/ **syntax**- rules that show organization of sentence/ **morphemes**- smallest unit of language that carries meaning like a prefix/ **phonemes**- smallest unit of language that does not carry meaning/ McGurk effect- combination of hearing and vision that allows us to understand speech
<table>
<thead>
<tr>
<th>Concept: mental group based on similarities - formal and natural</th>
<th>Vs.</th>
<th>Prototype: best or first example of concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental set: inability to develop a new idea</td>
<td>Vs.</td>
<td>Incubation: stepping away from problem to break the mental set</td>
</tr>
<tr>
<td>Algorithm: step-step procedure that guarantees a solution</td>
<td>Vs.</td>
<td>Heuristic: a rule-of-thumb or short-cut that saves time but could provide errors</td>
</tr>
<tr>
<td>Representativeness heuristic: decision based how well item matches prototype</td>
<td>Vs.</td>
<td>Availability heuristic: decision based on a person’s available present information</td>
</tr>
<tr>
<td>Belief perseverance: belief continues despite new information that prove wrong</td>
<td>Vs.</td>
<td>Belief bias: information presented wrong then prevents learning correct information</td>
</tr>
<tr>
<td>Overgeneralization: using a word for multiple meanings</td>
<td>Vs.</td>
<td>Overregularization: improper use of work (sited)</td>
</tr>
<tr>
<td>Noam Chomsky: language is innate born with universal grammar</td>
<td>Vs.</td>
<td>B.F. Skinner: language is learned through modeling and imitation</td>
</tr>
<tr>
<td>Morpheme: smallest unit of language that carries meaning</td>
<td>Vs.</td>
<td>Phoneme: smallest unit of language</td>
</tr>
<tr>
<td>Semantics: meaning of word</td>
<td>Vs.</td>
<td>Syntax: proper word order</td>
</tr>
<tr>
<td>Iconic sensory memory: visual memory limited to a few seconds</td>
<td>Vs.</td>
<td>Echoic sensory memory: auditory memory: lasting 3-4 seconds</td>
</tr>
<tr>
<td>Short-term memory: memory stage that is limited to 7+/2 items and 20-30 seconds in duration</td>
<td>Vs.</td>
<td>Working memory: part of short-term referring to how you work with the information in short-term memory</td>
</tr>
<tr>
<td>Maintenance rehearsal: repeating an item to keep it active and increase duration in short-term memory</td>
<td>Vs.</td>
<td>Elaborative rehearsal: providing meaning to information enabling it to move from short-term to long-term memory</td>
</tr>
<tr>
<td>Explicit memory: memories that require thought to encode and retrieve</td>
<td>Vs.</td>
<td>Implicit memory: memories do not require thought and involve procedural information or routines</td>
</tr>
<tr>
<td>Episodic memories: explicit information that includes personal information</td>
<td>Vs.</td>
<td>Semantic memories: explicit information that includes general, common knowledge</td>
</tr>
<tr>
<td>Prospective memory: memory that includes information about performing future action/event</td>
<td>Vs.</td>
<td>Retrospective memory: memory about performing past actions and thoughts</td>
</tr>
<tr>
<td>Semantic network: memories organized by associations activated when primed</td>
<td>Vs.</td>
<td>Hierarchical model: memories organized by similarities to a prototype</td>
</tr>
<tr>
<td>Primacy effect: remember first items in list</td>
<td>Vs.</td>
<td>Recency effect: remember last items in list</td>
</tr>
<tr>
<td>Proactive interference: inability to remember a new item as old memory prevents or interferes</td>
<td>Vs.</td>
<td>Retroactive interference: inability to remember an older item due to interference of newer memory</td>
</tr>
<tr>
<td>Encoding failure: information never made it from short-term to long-term memory</td>
<td>Vs.</td>
<td>Retrieval cue failure: retrieval cues not strong enough to get from long-term memory</td>
</tr>
<tr>
<td>Anterograde amnesia: inability to from new memories/ damage to hippocampus</td>
<td>Vs.</td>
<td>Retrograde amnesia: inability to remember things from past due to brain injury</td>
</tr>
</tbody>
</table>
1. When asked to give an example of what a bird is, Tom replied, “Do you mean a robin?” For Tom, a robin is an example of a(n):  
(A) algorithm  
(B) mental set  
(C) concept  
(D) prototype  
(E) script

2. Which of the following best describes the use of availability heuristics?  
(A) Jack believes that all secretaries are women.  
(B) Sam is completing a mathematical problem step by step.  
(C) Andrea fails to turn in an assignment, thinking it is due tomorrow.  
(D) Steve believes that more injuries occur in hockey than in baseball.  
(E) Angelica thinks that bulldogs are the best example of a dog.

3. Jillian is struggling with a challenging physics problem she can't seem to solve. Which problem-solving strategy would she benefit from?  
(A) Functional fixedness  
(B) A representativeness heuristic  
(C) An availability heuristic  
(D) Insight  
(E) Incubation

4. One-year-old Hayden points to a horse and says “doggie.” Hayden is displaying  
(A) overregularization  
(B) telegraphic speech  
(C) overextension  
(D) incubation  
(E) babbling

5. According to psychologists, what are the three components of language?  
(A) Plasticity, morphemes, phonemes  
(B) Plasticity, syntax and semantics, infinite creativity  
(C) Syntax and semantics, finite creativity, displacement  
(D) Symbolic, representativeness, available  
(E) Symbolic, generative, and structured

6. Mr. Flanders asks Sean to deliver a message to Mrs. Rogers. Sean has never been to Mrs. Rogers’s room, but is told that it is two classrooms to the right of Mr. Smith’s room. Because Sean had Mr. Smith last year for psychology, he knows where Mrs. Rogers’s classroom is. Sean has used what component of thought to help him?  
(A) Cognitive map  
(B) Script  
(C) Functional fixedness  
(D) Mental set  
(E) Algorithm

7. Many students often miss multiple-choice questions that state, “Which of the following does NOT” apply to a given question. Their failure to notice a differently worded question such as this is an example of which obstacle to problem solving?  
(A) Functional fixedness  
(B) Mental set  
(C) Algorithm  
(D) Confirmation bias  
(E) Incubation
8. Clarisse goes to the store to purchase chips for her upcoming graduation party. Which problem-solving strategy would ensure that Clarisse finds the aisle containing the chips?
   (A) Representativeness heuristic
   (B) Availability heuristic
   (C) Mental set
   (D) Incubation
   (E) Algorithm

9. Which of the following demonstrates the principle of confirmation bias?
   (A) After learning that her friend was depressed, Julie says, “Of course she was depressed. She never wanted to do anything.”
   (B) Joe is passionate about environmental conservation, and refuses to listen to or read any data that contradicts his views.
   (C) Carly hears that the new English teacher loves to read books and attend plays. She then assumes that the teacher is female.
   (D) Erica is trying to solve a physics problem, but cannot think of which equation to use to do so, and instead begins her math homework.
   (E) Samantha wants to eat a can of soup but does not have a can opener, so she uses a knife to cut a hole in the soup can.

10. Jimmy is watching for the first time a slide show depicting the historical figures in psychology. At this point, Jimmy is utilizing which process of memory?
    (A) Linking
    (B) Encoding
    (C) Retrieval
    (D) Gathering
    (E) Stimulating

11. During class Maria was called upon to give the year her mother was born. After a brief moment, she was able to remember. Maria’s answer is classified as a(n)
    (A) procedural memory
    (B) semantic memory
    (C) episodic memory
    (D) nondeclarative memory
    (E) flashbulb memory

12. Rosita was having a hard time remembering the material she learned in class and that she knew was going to be on a test. As she walked into her classroom on the day of the test she immediately started to remember the forgotten content. This sudden occurrence could be explained by
    (A) recency effect
    (B) context-dependent or context cues memory
    (C) primary effect
    (D) retrieval failure
    (E) semantic association

13. Steve can only remember his old locker combination; he keeps forgetting his new combination. Steve is experiencing
    (A) blocking interference
    (B) retroactive interference
    (C) proactive interference
    (D) repression interference
    (E) suppression interference

14. Ray hurt his head in a recent car accident and as a result of the accident has been experiencing problems recalling past events. Ray’s doctors told his parents that Ray may be suffering from
    (A) anterograde amnesia
    (B) misinformation effect
    (C) incomplete schemas
    (D) retrieval failure
    (E) retrograde amnesia

15. What psychologist believed that the forgetting of information will occur rapidly at first and will then level off, with the remaining information being retained for a long period of time?
    (A) Herman Ebbinghaus
    (B) Donald Hebb
    (C) Karl Lashley
    (D) Sigmund Freud
    (E) Elizabeth Loftus
1. Answer: D. A prototype is a person's best example of a concept. The prototype for any one thing will be different for every person, because it is that person’s best example.

2. Answer: D. When using an availability heuristic, you are using a rule-of-thumb strategy to reach a conclusion. By thinking that hockey players suffer more injuries than do baseball players, Steve is using whatever information is easily accessible.

3. Answer: E. Incubation occurs when a person steps back from current problem and performs a different task to take his or her mind off the problem. If Jillian steps back and allows time for problem to work itself out, this would give a break from a mental set, or from functional fixedness.

4. Answer: C. Overextension occurs when a single word is used to express a more complex meaning.

5. Answer: E. The three components of language are that it must be symbolic and represent an object, action, or ideas. Language must be generative and allow the speaker to generate numerous cogent sentences. Finally, language must possess structure. There must be a rule of order and presentation attached with the language. If these three criteria are not present, language does not exist.

6. Answer: A. A cognitive map is a mental model of a location.

7. Answer: B. Mental sets interfere with the ability to problem solve because they rely on previous experiences to formulate a conclusion. In the case of a student missing a question that includes the phrase “Which of the following does NOT,” he or she may fail to notice the “NOT” because all of the previous questions had asked the student for the correct answer.

8. Answer: E. Although algorithms can take longer to arrive at the correct solution, they are guaranteed to produce the correct solution. Using a heuristic, Clare might not find the chip aisle.

9. Answer: B. Confirmation bias occurs when a person accepts information that confirms his or her belief, but rejects information that contradicts that belief. By ignoring information that is the opposite of what a person believes, problem solving becomes more difficult.

10. Answer: B. Encoding is the process of acquiring information that can later be stored in the memory.

11. Answer: C. Episodic memories are a type of explicit memory meaningful to the person.

12. Answer: B. The context effect suggests that retrieval is enhanced when retrieved in a setting or context that is similar to that in which it was encoded, or learned.

13. Answer: C. Proactive interference is the inability to recall new memories because of the interference caused by older memories.

14. Answer: E. Retrograde amnesia is the inability to recall past memories, often as the result of a traumatic head injury.

15. Answer: A. Herman Ebbinghaus studied the effects of forgetting, noting that most information is forgotten quickly. The remaining information is then forgotten at a more even pace, with most of that remaining information being retained for a long duration.
Testing and Individual Differences

Chapter 9
Theories of Intelligence

1. What is intelligence?

2. Who was the father of psychometrics, which is the measurement of knowledge defined by scores on a test?
   A. What did he believe about intelligence?
      i. Who did he only study?

3. Who used a factor analysis, a statistical method used to show the relationship between variables to study intelligence?
   A. What did he believe about intelligence?

   B. What did he believe contributed to the g factor?

4. How did L.L. Thurston challenge Charles Spearman’s theory?
   A. What did Thurston propose about intelligence?

   B. What did J.P Guilford suggest about intelligence?
      i. How many types of intelligence did Guilford find through a factor analysis?

5. Who believed that emotional intelligence is the ability to perceive and manage the emotions of oneself and other?

6. Who developed one of the most popular theories of intelligence?
   A. Define the three types of intelligence that Sternberg came up with?
      1. Analytical intelligence:
2. Creative intelligence:

3. Practical intelligence:

7. Who believed that human beings possess strengths and weaknesses defined in multiple intelligence?
   A. How did Garnder base his theory?

   B. Define the different types of multiple and separate intelligences:
      1. Linguistic:
      2. Logical-mathematical:
      3. Musical-compose:
      4. Bodily-kinesthetic:
      5. Spatial:
      6. Interpersonal:
      7. Intrapersonal:
      8. Naturalistic:

**Influences of Intelligence**

8. What type of studies have offered support that intelligence is primarily nature or born with?

9. What support or argument offers support that intelligence is more nurture?

*Read the following passage and identify the person who would have stated the quote concerning the theories of intelligence:*

“I believe that there are 3 types of intelligence; analytical, creative, and practical all of which give a person areas of excelling.” ____________________________ “I believe that there is a single
factor when describing intelligence; if a person scores high on an intelligence test the sky is the limit for what the person can accomplish” ________________________ “I believe that there are separate intelligences; if a person has damage to one part of their brain they can still perform other functions such as playing an instrument” ________________________ “Well, I believe that there are 180 different types of intelligences” ________________________ “I believe that there are 7 types of intelligence.” ________________________ “Well none of you would have an opinion if I didn’t start measuring intelligence.” ________________________

**Testing Intelligence: Individualized Testing**

10. Who wrote the first modern intelligence test to assist the French government in identifying special need students?

   A. Describe the mathematical formula that Binet came up with to determine intelligence?

   i. What is a potential problem with his method?

11. Who proposed multiplying the score from MA/CA by 100 that would equal the Intelligence Quotient (IQ)?

12. Who from Stanford University translated Binet’s French test into English resulting in the Stanford-Binet Intelligence Scale?

   A. What was this test considered?

13. Who developed an intelligence test to be measured in both children (WISC) and adults (WAIS)?

   A. How was the test comprised?

   B. How are the scores calculated?

   C. Where did most of the scores fall?

   D. What did these results indicate?
Aptitude and Achievement Testing

14. Which type of test is designed to measure a person’s performance potential; such as the SAT?

15. Which test is designed to measure a person’s knowledge of a particular subject or area; like an AP exam?

Advantages and Disadvantages of Individual and Group Testing

16. What are the advantages of an indivualized test?

A. What are the disadvantages of an individualized test?

17. What are the advantages of a group test?

A. What are the disadvantages of a group test?

Measuring Tests

18. What is the test’s ability to yield or give the same results each time given as test-retest strategy?

A. What is split-half reliability?

19. What refers to how well a test measures what it was designed to measure?

A. What refers to information included on a test in terms of how well the test measures what it was designed to measure?

B. What refers to the ability of test to predict how well a person will do in the future?

C. What refers to how well a test is designed to measure an outcome?

20. What is the process of setting a common standard by comparing one’s score to those attained by a pretested group?
Read the following passage concerning a teacher who just wrote her Final Exam for AP Psychology and identify the parts responsible for making it a good test.

Mrs. Jackson has given the same final for the last three years and the scores have been very similar making the test _________________. There are only questions that pertain to psychology on the exam indicating _________________. This test also is a very good predictor on how well they will do the AP Psychology National Examination _________________. The questions are wrote in a manner that makes it possible for the students to understand what is being asked in the question. _________________. She has been comparing the results to past students who have taken the exam under the same time restraints and conditions making this test a _________________.

Evaluating Intelligence Tests

21. What are some examples of biases that appear on intelligence tests?

Diversity in Cognition and Creativity

22. What refers to the ability to generate novel ideas or products?

A. What is the ability to generate multiple solutions to a given problem?

B. What is the ability to narrow down to a single best solution or answer to a problem as a good test taker is able to do?

Unusual Cognitive Abilities

23. What is considered gifted?

A. Who used a longitudinal study 1500 10 year old gifted children called Terman’s termites?

B. What did he find?

C. What does the drudge theory suggest about gifted children?

D. What has been sited as saying that intelligence scores have gradually increased over the last several decades and years?
24. What are the intelligence scores of those that are considered mentally challenged?
   A. Mild:
   B. Moderate:
   C. Severe:
   D. Profound:

Factors Associated with Mental Impairment

25. What is a genetic disorder caused by presence on an extra 21st chromosome?
   A. Describe fetal alcohol syndrome:
   B. What is a genetic disorder caused by a mutated gene on the X chromosome causing cognitive impairment?
   C. What is Williams Syndrome?

Autistic Spectrum disorder

26. What refers to impairment in social communication and interaction, restricted or compulsive behavior?
   A. When is autism diagnosed?

Savant Syndrome

27. What refers to cognitive impairments in certain areas but has one or more abilities that are displayed on a genius level?
   A. Whose intelligence theory supported cases of Autism?
### Chapter Summation “Buzz Word(s)”

<table>
<thead>
<tr>
<th>Term</th>
<th>“Buzz Word(s)”</th>
<th>Term</th>
<th>“Buzz Word(s)”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>Cognitive abilities</td>
<td>Sir Francis Galton</td>
<td>Father of tests</td>
</tr>
<tr>
<td>Charles Spearman</td>
<td>G factor one single</td>
<td>L.L. Thurston</td>
<td>7 primary mental abilities</td>
</tr>
<tr>
<td>J.P Guilford</td>
<td>180 types of intelligence</td>
<td>Daniel Coleman</td>
<td>Emotional intelligence</td>
</tr>
<tr>
<td>Robert Sternberg</td>
<td>3 type of intelligence thinking CAP</td>
<td>Howard Gardner</td>
<td>Multiple and separate</td>
</tr>
<tr>
<td>Alfred Binet</td>
<td>First test</td>
<td>Wilhem Stern</td>
<td>IQ- MA/CA times 100</td>
</tr>
<tr>
<td>Lewis Terman</td>
<td>Stanford-Binet test</td>
<td>David Wechsler (WAIS, WISC)</td>
<td>Age comparison test</td>
</tr>
<tr>
<td>Verbal test</td>
<td>Definitions, math, memory</td>
<td>Performance test</td>
<td>Manipulation, assembling</td>
</tr>
<tr>
<td>Aptitude test</td>
<td>Potential</td>
<td>Achievement test</td>
<td>What you know</td>
</tr>
<tr>
<td>Reliability</td>
<td>Same results</td>
<td>Test-retest</td>
<td>Give it twice</td>
</tr>
<tr>
<td>Validity</td>
<td>Test does what it is supposed to do</td>
<td>Content validity</td>
<td>Questions match what was studied</td>
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<tr>
<td>Criterion validity</td>
<td>Makes predictions</td>
<td>Construct validity</td>
<td>Well written</td>
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<tr>
<td>Standardized</td>
<td>Same conditions, comparison</td>
<td>Divergent thinking</td>
<td>Brainstorming</td>
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<tr>
<td>Convergent thinking</td>
<td>One best idea</td>
<td>Gifted child</td>
<td>135 Lewis Terman</td>
</tr>
<tr>
<td>Mentally challenged</td>
<td>Below 70</td>
<td>Down syndrome</td>
<td>Extra 21st chromosome</td>
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<tr>
<td>Fetal alcohol</td>
<td>Alcohol</td>
<td>Fragile X syndrome</td>
<td>Mutated X chromosome</td>
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<td>syndrome</td>
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<td>William’s Syndrome</td>
<td>PKU toxins</td>
<td>Drudge theory</td>
<td>Hard work and nature</td>
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<tr>
<td>Flynn effect</td>
<td>Scores going up</td>
<td>Autism</td>
<td>Communication impairment</td>
</tr>
<tr>
<td>Savant syndrome</td>
<td>Special ability</td>
<td>Cultural and SES bias</td>
<td>testing</td>
</tr>
</tbody>
</table>
1. Charles Spearman believed that the ________ was a sole or single determinant in explaining a person's intelligence capability and ability.
   A) f factor    B) g factor    C) s factor    D) t factor    E) person's looks

2. Who believed in the concept of multiple intelligence, which are defined as separate and of different abilities?
   A) Charles Spearman    D) Howard Gardner
   B) Jean Piaget    E) Alfred Binet
   C) Erik Erikson

3. Robert Sternberg believed in three types of separate intelligent abilities: analytic-school, practical- applying information, and creative- information in new situations
   A) True    B) False

4. Who was the first to develop an intelligence test based on mental abilities, not necessary what a child knows.
   A) Alfred Binet    D) Jean Piaget
   B) Alfred Adler    E) Sigmund Freud
   C) Howard Stern

5. According to William Stern, the IQ equation is solved through dividing MA (mental age) by CA (chronological age) then multiplying by 100.
   A) True    B) False

6. The most widely used Intelligence test is the ________, which includes verbal and performance scales.
   A) MMPI    B) WAIS    C) Neo-PR    D) DSM-IV    E) TAT

7. ____________________ tests make future predictions about performances.

8. Jimmy does not think his students are paying attention during lectures. In response, Jimmy writes a few questions that only would be known if the student was listening in class this is an example of:
   A) alternative form    D) construct validity
   B) test-retest    E) predictive validity
   C) content validity

9. When present scores are defined based on previous scores of students who had taken the exam under similar conditions, then this would be defined as
   A) reliability    B) validity    C) standardization    D) normal curve    E) split-half

10. In order to prove a test is reliable, a test that yields similar results each time given, an instructor may choose to compare the odd and even questions. This is an example of
    A) split-half    B) alternative form    C) test-retest    D) construct    E) none
Testing and Individual Differences

1. The cognitive abilities (thinking, reasoning, and problem solving) of a person based on his or experiences is called **intelligence**

Theories of Intelligence

2. Who is considered the father of psychometrics, the measurement of knowledge and ability by using defined tests?
   - Sir Francis Galton
   a. What did Galton believe to be credited for intelligence?
      - Heredity (nature)
   b. What was a criticism of Galton’s work?
      - He only studied males
   c. Charles Spearman was the first to use a statistical method to show the relationship between variables to study intelligence, which was called a _______________.
   d. From this type of method, Spearman believed that there was a single intelligence, which he called _______________ or g factor. If a person was intelligent in one area, then he or she was intelligent in other areas. He also noted that within the g factor there exist specific intelligences, or s factors.
   e. L.L Thurston believed that Charles Spearman oversimplified intelligence and that one type of intelligence was not enough. Thurston believed that each person has sets of independent abilities that each person possesses in varying degrees which he referred to as _______________. He believed that each person has 7 PMAs.
   f. Who was the first to suggest that were over 180 different types of intellectual abilities and thus challenging Thurston and Spearman? J.P. Guilford
   g. Robert Sternberg hypothesized that there were there different types of intelligences: analytical, creative, and practical, known as the _______________.
      i. According to Sternberg, a person’s accumulated knowledge gained through education or book smarts is called _______________ intelligence
      ii. The ability to generate novel (new) ideas and solutions is called __________ intelligence
      iii. The ability to interact with one’s environment or street smarts is called _______________ intelligence.
h. Howard Gardner believed that intelligence tests do no show a person’s true cognitive abilities. He believed human beings possess numerous strengths and weaknesses, which he called __________________________ (MI.) These include: linguistic intelligences-learning a new language, logical-mathematical-math and science, musical-playing music, bodily-kinesthetic-physical abilities, spatial-using spatial relations to solve problems, interpersonal-understanding the motives of others, intrapersonal-ability to understand one’s own emotions, and naturalistic-ability to understand the environment.

i. Gardner based his research on people with traumatic brain injuries-one who suffers brain damage to a specific area of the brain can still perform other functions of areas not affected, for example those with damage to the Broca’s area may not be able to speak, but can still tie their shoes.

i. The most recent theory, proposed by Salovey and Mayer, popularized by Daniel Goleman suggested that the ability to perceive and manage the emotions of oneself and others, which is referred to as __________________________, is believed to be the most important type of intelligence leading to success in life.

Influences on Intelligence

3. Kinship studies, or studies of family members, show that identical twins have a strong correlation to genetics and intelligences. Siblings tend to have a moderate correlation. But, adoptive children raised in the same house do also show a moderate correlation lending support to the nurture or environmental argument. One of the most frequently cited studies on intelligence the Seattle Longitudinal Study looked at how adult cognitive abilities change over a span of 40 years, which found little change in intelligence scores, unless Alzheimer’s or other brain injury, does support the nature theory of intelligence.
1. Who believed in a single factor or g factor responsible for overall intelligence? *RC: remember Spearman was the g man*
   A) Howard Gardner       D) Robert Sternberg
   B) Matt Livingston      E) Nancy Findow
   C) Charles Spearman

2. According to Robert Sternberg, which part of his Triarchic theory included information that you would use in a math and science course? *RC: remember Sternberg wore a thinking CAP*
   A) Practical       B) Analytical    C) Creative    D) Interpersonal    E) Intrapersonal

3. According to Robert Sternberg, which part of his Triarchic theory included information that you would use for interacting with other people in social situations? *RC: remember Sternberg wore a thinking CAP*
   A) Creative       B) Practical    C) Analytical    D) Linguistic    E) Spatial

4. Who challenged Spearman's theory of intelligence by suggesting that people have multiple and separate types of intelligence; validated with his work with Savants *RC: A garden has multiple and separate items*
   A) Charles Goosman       D) Howard Gardner
   B) L.L. Thurston         E) Maxine Smith
   C) Robert Sternberg

5. According to Daniel Coleman, which type of emotional intelligence involves being able to read one's own emotions and expressions? *RC: remember everyone gives themselves an A when reading their own emotions*
   A) Interpersonal       B) Intrapersonal    C) Spatial    D) Creative    E) Linguistic
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
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<tbody>
<tr>
<td>Intelligence</td>
<td>The cognitive abilities that a person uses to think, reason, and for problem-solving</td>
<td>People that win on jeopardy not only know the answer but answer quickly</td>
</tr>
<tr>
<td>Psychometrics</td>
<td>The measurement of knowledge and ability by using defined tests</td>
<td></td>
</tr>
<tr>
<td>Factor analysis</td>
<td>Statistical method used to show relationships between variables used to study intelligence</td>
<td>Match.com i- someone who likes to be outside is RELATED to outgoing</td>
</tr>
<tr>
<td>G factor</td>
<td>According to Charles Spearman, there is a single intelligence responsible for all types of thinking</td>
<td>Similar to your GPA- one number indicates all of your work</td>
</tr>
<tr>
<td>7 primary mental abilities (PMAs)</td>
<td>According to L.L. Thurston, 7 sets of independent intellectual abilities</td>
<td>Similar to your grade for each class in schedule</td>
</tr>
<tr>
<td>Emotional intelligence</td>
<td>According to Daniel Coleman, the ability to perceive and manage the emotions of oneself and others /Important for therapists</td>
<td></td>
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</tbody>
</table>
| Triarchic theory of intelligence | According to Robert Sternberg, there are 3 types of intelligence: analytical intelligence- a person’s accumulated knowledge at school, creative intelligence- ability to generate new and novel ideas, and practical intelligence- the ability to interact successfully with one’s environment | Sternberg wore a thinking CAP  
C- creative- thinking outside of the box  
A- analytical- math and science grades  
P- practical- working well with other |
| Multiple intelligence    | According to Howard Gardner, human beings possess separate multiple intelligences: linguistic, logical-mathematical, musical, kinesthetic, spatial, interpersonal (emotions of others), intrapersonal (emotions of oneself), and naturalistic | Like a GARDEN has MULTIPLE items in the garden                          |
| Mental age               | According to Alfred Binet, the mental abilities of a certain age determined by the number of right answers on a test; first modern intelligence test | “he is 6 years old (chronological age) but he reads at an 8th grade level (mental age)  
Alfred Binet wrote first intelligence test- you strive for an A Ifred or B Inet |
| Intelligence quotient (IQ) | According to Wilhelm Stern, a formula that divides mental age by chronological age then multiply by 100 equaling IQ |                                                                         |
1. According to Sir Francis Galton, the measurement of knowledge and ability by using defined tests. A) Psychometrics

2. Believed through a factor analysis that there is a single intelligence called the g factor responsible for areas of intelligence. B) Howard Gardner

3. Believed that each person has 7 primary mental abilities (PMAs) which are sets of independent intellectual abilities that each person possesses. C) Robert Sternberg

4. According to Daniel Coleman, the ability to perceive and manage the emotions of one and others. D) Emotional intelligence

5. Discovered through a factor analysis that there are over 180 types of intelligence. E) J.P. Guilford

6. Developed the Triarchic theory of intelligence that persists of analytical, creative, and practical intelligence. F) Creative intelligence

7. Component of the Triarchic theory of intelligence that persists of a person's accumulated knowledge gained through school; school smarts. G) Analytical intelligence

8. Component of the Triarchic theory of intelligence that refers to the ability to generate new ideas. H) Practical intelligence

9. Component of the Triarchic theory of intelligence that is a person's ability to interact with one's environment; street smarts. I) L.L. Thurston

10. Believed that human beings possess independent strengths and weaknesses referred to as multiple intelligence. J) Charles Spearman
A. Intelligence- ability to learn from experience, solve problems, and use knowledge to adapt to new situations
   1. Fluid intelligence- basic power of reasoning and problem solving
   2. Crystallized intelligence- specific knowledge gained as a result of applying fluid intelligence
   3. Emotional intelligence- ability to perceive, express, understand and regulate emotions

B. Intelligence test- method for assessing an individual’s mental aptitudes and comparing them with those of others, using numerical scores
   1. IQ test- designed to measure intelligence on objective, standardized scale

C. Factor analysis- a statistical procedure that identifies clusters of related items called factors on a test; used to identify different dimensions of performance that underlie one’s total score

D. Theories of Intelligence
   1. Psychometric approach- a way of studying intelligence that emphasizes analysis of the products of intelligence- especially scores on a IQ test
   2. Information-processing approach- focuses on mental operations, such as attention and memory, that underlie intelligent behavior
   3. Charles Spearman- g factor- a general intelligence factor that underlies specific mental abilities and is therefore measured by every task on an intelligence test
      1. s factor- a group of special abilities that Spearman saw as accompanying general intelligence g
      1. L.L. Thurstone- used factor analysis- found “7 primary independent mental abilities”
         a. Numerical ability, reasoning, verbal fluency, spatial visualization, perceptual ability, memory, verbal comprehension
         b. Thought that Spearman’s g factor was average of these 7 abilities
   2. Howard Gardner- believed intelligence consists of eight separate kinds of intelligence
      a. Verbal-linguistic- reading/ Logical-Mathematical- solving math problems/ Bodily-Kinesthetic- balance, endurance/ Visual-spatial- map reading/ Musical-Rhythmic- creating music/ Interpersonal- sensitivity to others/ Intrapersonal- knowledge of self/ Naturalistic- ability to work with plants and animals
         a. Savant syndrome- a condition in which a person otherwise limited in mental ability has an exceptional specific skill, such as drawing
   3. Robert Sternberg- wrote triarchic theory of intelligence- identifying three distinct forms of intelligence:
      a. Analytic intelligence- analyzing, comparing, evaluating, solving problems (most stressed in schools)
      b. Practical intelligence- applying, adapting to the environment-street smarts
      c. Creative intelligence- using existing information in new situations

245
Testing Intelligence

1. Depending on the situation, an intelligence test can be administered on an individual or a group basis.

Individualized Testing

2. In 1904, Alfred Binet was the first to create a test to measure intelligence to assist the French government in identifying special needs students. He believed that intelligence could be determined by dividing mental age (MA) by chronological age (CA) of an individual was based on the number of test questions he or she answered correctly. The problem was chronological age keeps on going up, but mental age may not also go up creating lower intelligence over time.
   a. In 1912, German psychologist Wilhelm Stern proposed multiplying the score derived from the MA/CA calculation by 100. This new formula would be known as the IQ.
   b. Lewis Terman, at Stanford University, was responsible for translating Binet’s work into English, creating the SBIS the most widely used intelligence test until David Wechsler created his own.
   c. David Wechsler created two intelligence tests for both children and adults known as Wechsler Intelligence Scale for Children (WISC) and the Wechsler Adult Intelligence Scale (WAIS.) These tests had two separate scales, which tested verbal abilities and solving problems divided into 7 subtests. Instead of using the SBIS formula to calculate IQ, he compared the individual’s score to the scores of people of the same age known as deviation IQ with most scores falling between 90 and 110.

Aptitude and Achievement Testing

3. Group tests are given to assess either an individual’s readiness to perform at a certain level or an individual’s knowledge of a particular subject. Tests designed to measure a person’s performance potential are called tests, which examples include SAT, ACT, GRE.
   a. Tests designed to measure a person’s knowledge of a particular area are called tests, examples include AP exams.
   b. Which tests allows the test taker to dictate the flow of questions, establish greater rapport with the test administrator, but the test maybe more expensive and more time consuming to give, and can only test one person at a time?
   c. Which tests are easy to administer, scoring is objective, relatively inexpensive, but less rapport with test taker, responses are often too restricted, and the subject can’t dictate the flow of questions?
Measuring Tests

4. Fill out the following chart on terminology used to measure tests:

<table>
<thead>
<tr>
<th>Terminology</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>__________________</td>
<td>The tests ability to yield consistent results after repeated testing/test-retest-giving a twice and comparing results</td>
</tr>
<tr>
<td>Validity</td>
<td>How well a test measures what it was designed to measure</td>
</tr>
<tr>
<td>__________________</td>
<td>Information included on the test measures what it is designed to measure-hisory test has questions on history</td>
</tr>
<tr>
<td>__________________</td>
<td>Ability of a test to predict how well a person will do in the future/ACT predicts how well you will do in the future</td>
</tr>
<tr>
<td>__________________</td>
<td>How well the test is designed to measure a specified theory/the questions were a little font and so those with vision problems may have hard times</td>
</tr>
<tr>
<td>__________________</td>
<td>The process of setting a common standard by comparing one’s score to those attained by a pretested group</td>
</tr>
</tbody>
</table>

Evaluating Intelligence Tests

5. Many factors could affect intelligence tests: cultural, socio-economic status, room temperature, person’s ability to concentrate.

Diversity in Cognition

Creativity

6. The ability to generate novel ideas or products and possibly goes hand-in-hand with intelligence is called creativity

   a. To examine the relationship between creativity and intelligence psychologists use to measure a person’s ability to generate multiple solutions to a given problem called ____________________ thinking. These people who score high on divergent thinking tests actually score lower on IQ tests.

   b. Tests that show how a person narrows down alternatives to a single best solution or answer is called ____________________ thinking, which these people who do well on convergent intelligence tests actually score higher on IQ tests.

Unusual Cognitive Abilities

7. Who was one of the first to use a longitudinal study on giftedness and believed that having a superior IQ, above 135, meant that a person was going to be successful in life?

   Lewis Terman

8. Significantly delayed or impaired learning of language or motor skills, and having an IQ below 70 indicated mentally challenged
a. Fill out the following table:

<table>
<thead>
<tr>
<th>Level</th>
<th>IQ</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>50-70</td>
<td>Approximately 85% fall within this category</td>
</tr>
<tr>
<td></td>
<td></td>
<td>May display few physical symptoms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Academic learning is limited to about 6th grade</td>
</tr>
<tr>
<td>Moderate</td>
<td>35-49</td>
<td>Display signs of impaired motor and physical symptoms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Live with a caretaker/ Mentally compared to a child of ages 4-7</td>
</tr>
<tr>
<td>Severe</td>
<td>20-34</td>
<td>Require constant supervision/ Limited language abilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significantly impaired motor abilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mentally compared to a child between 3 and 4</td>
</tr>
<tr>
<td>Profound</td>
<td>Below 20</td>
<td>Struggles to feed oneself/ Language is limited to grunts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>May never walk/ Compared mentally to a 3 year old</td>
</tr>
</tbody>
</table>

Factors associated with Mental Retardation

9. Also known as trisomy 21, is a genetic disorder caused by the presence of an extra 21st chromosome resulting is mental retardation known as down syndrome. People with this disorder are mostly mildly or moderately retarded.

   a. Results in permanent physical and cognitive impairment and is the result of the mother’s consuming alcohol during pregnancy known as fetal alcohol syndrome

   b. A genetic disorder that is caused by a mutated gene on the X chromosome known as fragile X syndrome

Autism Spectrum Disorder

10. Impairment in social communication and interaction, restricted or compulsive behavior, and is one of the fast growing unusual cognitions is called autism spectrum disorder (ASD)

   a. What three main forms of ASD are there?

      Autism, asperger disorder, & pervasive disorder/ not otherwise specified

   b. These children are usually diagnosed between ages of 2-4 and show impairment of social skills and functioning refers to autism

   c. These children appear to show no delay in language and communication skills, but they typically display very narrow, yet highly attentive, preoccupations with subjects to the point of obsession describes asperger’s disorder

   d. There are numerous studies that show genetically inherited, lack of mirror neurons, result of certain vaccinations.

Savant Syndrome

12. A person who has cognitive impairments in certain areas but has one or more abilities that are displayed on a genius level is referred to as savant syndrome. This syndrome has been used to give Howard Gardner’s multiple intelligence theory validation.
1. Who developed the first type of intelligence test based on his work with French children? *RC: Think about always striving to get an A o a B on your first test*
   A) Howard Gardner  
   B) Lewis Terman  
   C) Alfred Binet  
   D) Wilhelm Stern  
   E) Charles Spearman

2. If a person is 10 years old and scored an 8 on Lewis Terman's Stanford-Binet Intelligence test then according to Wilhelm Stern what would this child's score be: *RC: remember MA divided by CA*
   A) 8  
   B) 8.8  
   C) 5  
   D) 6  
   E) 9

3. The two parts of the WAIS test or Wechsler Adult Intelligence Scale are: *RC: Remember there are age divisions because it gives people a better opportunity to win competing against people their own age- they tend to perform the same*
   A) Verbal and emotional  
   B) Verbal and performance  
   C) Performance and emotional  
   D) Creative and Practical  
   E) Verbal and Creative

4. A teacher decides to give a test a second time later in the school year to measure if the students would get the same scores. This teacher is measuring: *RC: remember if a friend shows up each day on time to pick you up for school then that is a reliable friend*
   A) Validity  
   B) Content validity  
   C) Reliability  
   D) Standardization  
   E) Predictive validity

5. Students throughout the county are taking the same test at the same time of the day under uniform conditions; these results will later be used for comparisons with other students who will take the same exam. This process is called: *RC: when a good basketball player leaves a team he or she sets the standard for future basketball players to be compared to*
   A) Reliability  
   B) Split-half reliability  
   C) Content validity  
   D) Predictive validity  
   E) Standardization
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal distribution</td>
<td>A bell-shaped curve with majority of scores falling around the middle or average</td>
<td></td>
</tr>
<tr>
<td>Aptitude test</td>
<td>Designed to measure a person’s performance potential</td>
<td>The P stands for - A-PREDICTION test</td>
</tr>
<tr>
<td>Achievement test</td>
<td>Designed to measure a person’s knowledge of a particular topic or subject</td>
<td>The C in achievement stands for “C what I have learned”</td>
</tr>
<tr>
<td>Reliability</td>
<td>Giving a test multiple times and receiving the same results through test-retest procedure</td>
<td>Your friend is RELIABLE if he or she shows up EVERY DAY ON TIME</td>
</tr>
<tr>
<td>Split-half reliability</td>
<td>Assessing reliability where odd and even questions are compared</td>
<td></td>
</tr>
<tr>
<td>Validity</td>
<td>How well a test measures what that test is designed to measure</td>
<td>To VALIDATE means to MAKE SURE IT IS REAL- like a VALID license</td>
</tr>
<tr>
<td>Content validity</td>
<td>The material on a test matches the material meant to be tested</td>
<td></td>
</tr>
<tr>
<td>Criterion (predictive) validity</td>
<td>The ability of test to make predictions about future performances</td>
<td></td>
</tr>
<tr>
<td>Construct validity</td>
<td>How a test is designed and written</td>
<td>How the test is Constructed</td>
</tr>
<tr>
<td>Standardization</td>
<td>Process of comparing a score with previous scores that where administered under identical conditions</td>
<td>A good basketball player sets the STANDARD for future basketball players to meet</td>
</tr>
<tr>
<td>Creativity</td>
<td>Ability to generate new and novel ideas</td>
<td></td>
</tr>
<tr>
<td>Divergent thinking</td>
<td>Ability to generate multiple solutions to a problem</td>
<td>The D stands for DISCOVER new ideas/ like brainstorming</td>
</tr>
<tr>
<td>Convergent thinking</td>
<td>Narrowing down to one best alternative for a problem</td>
<td>To converge means to CLOSE in one good idea</td>
</tr>
<tr>
<td>Mental impairment</td>
<td>IQ that generally falls below a score of 70</td>
<td></td>
</tr>
<tr>
<td>Giftedness</td>
<td>IQ that generally is above 135</td>
<td></td>
</tr>
<tr>
<td>Autism</td>
<td>Impairments of social and communication skills</td>
<td></td>
</tr>
<tr>
<td>Asperger syndrome</td>
<td>Display very attentive skills and sometimes obsession with routines and topics</td>
<td></td>
</tr>
<tr>
<td>Savant syndrome</td>
<td>General cognitive impairments, but possesses one or more abilities at genius level</td>
<td></td>
</tr>
<tr>
<td>Stanford-Binet Intelligence scale</td>
<td>Lewis Terman adapted Binet’s test to be used in the United States</td>
<td>Lewis Terman was DETERMINED to bring Binet’s test to the USA</td>
</tr>
<tr>
<td>Wechsler Adult Intelligence Scale</td>
<td>Written by David Wechsler, intelligence tests based on verbal and performance tests where scores are compared to people of the same age</td>
<td>This is the most popular intelligence test because scores can be compared to people of the same age/ not tied to mental age</td>
</tr>
</tbody>
</table>
1. Wrote the first modern intelligence test that was designed to assist the French government in identifying special need students.

2. Developed the formula for the intelligence quotient (IQ) - mental age (MA) divided by chronological age (CA) multiplied by 100.

3. Adopted Alfred Binet's test for use in America and called it the Stanford-Binet test.

4. Developed a way to measure intelligence in children and adults through the development of two tests: verbal and performance test that then could be compared to people of the same age; called the WAIS and WICS.

5. Tests that are designed to measure a person's performance potential on future tasks.

6. Tests that are designed to measure a person's knowledge of a particular subject or area.

7. The tests ability to yield consistent results after repeated testing or test-retest or split-half procedures.

8. A type of validity that dictates if a test measures what it is designed to measure.

9. A type of validity that measures a specific measurement or a future type of ability or performance.

10. The process of setting a common standard by comparing one's scores to those attained by a previous group.

A) Standardization

B) Wilhelm Stern

C) David Wechsler

D) Lewis Terman

E) Alfred Binet

F) Reliability

G) Content validity

H) Criterion/predictive validity

I) Achievement tests

J) Aptitude tests
A. Intelligence Testing
1. Alfred Binet- developer of first test to classify children’s abilities using the concept of mental age
   a. He did not test what students were taught in school- but mental abilities- memory, attention / brighter children performed like older children
   a. Mental age- chronological age that most typically corresponds to a given level of performance/ average 8 year old has mental age of 8
2. Lewis Terman- adapted Alfred Binet’s tests for use in the United States as the Stanford-Binet intelligence test
   a. William Stern revised the scoring of the Stanford-Binet test and developed the intelligence quotient- IQ- mental age divided by chronological age (actual age) multiplied by 100
   b. The mean score is 100 with a standard deviation of 15
3. David Wechsler- developed the Wechsler adult intelligence scales- most widely used individual intelligence tests in the United States
   a. Wechsler intelligence scales- series of intelligence tests tailored to three different age groups- children- WISC, adults- WAIS, preschoolers- separate scores for verbal and nonverbal abilities/ verbal- vocab, math/ nonverbal- nonverbal or performance- ability on task- assembling an object
      i. Verbal scale- subtests that measure verbal skills as a part of a measure of overall intelligence
      ii. Performance scale- subtests that measure spatial ability and the ability to manipulate materials as part of a measure of overall intelligence
4. Aptitude tests- designed to predict a person’s future performance/ capacity to learn (ACT or SAT)
5. Achievement tests- designed to assess what a person has learned, or mastered
6. Creativity- the capacity to produce new, high quality ideas or products
   a. Divergent thinking- ability to think along many alternative paths to generate many different solutions to a problem
   b. Convergent thinking- ability to apply logic and knowledge to narrow down the number of possible solutions to a problem or perform some other complex cognitive task

B. Principles of Test Construction
1. Test- systematic procedure for observing behavior in a standard situation and describing it with help of a numerical scale or category system
2. Norm- description of the frequency at which particular scores occur, allowing scores to be compared statistically
3. Percentile scores- indicate percentage who score at or below specific scores
4. Standardization- defining meaningful scores by comparison with the performance of a pretested group- representative sample
5. Normal Curve- the symmetrical bell-shaped curve that describe the distribution of many physical and psychological attributes- most fall near the average- few far from
6. Reliability- extent to which a test yields consistent results of scores
   i. Testing reliability
      a. Alternate form- giving an alternate test and comparing results
b. Split-half- calculating a person’s score based on halves of the test
c. Test-retest- giving the same test twice over different times

7. Validity- extent to which a test measures or predicts what it is supposed to
   a. Content validity- extent to which a test samples the behavior of interest- psychology= psychology test of the content covered
   b. Construct validity- refers to the extent to which there is evidence measures a hypothetical construct- a theory that is being tested
   c. Predictive validity- success with which a test predicts the behavior it is designed to predict- relationship between some criterion and test score/ test score and college success
      1. Criterion- a behavior that a test is designed to predict- test score and college grades

C. Mental Retardation- test scores that fall below 70
   1. Down syndrome- an extra 21st chromosome/ IQ of 40-55
   2. Fragile X syndrome- defect on chromosome 23
      1. Williams syndrome- defect on chromosome 7/ or by inheriting a gene of phenylketonuria (PKU) which causes the body to create toxins out of milk and other foods
      2. Familial Retardation- mild cases- no genetic or environmental causes
         a. Mild retardation- 50-70 score- 85% have- may learn up to 6th grade level- adults need some assistance
         b. Moderate- 35-49- 10% have- 2nd grade level- adult may need support groups
         c. Severe- 20-34- 3-4% have- simple tasks under supervision
         d. Profound- below 20- 1-2% have- constant aid and supervision

D. Gifted children- IQ scores of higher than 130
   a. Drudge theory- proposes that extraordinary achievement depends on intensive training and monumental effort- innate talent is also important

E. Group Tests
   1. Heredity and environment seem to interact of intelligence scores- differences accounting for different environments
      a. Heritability- percentage of variation within population that is due to heredity
      b. Twin studies show more similar IQ scores than siblings or others raised apart
      c. Reaction range model- heredity sets limits on one’s intelligence and that environmental factors determine where people fall within these limits
   2. There are differences in the average IQ scores for different racial groups- there is more variation within a particular group than between groups
   3. Cross-cultural studies have demonstrated that the average age IQ scores of groups subject to social discrimination are frequently lower than the average IQ scores of the dominant social group
   4. Intelligence tests can be culturally biased- an intelligence tests reflects the culture in which they are developed
1. Psychometrics- Sir Francis Galton- father of the measurement of knowledge
2. **Divergent thinking**- discovering or brainstorming as many ideas as possible- important for creativity/ **convergent thinking**- narrowing down ideas to an overall good idea
3. **Intelligence** - Charles Spearman - *g factor or single gene* (general intelligence) responsible for everything which is determined by a single number like an IQ test/ LL Thurston- believed were 7 primary mental abilities each independent/ Howard Gardner- people have separate multiple intelligence which helps to explain *savant syndrome* when you have a special skill but are overall mentally challenged/ Robert Sternberg- three types of intelligence- *analytical* - problem solving like math and science in school, *practical*- using information for interacting in the environment, *creative* - applying information to different situations like what is learned in elective courses
4. **Emotional Intelligence**- Daniel Goleman- *interpersonal intelligence*- ability to understand emotions of others/ *intrapersonal intelligence*- ability to understand one’s emotions.
5. Measuring intelligence: **Alfred Binet** - designed first intelligence test based on how children solved problems rather than what they know first used in French schools / **David Wechsler**- WAIS test- mostly widely used IQ test based on verbal and performance scores which score is then based on how you perform COMPARED to other people in your age bracket Wilhelm Stern- developed the IQ quotient- MA (mental age) divided by CA chronological age multiplied by 100 equals IQ / **Lewis Terman** adapted Binet’s test to be used in America called the Standford-Binet Test (good for children but no MA bracket for adults)
6. Test construction - **standardization**- defining scores by comparing it to a previous group who took the test / **Validity**- what does the test measure broken down into content validity- questions that cover specific material or correct material/ **contract validity**- how well the test was written- questions understandable/ **criterion (predictive) validity**- questions answer a specific question or theory- questions that are designed to see if students are reading the book/ **Reliability**- same results every time the test is given and taken / test-retest is a way to measure reliability is by giving test over and over and looking for similar results- ACT test is reliable as students tend to get same scores/ **split-half**- comparing odd and even questions also measures reliability
7. **Normal curve**, also known as a bell-shaped curve; majority falling around average
8. **Aptitude tests** make predictions on how well you will do, such as the ACT / **Achievement test**- measure mastery or what you are supposed to know, like AP test
9. **Measures of Central Tendency** / **mode** - most frequently used number / **median**- middle number or score / **mean**- average
10. Skewed distribution - atypical scores that fall away from the average or mean
11. **Measures of Variation** – **Range** - difference from lowest to highest score / **Standard deviation**- how much scores vary from mean
12. **Statistical significance**- resulting data is not determined by chance but raw data
13. **Inferential statistics**- allow the researcher to apply results to the general population
14. **Savant syndrome**- person who has cognitive impairments but excels in one or more abilities of genius level/ Down syndrome- trisomy 21- extra 21st chromosome/ Fragile X syndrome- mutated gene on the X chromosome/ Autism- impairment in social communication and interaction/ 70 IQ indicated mentally challenged/ over 135 IQ genius studied by Lewis Terman- “terman’s termites”
| Howard Gardner- multiple intelligences- separate and unique types of intelligence; may be intelligent in one area but not another type of intelligence | Vs. | Charles Spearman- g factor- one single factor or gene responsible for overall intelligence |
| L.L. Thruston- 7 separate primary types of intelligence that equates to overall intelligence | Vs. | Robert Sternberg- Triarchic theory of intelligence- analytical- math & science/ creative- thinking outside of the box- electives/ practical- common sense/ interaction with others |
| Interpersonal emotional intelligence- ability to understand other people’s emotions | Vs. | Intrapersonal intelligence- ability to read one’s own emotions |
| Divergent thinking- brainstorming and coming up with many ideas as possible | Vs. | Convergent thinking- narrowing down choices to one overall good choice |
| Stanford-Binet intelligence test- intelligence based on comparing mental age (mental abilities) with one’s chronological age | Vs. | WAIS intelligence test- based on scores on a verbal and performance test through comparison to people within same age bracket |
| Aptitude test- a test designed to make future predictions concerning potential | Vs. | Achievement test- test that measures what has supposed to be learned or mastered |
| Standardization- comparing one’s results to a previous group who take the same test under the same conditions | Vs. | Reliability- giving a test multiple times and receiving same results on each test |
| Test-retest- reliability test giving test over and over to compare results | Vs. | Alternative (split-half) reliability test- comparing odd and even questions or one half to the other half |
| Content validity- the test’s content measures what it is supposed to measure | Vs. | (Criterion) Predicative validity- test questions that make future predictions about future content |
| Construct validity- how the test is constructed or designed; are the questions clear and concise | Vs. | Standard deviation- how scores deviate from the mean or the average |
1. Ava excels in her art class, but has tremendous difficulty in math and English. According to Robert Sternberg, Ava displays what type of intelligence?
   (A) Analytical
   (B) Practical
   (C) Creative
   (D) General
   (E) Emotional

2. The psychologist who developed the first modern intelligence test used to help the French government with the placement of special needs students was
   (A) Charles Spearman
   (B) Robert Sternberg
   (C) Howard Gardner
   (D) Lewis Terman
   (E) Alfred Binet

3. Anan is taking a final exam in his calculus class. All of the questions on the exam relate to material that was covered over the course of the year. Therefore, the test can be said to display high
   (A) criterion validity
   (B) standardization
   (C) reliability
   (D) content validity
   (E) test-retest reliability

4. Garrett scored a 28 the first time he took the college entrance exam. Six months later, he took it again and scored a 29. Because his scores were so close together, the test would be considered to have strong
   (A) content validity
   (B) normalization
   (C) standardization
   (D) reliability
   (E) split-half reliability

5. Together with 200 other high school students, Claude is taking a timed test that is said to predict how well a person will do in his or her first semester in college. Claude is most likely taking what type of intelligence test?
   (A) Individualized
   (B) Group
   (C) Motivational
   (D) Stamina
   (E) Interest

6. Which of the following best illustrates Spearman’s concept of g?
   (A) Lisa does well in mathematics, but poorly in chemistry.
   (B) Fatima does not know the capital of her state but can compose music successfully.
   (C) Quon is an excellent baseball player who has received a scholarship to play in college.
   (D) Sarah has maintained straight A’s throughout high school.
   (E) Sammi who is a world class artistic roller skater.

7. Bailee recently took the Weschler Intelligence Scale for Children (WISC) and scored one standard deviation above the mean. Bailee would most likely have an IQ of
   (A) 115
   (B) 85
   (C) 130
   (D) 95
   (E) 100

8. Mr. Trevor believes that students with high IQs are more likely to succeed in life than are those with low IQs. Which psychologist would most likely agree with Mr. Trevor?
   (A) Daniel Goleman
   (B) Lewis Terman
   (C) Robert Sternberg
   (D) Noam Chomsky
   (E) Leon Festinger
9. Professor Yanders recently conducted a study that examined the IQs of 1000 different families. He concluded that if parents had high IQs, their children would also have high IQs. Professor Yanders believes in which view of intelligence?
   (A) Standard
   (B) Nature
   (C) Nurture
   (D) Longitudinal
   (E) Factoring

10. Jason received a low score on the Weschler Adult Intelligence Scale (WAIS) but is capable of navigating his way through a busy city without the assistance of a map. According to Robert Sternberg, Paul displays what type of intelligence?
   (A) Creativity
   (B) Analytical
   (C) Practical
   (D) Emotional
   (E) General

11. Which of the following best illustrates the concept of divergent thinking?
   (A) Mackenzie is good at listening to other people and helping them with their problems.
   (B) Gloria is an excellent softball player who receives a scholarship to play in college.
   (C) Tony does extremely well in school, but has a difficult time making friends.
   (D) Richard knows the lyrics of every song he has ever heard.
   (E) Ali designs workplace accommodations for the physically impaired.

12. Which of the following is not considered an advantage of individualized intelligence tests?
   (A) They allow good rapport between test taker and person administering the test.
   (B) If a person is having a bad day the test can often be rescheduled to accommodate extenuating circumstances.
   (C) They are cheap and easy to administer to many people at once.
   (D) The test taker can help dictate the pace of the test.
   (E) If the test taker has a question, he or she can ask the test administrator for clarification.

13. Which of the following would score high on the emotional intelligence scale?
   (A) Jaelyn can complete crossword puzzles quickly.
   (B) Claude is good at interpreting the emotions of others.
   (C) Pauline is good at fixing mechanical machines.
   (D) Marcus knows how to make spaghetti.
   (E) Elle has invented a new device to help others learn to read.

14. Who was the first psychologist to propose that intelligence is the result of nature?
   (A) Robert Sternberg
   (B) Howard Gardner
   (C) Charles Spearman
   (D) Sir Francis Galton
   (E) Lewis Terman

15. Bailee takes a test on sensation and perception on Friday. She then retakes the same test one month later. The reason why Bailee is taking two administrations of this test is to establish
   (A) construct validity
   (B) criterion validity
   (C) achievement motivation
   (D) split-half reliability
   (E) test-retest reliability
Chapter 5  Analogy of Psychology

1. **Answer: C.** According to Sternberg, a person who excels at creating new ideas and products has a high level of creative intelligence. Analytical intelligence is similar to book smarts, and a person who has a high level of this form of intelligence generally does well on standardized tests. A person who has a high level of practical intelligence displays street smarts, is aware of his or her surroundings, and is able to think quickly to process information.

2. **Answer: E.** Alfred Binet is credited with developing the first modern intelligence test, used to help identify special needs students in France.

3. **Answer: D.** Any test that includes questions that pertain to the subject matter studied is said to have content validity. It is valid to ask an algebra question on an algebra test.

4. **Answer: D.** Tests that yield the same results on different occasions are considered reliable. Since the scores did not vary much, could be concluded Garrett’s results would be similar in subsequent tests.

5. **Answer: B.** Group intelligence tests can be administered to a large number of people at the same time. They are the opposite of an individualized intelligence test, which is given in a one-on-one situation.

6. **Answer: D.** Spearman’s concept of g states that those who excel in one area excel equally in other areas. The basic concept is that intelligent people are intelligent in all areas.

7. **Answer: A.** The average IQ for the WISC and WAIS tests are equal to 100, and one standard deviation is equal to 15 points. Therefore, one standard deviation above the mean would be 115, while one standard deviation below the norm would be 85.

8. **Answer: B.** Lewis Terman believed that students with above-average IQs would be more successful in life than those with average or below-average IQs. This led him to conduct a longitudinal study of 1,500 students with above-average IQs.

9. **Answer: B.** The nature view of intelligence states that IQ is the result of genetics or heredity, and therefore if the biological parents are intelligent, their children will also be intelligent.

10. **Answer: C.** According to Robert Sternberg, there are three types of intelligence: analytical (book/academic smarts), creative (the ability to generate new ideas), and practical (street smarts).

11. **Answer: E.** Divergent thinking occurs when a person is able to think of multiple solutions to a problem. Convergent thinking happens when a person is able to think of one possible answer.

12. **Answer: C.** Individualized intelligence tests are more expensive and time-consuming than group tests.

13. **Answer: B.** Emotional intelligence ability to interpret emotions of others and manage own emotions.

14. **Answer: D.** Sir Francis Galton conducted the first kinship studies in trying to determine the origins of intelligence. He believed that intelligence is the result of genetics.

15. **Answer: E.** Test-retest reliability is used to measure the reliability of a test administered over two separate occasions. If the test is reliable, the score should remain similar.
Theories of Motivation

1. What drives people to do the things they do either from internal or external factors?

2. Which theory of motivation explains motivation through instinctual behavior?
   A. What is a not learned, innate, and automatic response to a specific stimulus?
      i. Give an example of an instinct:

3. What is the premise that the body oversees and maintains its internal physiological systems at a constant stable level?
   A. Give an example of homeostasis:

4. What is a biological requirement essential for proper bodily functioning?
   A. If a need is not being met then what is produced which is a physiological state of tension or arousal that needs to be reduced?
   B. According to Clark Hull, which theory of motivation suggest that a person is motivated to reduce a drive through satisfaction of a need that is detected through homeostasis?
      i. Give an example:

5. What does curiosity create?
   A. Which theory of motivation suggest that people try to maintain a steady or optimum level of arousal through different types of behavioral activities?
      i. Give an example of this theory:

6. When do people perform at their best?
   A. What does the Yerkes-Dodson law suggest about when a person performs at their best?

7. Which theory of motivation suggest that some types of external stimuli push people to positive stimuli and can also pull people away from negative stimuli
   i. Give an example of the incentive theory:

8. Not all motivation can be explained through incentives or biological factors; give an example:
Read the following passage of Nick’s typical day at school and indicate the type of motivational theory to explain this day:

Nick wakes up in the morning and immediately gets a drink of water because he is thirsty __________________________. He hurries up to get ready because he does not want to be late and get a detention from his 1st hour __________________________. In his first hour he is attracted to a fellow school mate and tries to think of a way to ask the person out later that day __________________________. He has a test in his second hour that he deems a fair test and feels that he can do really well on it. __________________________. The rest of the day is pretty boring so he gathers some friends who may want to do something more exciting after school that day __________________________.

**Humanistic Theories of Motivation**

9. Which theory of motivation suggest that people seek to make a positive self-concept and are motivated to reach their potential?

   A. What did Humanist believed about potential?
   B. Who developed the hierarchy of needs?
   C. How is a person motivated to go through the hierarchy of needs?
   D. Identify the different levels:
   E. What is striving and realization of one’s talent and potential and is at the tope of hierarchy of needs?
      i. What plays a role in reaching self-actualization?
   F. Who suggest that the needs identified in the hierarchy of needs do not need to be satisfied in a particular order?
      i. Give an example:

**Hunger**

10. Is there more to hunger than simply “pangs?”

   A. Where are the most important s signals for hunger or satiation?
   B. Which hormone is released in response to food moving from the stomach to the bloodstream indicating short-term satiation?
C. Which hormone is released into the bloodstream as fat supplies start to rise indicated long-term satiation?

D. What is the purpose of glucose?
   i. What happens when glucose levels drop?
   ii. Which hormone is used to convert glucose to energy?
   iii. What happens when insulin levels rise and glucose levels drop?

**The Brain’s Role in Hunger**

11. Which area of the brain is considered the control center for the brain?
   A. Which part of the hypothalamus stops hunger?
      i. What happens if the ventromedial hypothalamus is destroyed?
   B. Which part of the hypothalamus initiates hunger?
      i. What happens if the lateral hypothalamus is destroyed?
      ii. Which hormone is produced by the lateral hypothalamus that initiates hunger?

**Body Weight**

12. What regulates the expenditure of energy used to maintain our body’s vital function?
   A. Identify factors that affect the BMR:

**Set Point Theory**

13. What is a person’s ideal weight that is maintained through homeostasis and the BMR?
   A. What will eventually cause the set point to rise?
      i. What happens to fat cells once they are formed?

**Obesity**

14. What is the measure of a person’s body weight in proportion to his or her height?
   A. Define Normal BMI: Overweight: Obese:
   B. What do obese people experience?
C. How do external incentives affect people’s hunger?

i. What does the BMI not consider?

**Eating Disorders**

15. What is an eating disorder characterized by dramatic drop in calories consumed and an obsession with exercise?

   A. What is an eating disorder characterized by period of binging—eating large amounts of food and purging?

**Achievement and Motivation**

16. What type of motivation is shown by people who are driven to master a task or achieve a personal goal like self-actualization?

   A. Which type of motivation occurs when people try to outdo or beat other people and who need recognition?

17. Who was the first psychologists to study people’s need for achievement?

   A. How did Murray study achievement needs?

18. Who believed that a person’s level of self-efficacy or level of self-confidence before they face a task is essential to a person’s level of motivation?

   A. What is collective self-efficacy?

19. Which theory, according to Edward Deci and Richard Ryan, suggest that people need to be competent—good at something, have autonomy—some control, and relatedness—need to be appreciated in order to perform good at a behavior?

**Motivation and Work**

20. Which area of psychology applied and studied the psychological concepts to optimize the workplace as an effective and productive environment?

   A. Which division addresses worker satisfaction and productivity?

   B. Which division matches the right employee to the right job placement?

   C. What does theory Y suggest about worker motivation?
D. What does theory X suggest about worker motivation?

E. What refers to a worker who is completely focused on his or her task and is not affected by time or distraction?

**Introduction to Emotions**

21. What are emotions based on; identify the 3 parts and give an example?

A. How are emotions different than moods?

**Biological Aspects of Emotions**

22. Which nervous systems play critical roles in the interpretation of emotions?

A. Which nervous system arouses or excites the body resulting in fight-or-flight response?
   
   i. What does fight produce?
   
   ii. What does flight produce?
   
   iii. How is fight recorded differently than flight?

B. What are polygraphs or lie detectors designed to measure?
   
   i. Do most people agree that polygraphs can indicate whether a person is lying or not?

C. Which hemisphere in the brain is associated with the experience and expression of emotion?

D. Which part of the brain is critical in learning emotions, recognizing emotional expression, and interpreting emotional stimuli?

E. Which area of the brain plays a role in the expression of emotion?

   i. Which motor system forms voluntary facial expressions?

   ii. Which motor system forms natural face expressions?
**Theories of Emotion**

23. Which theory of emotion suggest that emotion is simply the result of changes or fluctuations in the body?

   A. Give an example:

24. Which theory of emotion suggest that thalamus receive information about emotional stimuli and relays the information simultaneously to the autonomic nervous system and cerebral cortex?

   A. Give an example:

25. Which theory of emotion states that it is the result of the interaction of two factors: physiological arousal and a cognitive label that explains why there is arousal?

   A. Give an example:

26. Which theory of emotion states is the result of cognitive appraisal of a situation and how it may affect their well-being?

   A. Give an example:

27. Who suggested that some emotional reactions involve no deliberate thinking and cognition is not always necessary for emotion; we feel before we think- information goes to amygdala before the cerebral cortex?

   A. What does the evolutionary perspective suggest about emotion?

28. Which theory of emotion suggests that facial expressions can affect your emotions?

   A. What is a criticism of the James-Lange theory of emotion?
   B. What is a criticism of the Schachter-Singer theory (Two-factor) of emotion?
C. What is the difference between the cognitive-mediational theory and Schachter-Singer theory of emotion?

*Read the following passage and highlight the main terms that indicate which theory of emotion is being applied to explain a situation:*

- Rebecca was almost in car accident and because her heart started to race she felt scared. (James Lange theory)
- Steve just was informed that he got a F in AP Psychology and as result his autonomic nervous system and cerebral cortex simultaneously interpreted this and displayed fear. (Cannon-Bard)
- Missy was just asked to prom and as a result her heart started to beat as she then applied a cognitive label for the change in her body as exciting. (Two-Factor theory)
- Roy started to laugh as he watched his teacher stumble as he walked up the stairs. (Cognitive mediational theory)
- Bill’s girlfriend told him not to be mad and just try smiling and everything will get better. (Facial feedback hypothesis)

**Emotional Expression**

29. Who studied facial expressions and when they are displayed? Pain: Smiling:  
Sadness and anger: Fear:

30. Who believed that facial expressions are universal but how they differ are within their cultures?
   
   A. What are display rules or cultural norms?

   B. What is the process of letting another person’s emotional state guide your own behavior?

**Introduction to Stress**

31. What is characterized by an emotional state in response to circumstances or situations that exceed a person’s ability to control them?

   A. Which field of psychology studied how people interpret stressful situations and how the stress affects the body?

   i. What 3 factors do health psychologist believe stress affects?
Types of Stress

32. What are stressors?
   A. What are minor inconveniences that occur throughout the day?
   B. What are events and situations that cause a person’s lifestyle to dramatically change?
      i. According to the Readjustment Scale what are the hardest life changes?

Causes of Stress/Conflicts

33. Which type of conflict occurs when a person has to choose between 2 appealing or favorable choices?
   A. Which type of conflict occurs when a person has to choose between 2 unfavorable or negative choices?
   B. Which type of conflict occurs when a choice has both a good and bad point and is considered the most stressful?
   C. What is a multiple approach-avoidance conflict?

34. What occurs when a goal is being blocked?

35. What are extreme demands placed on person to perform or conform?

36. How can stress affect the body indirectly?

Stress and the Body

37. Stress directly affects the endocrine and the nervous system through changes in the body known as fight-flight. Walter Cannon defined this as:
   1. Hypothalamus activates-
   2. Sympathetic nervous system activates-
   3. Adrenal medulla releases-
   4. Catecholamines circulate-

38. Who described how stress affected the body through the General Adaptation Syndrome?
   A. Which stage is characterized by intense arousal to a threat: fight-or-flight?
B. Which stage is characterized by the body’s fighting the effects of stress through the release of corticosteroids?

C. Which stage is characterized by the body becoming exhausted or sick due to running out of corticosteroids?

39. Describe Hans Seyle’s second endocrine pathway for periods of prolonged stress:

1. Hypothalamus triggers:

2. Pituitary gland triggers release of:

3. ACTH triggers adrenal cortex to release:

4. Corticosteroids increase release:

The Effects of Stress on the Immune System

40. What protects the body by attacking harmful bacteria and viruses with lymphocytes?

A. What do B lymphocytes do?

B. What do T lymphocytes do?

i. What is the area of psychology that studies how stress affects the psychological, nervous, and the immune system?

Beating Stress and Promoting Wellness

41. Who was an American Psychologist who developed Positive Psychology to help promote wellness and handle stress?

A. What is a sense of control which reduces stress?

B. Who tends to explains negative event through specific explanations?

i. Who tends to explain these events with personal vindication or fault?

C. Who researched the effects of Type A and Type behavior?

i. Who are type A people?

ii. Who are type B people?
Coping Strategies

42. Who believed in catharsis which is the releasing and displacement of emotional tension; believing it was good to release aggression?

43. What is constructive coping?

A. Problem focused coping involves addressing the problem; confronting.

B. Emotion-focused coping involves controlling emotions when dealing with a problem.
   i. Self-controlling
   ii. Distancing:
   iii. Positive reappraisal:
   iv. Accept responsibility
   vi. Escape/avoidance:
   vii. Downward comparison:

44. What do individualistic cultures, like America who are out for themselves, tend to use when confronted with a problem?

A. What do collectivistic cultures, like Amish communities and are out for the good of the group, use when confronted with a problem?
# Chapter Summation “Buzz Word(s)”

<table>
<thead>
<tr>
<th>Term</th>
<th>“Buzz Word(s)”</th>
<th>Term</th>
<th>“Buzz Word(s)”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instinct theory</td>
<td>Automatic</td>
<td>Instinct</td>
<td>Innate, fixed</td>
</tr>
<tr>
<td>Homeostasis</td>
<td>Maintaining</td>
<td>Need</td>
<td>Biological</td>
</tr>
<tr>
<td>Drive</td>
<td>Tension</td>
<td>Arousal</td>
<td>Curiosity</td>
</tr>
<tr>
<td>Optimum arousal theory</td>
<td>Boredom</td>
<td>Yerkes-Dodson law</td>
<td>Equal, fair competition</td>
</tr>
<tr>
<td>Altruism</td>
<td>Generous</td>
<td>Incentive theory</td>
<td>Something extra</td>
</tr>
<tr>
<td>Humanistic theory</td>
<td>Innate, potential</td>
<td>Hierarchy of needs</td>
<td>Stair steps</td>
</tr>
<tr>
<td>Self-actualization</td>
<td>The best</td>
<td>CCK hormone</td>
<td>Short-term satiation</td>
</tr>
<tr>
<td>Leptin hormone</td>
<td>Fat, long-term</td>
<td>Glucose</td>
<td>Sugar, energy</td>
</tr>
<tr>
<td>Insulin</td>
<td>Breaks down glucose</td>
<td>Ventromedial hypothalamus</td>
<td>Stops hunger</td>
</tr>
<tr>
<td>Lateral hypothalamus</td>
<td>Starts hunger</td>
<td>BMR</td>
<td>Burns conserves calories</td>
</tr>
<tr>
<td>Set point theory</td>
<td>Ideal weight</td>
<td>BMI</td>
<td>Obese 30</td>
</tr>
<tr>
<td>Leptin resistance</td>
<td>No effect on brain</td>
<td>Competence motivation</td>
<td>Be good at something</td>
</tr>
<tr>
<td>Achievement motivation</td>
<td>Beat others</td>
<td>Thematic apperception test</td>
<td>Achievement, ambiguous scene</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>Confidence</td>
<td>Collective self-efficacy</td>
<td>Support system</td>
</tr>
<tr>
<td>Industrial-organizational</td>
<td>Work, better worker</td>
<td>Theory Y</td>
<td>I want to be the best employee</td>
</tr>
<tr>
<td>Theory X</td>
<td>Xtra things</td>
<td>Right hemisphere</td>
<td>Emotion expression</td>
</tr>
<tr>
<td>Amygdala</td>
<td>Recognizing emotions</td>
<td>Cerebral cortex</td>
<td>Expression of emotion</td>
</tr>
<tr>
<td>James/Lange theory</td>
<td>Change in body</td>
<td>Cannon-Bard theory</td>
<td>Simultaneously brain and body</td>
</tr>
<tr>
<td>Two-factor theory</td>
<td>Body + cognitive label</td>
<td>Cognitive mediational theory</td>
<td>Appraise situation</td>
</tr>
<tr>
<td>Display rules</td>
<td>Cultural norms of emotion</td>
<td>Health psychologists</td>
<td>Study stress- effects</td>
</tr>
<tr>
<td>Approach-approach</td>
<td>Two appealing choices</td>
<td>Avoidance-avoidance</td>
<td>Two negative choices</td>
</tr>
<tr>
<td>Fight-or-flight</td>
<td>Catecholamines</td>
<td>Norepinephrine</td>
<td>NT arouses brain</td>
</tr>
<tr>
<td>General adaption syndrome (Seyle)</td>
<td>Alarm- arouse Resistive- fight Exhaustive- sick</td>
<td>Corticosteroids</td>
<td>Battle stress</td>
</tr>
<tr>
<td>T lymphocytes</td>
<td>Attach viruses</td>
<td>B lymphocytes</td>
<td>Fight bacteria</td>
</tr>
<tr>
<td>Martin Seligman</td>
<td>Positive psychology</td>
<td>Optimistic</td>
<td>Give a reason</td>
</tr>
<tr>
<td>Pessimistic</td>
<td>Blame themselves</td>
<td>Type A</td>
<td>anger</td>
</tr>
<tr>
<td>Type B</td>
<td>Relaxed</td>
<td>Problem focused</td>
<td>Americans, Individualistic</td>
</tr>
<tr>
<td>Emotion focused</td>
<td>Manage emotions</td>
<td>Catharsis</td>
<td>Blow off some steam</td>
</tr>
</tbody>
</table>
1. The drive reduction theory states that motivation is to reduce an internal ______________, like thirst that is caused by a biological ______________, like water that is not being met within the body.

2. ________________ is the process of maintaining a balanced or constant internal state within the body.

3. A motivational theory that suggests that motivation is based on maintaining an ideal level of arousal or excitement.
   A) Drive-reduction          D) Extrinsic
   B) Instinct                  E) Self-actualization
   C) Optimum arousal

4. The Yerkes-Dodson law states that a specific or right amount of arousal can affect performance; too little people don't try and too much people may give up.
   A) True    B) False

5. Jimmy does not seem to try very much in school, until his mother promised him $25 for each A he earns on his next report card. Jimmy's mother is using _______ motivation to motivate Jimmy.
   A) Drive  B) Need  C) Extrinsic  D) Intrinsic  E) Instinctual

6. According to David McClelland, the _______ projective test is used to measure people's need for achievement.
   A) Rorschach  B) TAT  C) NEO-PR  D) MMPI  E) WAIS

7. Achievement motivation is based on outperforming other people such as getting the highest score in a class.
   A) True    B) False

8. Which area of psychology is concerned with increasing productivity in the workplace and providing methods for employees to work and get along better.
   A) Cognitive          D) Industrial-organizational
   B) Biological         E) Psychodynamic
   C) Health

9. If you destroy a rat's ________________ hypothalamus then the rat would not eat.

10. The ventromedial hypothalamus is in charge of stopping or decreasing hunger.
    A) True    B) False

11. If insulin level rises then the amount of glucose would decrease resulting in hunger.
    A) True    B) False
Chapter 5  
Analogies of Psychology

12. ___________ are short-term signals to stop eating that are produced when the lining of the stomach expands; and _____________ provide long-term signals to stop eating, which are in response to increased fat in the bloodstream.

13. The set point theory is based on the body maintaining an ideal body weight, which is monitored through homeostasis. If homeostasis detects a change then the body either conserves or burns off calories, which is initiated through the

A) body mass index   D) basal metabolic rate
B) lateral hypothalamus  E) Leptin resistance
C) ventromedial hypothalamus

14. Obesity is indicated on the body mass index through a number of over

A)  25    B)  30    C)  28    D)  22    E)  10

15. A key area of the brain that is involved in the recognition of facial expressions and the proper emotion to be associated with that expression.

A) Hypothalamus  B) Hippocampus  C) Amygdala  D) Medulla  E) Pons

16. The left hemisphere is responsible for the identification of emotions.

A) True  B) False

17. The _______________ nervous system is responsible for involuntary responses like heartbeat either stimulating the sympathetic nervous system which speeds up the body, or the parasympathetic nervous system which calms the body down.

18. Which theory of emotion suggests that emotions are solely the result of changes or fluctuations within the body then resulting in emotion?

A) Cannon-Bard   D) Cognitive-mediational
B) James-Lange   E) Facial feedback
C) Two-factor

19. Which theory of emotion states that emotion is the result of the brain interpreting a stimuli and at the same time the body responding?

A) Cannon-Bard   D) Cognitive mediational
B) James-Lange   E) Facial feedback
C) Two-factor

20. Which theory of emotion states that emotion is the result of a change in the body and a cognitive label or explanation for why the body change is occurring?

A) Cannon-Bard   D) Two-factor
B) James-Lange   E) Facial feedback
C) Cognitive mediational theory
21. According to the Cognitive mediational theory of emotion, how we interpret or appraise a situation accounts for why people show different emotions to similar stimuli.
   A) True   B) False

22. Jimmy has to make a decision between two choices he would really like to do. Jimmy is experiencing which type of conflict?
   A) avoidance-avoidance   D) multiple approach-avoidance
   B) approach-approach       E) life change
   C) approach-avoidance

23. Approach-avoidance conflicts are considered the most stressful because usually every choice has at least one negative.
   A) True   B) False

24. The sympathetic nervous system during acute stress speeds up each of these bodily changes EXCEPT
   A) heart rate   D) digestion
   B) respiration       E) dilation of pupils
   C) blood pressure

25. During acute stress, the sympathetic nervous system triggers the adrenal medulla to release ________________, which include the neurotransmitters epinephrine and norepinephrine, and the hormones adrenaline and noradrenaline—all of which increase activity in the brain and body.

26. During prolong stress, the hypothalamus triggers the _____________ gland—the master gland to trigger the ACTH hormone of the endocrine system that in response releases corticosteroids.
   A) Pituitary   B) Adrenal   C) Thyroid   D) Ovarian   E) Testosterone

27. ________________ are released to battle stress through increasing stored energy, reducing inflammation, but reducing the immune system.

   A) True   B) False

29. ________________ focused coping looks at correcting the actual problem; and ________________ focused coping looks at correcting certain negative emotions associated with the problem.

30. Type A personality, which is characterized by aggression, impatience, and loudness could lead to coronary heart disease.
   A) True   B) False
Motivation, Emotion, and Stress

1. What drives people to do the things they do, the internal and external factors that direct behavior is called motivation

Theories of Motivation

2. What explains motivation through a type of instinctual behavior?

   a. An unlearned, innate, and automatic response to a specific stimulus is referred to as an ________

   b. Who believed that organisms are motivated to perform certain behaviors to enhance their survival of their species (natural selection), which influenced the development of the instinct theory?

      Charles Darwin

   c. However, what is a criticism of the instinct theory?

      Just provide labels and not explanations for motivation

3. The premise that the body oversees and maintains its internal physiological systems at a constant, stable level is referred to as ________

   a. What is an example of homeostasis?

      Body temperature

   b. A biological requirement essential to proper bodily functioning is called a _______

   c. Thirst, hunger, pain is a psychological state of tension, or arousal that directs an organism to take action and reduce this tension are examples of a ________

   d. According to Clark Hull, ________ suggests that motivation is based on the desire to reduce internal tension within the body (drives) that is caused by biological needs not being met as indicated through ________.

Optimum Arousal Theory

4. What causes an increase in arousal, which is the result of several heightened physiological states?

   Arousal

5. What theory suggests that people try to maintain an ideal level of arousal through various behavioral activities?

   ________
a. A person who has a boring day (low arousal) may be more prone to go out at night (high arousal) to balance out one’s day maintaining a steady arousal rate.

6. Difficult or challenging tasks cause arousal to be lower (not concentrate), and easy tasks cause arousal to be higher (make stupid mistakes). People perform best when arousal is maintained or moderate described in the ________________

Incentive Motivation

7. Which theory suggest that external stimuli “push” people (working longer hours for overtime) to positive incentives and “pull” people away from negative incentives (coming in on time so don’t get fired)?

Humanistic Theories of Motivation

8. Which theory suggests that people are motivated to build a positive self-concept (image and beliefs of oneself) and achieve his or her potential?

a. Abraham Maslow believed that motivation to achieve one’s potential is primarily innate (born with), but also suggested that one’s environment plays an important role in achieving this potential. He believed that people are motivated to progress through a series of levels, satisfying each level, before moving on to the next, which he referred to as the ________________

b. Maslow suggested people try to achieve self-actualization which is defined as?

c. Identify the levels of Maslow’s hierarchy of needs.

<table>
<thead>
<tr>
<th>Level</th>
<th>Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Self-actualization</td>
</tr>
<tr>
<td>4</td>
<td>Esteem needs</td>
</tr>
<tr>
<td>3</td>
<td>Belongingness and love needs</td>
</tr>
<tr>
<td>2</td>
<td>Safety needs</td>
</tr>
<tr>
<td>1</td>
<td>Physiological needs</td>
</tr>
</tbody>
</table>
1. What is a fixed-pattern, often unlearned and automatic response to a behavior; described in Charles Darwin's natural selection theory? *RC: you can’t train animals to go against their instincts*
   A) Instinct; instinct theory  
   B) Drive reduction theory  
   C) Homeostasis  
   D) Need theory  
   E) Arousal theory

2. Jeff stops his workout to get a drink of water even though he only had three minutes left before he was done. Which theory of motivation best explains why he stopped his workout? *RC: What drives us to get a drink of water - we have needs*
   A) Arousal theory  
   B) Instinct theory  
   C) Drive-reduction theory  
   D) Self-actualization  
   E) Need motivation

3. Which of the following examples best describes the optimum arousal theory? *RC: Long day = stay home; boring day = go out*
   A) Jenny had a stressful day at school and later tells her friends that she is just going to rent a movie and stay home.
   B) Richard gets a drink of water in the middle of the night.
   C) Lucy gets her homework back out because she thinks she is not ready for the test.
   D) A dog barks nonstop at the mailman.
   E) Mitch has a busy day at school and has a strong desire to go and be with his friends.

4. A football coach is concerned his players are not practicing enough so he decides to offer stickers to put on their helmets if they achieve certain goals in practice. Which theory of motivation is the coach utilizing? *RC: extra credit is extra motivation that pushes certain behaviors*
   A) Drive-reduction theory  
   B) Insulin deficiency  
   C) Instinctual theory  
   D) Incentive theory  
   E) Homeostasis

5. According to Abraham Maslow, what is the first level in the hierarchy of needs that must be satisfied in order to reach self-actualization or self-mastery? *RC: remember you can’t concentrate if you have not had something to eat; always need to eat a good breakfast*
   A) Love and belonginess needs  
   B) Aesthetic needs  
   C) Cognitive needs  
   D) Safety and security needs  
   E) Physiological needs
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Factors that drive individuals to do the things that they do, which include internal and external factors</td>
<td>Motivation makes you want to do something</td>
</tr>
<tr>
<td>Instinct theory</td>
<td>Motivation occurs through instinctual behavior</td>
<td>Instinct theory simply provides labels but not give any explanation for why motivation is occurring</td>
</tr>
<tr>
<td>Instinct</td>
<td>An innate, unlearned, and automatic response to a specific stimuli</td>
<td>Geese fly South for the winter in response to colder weather that causes the instinct</td>
</tr>
<tr>
<td>Homeostasis</td>
<td>The notion that the body monitors and maintains internal physiological systems at a constant and certain level</td>
<td>Similar to a thermostat - the thermostat monitors the air temperature when the temperature becomes too cold the thermostat alerts the furnace to turn on</td>
</tr>
<tr>
<td>Need</td>
<td>A biological requirement that is necessary for the body to perform at an optimal and desired level</td>
<td>Your body NEEDS food and water to survive</td>
</tr>
<tr>
<td>Drive</td>
<td>A psychological state of tension or arousal that is produced by a biological need not being satisfied which results in a behavior to reduce the drive</td>
<td>Hunger is a DRIVE that DRIVES you to get food which is a NEED that your body NEEDS</td>
</tr>
<tr>
<td>Drive-reduction theory</td>
<td>Motivation is based on performing behaviors that reduce drives produced from needs not being met</td>
<td>The NEED for water DRIVES (or motivates) you to get out of bed thus reducing the DRIVE and satisfying the NEED</td>
</tr>
<tr>
<td>Arousal</td>
<td>The result of several heightened physiological states within the body that include heartbeat, breathing</td>
<td>Arousal is excitement - we are motivated to do FUN things</td>
</tr>
<tr>
<td>Optimum arousal theory</td>
<td>Motivation is based on people trying participating in certain activities that help to maintain a steady or optimum level of arousal within their body</td>
<td>Having a boring day you are MOTIVATED to go out that night and have FUN/ have an exhausting day you are MOTIVATED to do nothing that night/ thus EQUALLING out your day</td>
</tr>
<tr>
<td>Yerkes-Dodson law</td>
<td>People perform best in an activity when the task is moderate or fair; not too hard or not too easy</td>
<td>Fair is another way to describe the Yerkes- Dodson law- if the assignment or game is fair you will try your best/ too easy don’t put in your best effort/ too hard and you give up before even trying</td>
</tr>
<tr>
<td><strong>Incentive theories</strong></td>
<td>Positive or favorable incentives motivate people to perform the activity; while negative incentives push people away from performing the activity</td>
<td>Incentives are extra things- extra credit PUSHES you to do it/ while detentions PUSH you away from coming to school late</td>
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<tr>
<td><strong>Altruism</strong></td>
<td>Motivation is based on helping others because the effort makes people feel good</td>
<td>Al-TRUE-ism- you are being a TRUE and good person when you help people</td>
</tr>
<tr>
<td><strong>Humanistic perspective</strong></td>
<td>Suggests that people are motivated to have a positive self-concept, or beliefs about themselves, allowing them to reach their full potential</td>
<td>Humanistic perspective is interested in making you the best HUMAN possible through reaching your potential and being who you really are</td>
</tr>
<tr>
<td><strong>Hierarchy of needs</strong></td>
<td>According to Abraham Maslow, people are motivated to progress through the hierarchy of needs through satisfying each level beginning with physiological needs and ending at self-actualization</td>
<td>Hierarchy of Needs are like stairs- you have to step on each stair to get to the top or the best you can be/ you can’t study if you are hungry- have to satisfy hunger before addressing the next level</td>
</tr>
<tr>
<td><strong>Self-actualization</strong></td>
<td>The striving for and realization of one’s potential</td>
<td>The realization or actualization of being the best you can be</td>
</tr>
</tbody>
</table>
1. An unlearned innate and automatic response to a specific stimulus. A) Optimum arousal theory

2. The premise that the body oversees and maintains its internal physiological systems at a constant level. B) Physical

3. A motivational theory that suggests that motivation is based on the desire to reduce internal tension within the body that is caused by biological needs not being met as indicated by homeostasis. C) Homeostasis

4. A motivational theory that suggests people try to maintain a steady or optimum level of arousal or excitement through various behavioral activities. D) Incentive theory

5. The suggestion that difficult tasks cause arousal to be lower and easy tasks cause arousal to be higher maintaining that the right amount of arousal people will perform their best. E) Humanistic perspective

6. Getting a bonus for working hard would be an example of which motivational theory. F) Drive-reduction theory

7. A perspective of psychology that suggest that people seek to build a positive self-concept and are motivated to fulfill their potential. G) Yerkes-Dodson law

8. Abraham Maslow suggested that people are motivated to satisfy each level of the hierarchy of needs in order to preach their full potential which he referred to as: H) Altruism

9. Some people are motivated to be of service of others because it makes them feel good. I) Self-actualization

10. According to Abraham Maslow, ____________ needs must be satisfied before psychological needs. J) Instinct
A. Motivation - a need or desire that energizes and directs behavior  
   a. Motive - reason or purpose for behavior  
B. Historic Explanations  
   1. Instinct theory - a view that explains human behavior as motivated by automatic, involuntary, and unlearned responses  
      a. Instinct - complex behavior rigidly patterned throughout a species and unlearned  
      b. Evolution - Charles Darwin - natural selection - nature selects organisms best suited for survival  
C. Biological Explanations  
   1. Optimum Arousal theories - each brain has activated different levels of alertness expressed through curiosity and explains boredom - motivation is to maintain a stable level of arousal  
      a. Arousal - general level of activation reflected in physiological systems  
      b. Yerkes-Dodson law - degree of psychological arousal helps performance but only up to a certain point - too much or too little can affect performance  
   2. Drive-reduction theory - the idea that a physiological need creates an aroused tension state (drive) that motivates the organism to satisfy the need  
      a. Need - biological requirement for well-being that is created by an imbalance in homeostasis  
      b. Drive - psychological state of arousal created by an imbalance in homeostasis that prompts an organism to take action to restore balance and reduce drive  
      c. Homeostasis - a tendency to maintain a balanced or constant internal state-regulation of any aspect of body chemistry - such as blood glucose  
         a. Drive-reduction theory focuses on removing deficits and homeostasis regulation focuses on avoiding both deficits and surpluses  
D. Cognitive Explanation  
   1. Incentive theory - behavior is directed towards, or “pushing” us to attaining desirable stimuli and, or “pulling” us - avoiding unwanted stimuli  
      a. Incentive - a positive or negative environmental stimulus motivates behavior  
   2. Extrinsic motivation - a desire to perform a behavior because of promised rewards or threats of punishment  
   3. Intrinsic motivation - desire to perform a behavior for its own sake  
E. Clinical Explanations  
   1. Abraham Maslow - Humanistic psychologist who developed the hierarchy of needs  
   2. Motivation based on satisfying needs and progressing to self-actualization  
      a. Hierarchy of Needs - pyramid of human needs beginning with:  
         a. Physiological needs - food water,  
         b. Safety needs - feeling secure,  
         c. Belongingness and love needs - need to love/ be loved,  
         d. Esteem needs - need for self-esteem/ achievement,  
         e. Cognitive needs - pursuit of knowledge  
         f. Aesthetic needs - expression  
         g. Self-actualization - the need to live up to one’s fullest and unique potential  

280
Hunger

1. Is there more to a person getting hungry than him or her experiencing “hunger pangs?”
   Yes or No/

2. Where do the most important signals for hunger come from?
   Blood
   a. As food moves from the stomach to the bloodstream, a hormone called ________
      (cholecystokinin) is released; this hormone is detected by the brain, where it acts as a
      neurotransmitter signifying short-term satiation or fullness.
   b. What is another hormone that also signals satiation, which is released into the
      bloodstream as a result of fat increasing?

   a. When leptin levels remains high a person feels full or satiated.
   b. Sugar that the body uses for energy is called?

   c. Which hormone converts sugar to energy?

   d. When insulin levels are high/ glucose levels decrease causing a person to become
      hunger

The Brain’s Role in Hunger

3. What was the first area of the brain to be identified as a control center for hunger?

   a. Researchers believe that the ________ hypothalamus stops hunger and the _____
      hypothalamus initiated or starts hunger.

   b. Damage to the lateral hypothalamus would cause an animal to stop eating. The lateral
      hypothalamus produces a hormone called orexin that triggers hunger.

   c. However, damage to the ventromedial hypothalamus did not cause a rat to eat until it
      exploded, but rather became more particular with what it ate. Damage to the
      hypothalamus showed that other drives were affected if destroyed. More sophisticated
      areas of the brain are also involved in hunger.
**Body Weight**

4. One-third of the body’s energy is used for energy such as exercising, studying, everyday functions. The other two-thirds are used for vital life functions such as breathing, heart rate, brain-activity.

   a. The regulation and expenditure of energy used to maintain our body’s vital functions is monitored by the basal metabolic rate.

      a. As people get older their BMR slows down

      b. Women have a slower BMR than men

      c. If you don’t eat your BMR will slow down.

**Set-Point Theory**

5. Homeostasis monitors and maintains internal body weight. The ______________ theory maintains a person’s ideal weight through increasing or decreasing the BMR.

   a. Also once fat cells start to increase in number weight gain will be seen and dieting will just cause fat cells to decrease in size not number.

**Obesity**

6. The measure of a person’s weight in proportion to their height and weight is referred to as the body mass index.

   a. Normal BMI is between 18.5-25

   b. Obese people have a BMI of over 30.

      a. However the BMI does not take into account muscle mass or bone density.

**Eating Disorder**

7. An eating disorder characterized by a dramatic drop in calories consumed and an obsession with exercise is referred to as anorexia nervosa

   a. Type of eating disorder characterized by period of binging - eating large amount of food and purging - disposing of these calories is referred to as bulimia nervosa
Achievement and Motivation

8. People who are driven to master a task or achieve a personal goal demonstrate _______________________

   a. People who try to outdo, or beat, other people demonstrate ______________________

   b. Who was one of the first psychologists to measure achievement motivation? Henry Murray

   c. Which test did Murray use to measure people’s level of achievement motivation? ______________________

   d. Albert Bandura believed that a person’s level of confidence one has when facing challenges and demands of a situation referred to as ______________________ also play a role in a person’s level of success.

Motivation and Work

9. Which type of psychologists applies psychological concepts to optimize the workplace as an effective and productive environment? ______________________

   a. Which branch of industrial-organizational psychology tries to match the right job with the right employee through administering personality tests and questionnaires? Personnel psychology

      a. A desire to achieve internal satisfaction and personal achievement is referred to as ______________________

      b. A desire to achieve an external factor like a pay raise or a bonus is referred to as ______________________

   b. Another field of industrial-organizational psychology that addresses worker satisfaction and productivity in the workplace is called organizational psychology
___ 1. When insulin levels rise in the body what is the result? *RC: think of a teeter-totter; what does up the other decreases*
   A) Sugar is stored and a person is satiated.
   B) Sugar is broken down for energy and a person feels hungry.
   C) Leptin levels rise and a person is satiated.
   D) CCK levels are conserved leading to satiation.
   E) Sugar is broken down leading to feelings of satiation.

___ 2. Which part of the brain is involved in initiating hunger? *RC: remember L stands for "let's eat!"
   A) Lateral hippocampus  
   B) Lateral hypothalamus  
   C) Ventromedial hippocampus  
   D) Ventromedial hypothalamus  
   E) Cerebellum

___ 3. Which of the following statements in INCORRECT concerning obesity? *RC: it takes more effort to move more weight*
   A) Obesity is indicated by a BMI number greater than 30.
   B) An obese person has a higher quantity of fat cells in their body.
   C) An obese person has a slower BMR than non obese person.
   D) An obese person may have leptin resistance.
   E) An obese person stores more fat cells.

___ 4. Which type of personality test is used to measure a person's desire for achievement motivation? *RC: think about tell-a-tale; more competition in the tale the more will to win*
   A) MMPI  
   B) NEO-PI  
   C) Rorschach  
   D) TAT  
   E) ACT

___ 5. Which statement accurately describes the role of an Industrial-organizational psychologist? *RC: the better organize an industry the better the industry will function*
   A) Concerned with the well-being and development of a child.
   B) Ensuring that proper tests are given to preschool children.
   C) Conditioning and reconditioning of phobic reactions.
   D) Matching the proper personality with the right job.
   E) Analyzing and comparing test results on standardized tests.
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<td><strong>CCK</strong></td>
<td>A hormone that is released when food moves from the stomach into the bloodstream that signals to the brain short-term satiation or fullness</td>
<td>CCK is a very short word just like short-term signals of satiation/ CCK is what makes you put the fork down and state you can’t eat anymore</td>
</tr>
<tr>
<td><strong>Leptin</strong></td>
<td>A hormone that is released into the bloodstream as the fat content begins to increase signaling to the brain satiation</td>
<td>L for leptin L for long-term satiation/ eat a fatty meal you are going to be full for most of the day</td>
</tr>
<tr>
<td><strong>Glucose</strong></td>
<td>Sugar that the body uses for energy</td>
<td>Like gasoline that makes car run- run out of gas car will stop running/ eat a snickers bar and satisfy your hunger</td>
</tr>
<tr>
<td><strong>Insulin</strong></td>
<td>A hormone that is used to convert glucose to energy; when insulin rises the glucose decreases signaling hunger</td>
<td>Similar to a person (insulin) shoveling coal or sugar into the fire to make it burn</td>
</tr>
<tr>
<td><strong>Ventromedial hypothalamus</strong></td>
<td>Area of the hypothalamus that stops hunger</td>
<td></td>
</tr>
<tr>
<td><strong>Lateral hypothalamus</strong></td>
<td>Area of the hypothalamus that imitates or starts hunger</td>
<td>L for lateral/ L for Let’s EAT</td>
</tr>
<tr>
<td><strong>Orexin</strong></td>
<td>A hormone produced by the lateral hypothalamus that initiates hunger</td>
<td>Oreo (orexin) cookies make you hungry</td>
</tr>
<tr>
<td><strong>Basal metabolic rate (BMR)</strong></td>
<td>Oversees and regulates the use or expenditure of energy used to maintain the body’s vital functions</td>
<td>Women have a slower BMR As you get older BMR slows down Obese people have a higher BMR</td>
</tr>
<tr>
<td><strong>Set point theory of hunger</strong></td>
<td>The maintaining of a person’s ideal weight through increases or decreases in the BMR that is monitored by homeostasis</td>
<td>Go above your set point your BMR will burn calories to bring you back/ go below your set point the BMR shuts down until you get back- which is why you don’t eat you will actually gain weight</td>
</tr>
<tr>
<td><strong>BMI (body mass index)</strong></td>
<td>A person’s weight in relation to their height; a score of over 30 indicates obese</td>
<td>The BMI does not consider bone density or muscle mass which is why may not be entirely accurate</td>
</tr>
<tr>
<td><strong>Anorexia nervosa</strong></td>
<td>An eating disorder that includes an obsession with one’s weight, vigorous exercise, and caloric intake</td>
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<tr>
<td><strong>Bulimia nervosa</strong></td>
<td>An eating disorder characterized by a binge-and-purge method of maintaining an unhealthy body weight</td>
<td></td>
</tr>
<tr>
<td><strong>Competence motivation (need motivation)</strong></td>
<td>A desire or motivation to master or excel at a task or personal goal</td>
<td>“I want to be the best I CAN BE”</td>
</tr>
<tr>
<td><strong>Achievement motivation</strong></td>
<td>The desire or motivation to outperform other people</td>
<td>“I want to be the smartest person in the CLASS”</td>
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</tr>
<tr>
<td><strong>Self-determination theory</strong></td>
<td>According to Edward Deci and Richard Ryan, the need for competence- being good at something, autonomy- a sense of control, and relatedness- need to belong and appreciate- motivate a person to perform a behavior.</td>
<td>What determines you are the best? Being good at something (competence) Knowing you have done it on your own (autonomy) Other people know how good you are (relatedness)</td>
</tr>
<tr>
<td><strong>Thematic apperception test (TAT)</strong></td>
<td>According to David McCelland, the TAT, which has a person tell a story of a scene he or she sees, measures a person’s level for achievement motivation.</td>
<td>You see a picture of a person falling down before the finish line- do you say the person should get up or do you think the person should rest</td>
</tr>
<tr>
<td><strong>Self-efficacy beliefs</strong></td>
<td>According to Albert Bandura, self-efficacy beliefs involve a person’s confidence at completing or doing a task</td>
<td>Similar to the Little Engine that Could- “I think I can, I think I can”</td>
</tr>
<tr>
<td><strong>Collectivistic self-efficacy</strong></td>
<td>A person’s overall support system when performing or completing tasks</td>
<td>The people in the crowd cheering you during the game</td>
</tr>
<tr>
<td><strong>Industrial-organizational psychology (I/O)</strong></td>
<td>Area of psychology that applies psychological concepts and ideals to optimize or improve the work place</td>
<td></td>
</tr>
<tr>
<td><strong>Personnel psychology</strong></td>
<td>A division of I/O psychology that attempts to match the right job with the right employee</td>
<td>The person who decides whether or not you get the job- the person who hires you</td>
</tr>
<tr>
<td><strong>Organizational psychology</strong></td>
<td>A division of I/O that addresses worker satisfaction and performance at their job</td>
<td>The person who trains and offers support while you are on the job</td>
</tr>
<tr>
<td><strong>Intrinsic motivation</strong></td>
<td>Motivation to achieve a personal goal or self-satisfaction for mastery</td>
<td>I for Intrinsic- “I want to be the best I can” (competence motivation)</td>
</tr>
<tr>
<td><strong>Extrinsic motivation</strong></td>
<td>Motivation to achieve an external or outside reward for performing a task</td>
<td>Ex for Extrinsic Ex for extra things “I will only work hard if I get EXTRA things”</td>
</tr>
<tr>
<td><strong>Theory Y</strong></td>
<td>Workers motivated to work through intrinsic motivation</td>
<td>Y for “Y do I work hard because I want to be the best employee”</td>
</tr>
<tr>
<td><strong>Theory X</strong></td>
<td>Workers motivated to work through extrinsic motivation</td>
<td>X for extra “I only work hard for Xtra things like pay raises”</td>
</tr>
<tr>
<td><strong>Hawthorne effect</strong></td>
<td>Tendency for individual to perform better when singled out or given special attention</td>
<td>Similar to giving a student’s stickers resulting in working harder to get more stickers</td>
</tr>
</tbody>
</table>
___ 1. A hormone when released acts as a neurotransmitter in the brain signaling short-term satiation.

A) Competence (need) motivation

___ 2. A hormone that is released in response to the amount of fat be secreted into the bloodstream signaling long-term satiation.

B) Set point theory

___ 3. A hormone that converts glucose into energy causing glucose levels to drop signifying hunger.

C) Basal metabolic rate (BMR)

___ 4. An area of the hypothalamus that is in charge of stopping hunger.

D) Lateral hypothalamus

___ 5. An area of the hypothalamus that initiates hunger.

E) Self-efficacy

___ 6. Regulates the expenditure and conversion of energy used to maintain our body's vital life functions.

F) Ventromedial hypothalamus

___ 7. A person's ideal weight regulated by homeostasis and maintained by the BMR.

G) CCK

___ 8. A type of motivation that is shown by people who are driven to master a task or achieve a personal goal.

H) Theory X

___ 9. According to Albert Bandura, a person's level of confidence when facing a task.

I) Leptin

___ 10. According to an Industrial-organizational psychologist, a theory that describes workers who are motivated to achieve external factors like a pay-raise.

J) Insulin
A. Physiology of Hunger

B. Satiety- condition of no longer wanting to eat
   1. Hypothalamus
      a. Lateral hypothalamus- brings on hunger
      b. Ventromedial hypothalamus- depresses hunger
         a. Satiety- condition of no longer wanting to eat
   2. Glucose- form of sugar that circulates throughout your body- run low on glucose and feel hungry- glucose a major source of energy in your body
      a. Orexin- hunger-triggering hormone produced by lateral hypothalamus- when glucose levels drop- orexin levels rise and you feel hungry
      b. Insulin- hormone that allows cells to use glucose for energy or convert it into fat- when insulin goes up- glucose goes down
   3. CCK- short-term signals to stop eating/ monitors hormones in the gut- sends signals to brain to stop eating
   4. Leptin- produced by bloated fat cells, which send long-term messages to stop eating- when leptin levels high- hunger decreases
   5. Set point- the point at which an individuals “weight thermostat” is set- when body falls below this weight, increased hunger and a lowered metabolic rate may act to restore the lost weight
      a. Basal metabolic rate- the body’s resting rate of energy expenditure
         a. Women slow than men
         b. Don’t eat- slower BMR
         c. Exercise- speeds up BMR

C. Psychology of Hunger
   1. External incentives- sight, sound, and smell of food seem to affect some people more than others/ for example increased insulin levels
   2. Culture- shape our attitudes toward eating
      b. Culture also affects taste

D. Obesity
   1. Body Mass Index- (BMI)- greater than 30- severely overweight

E. Eating Disorders
   1. Anorexia nervosa- normal weight people (usually adolescent females) suffer delusions about being overweight- put themselves on rigorous exercise and starvation diets that allow them to 15% or more underweight
   2. Bulimia nervosa- characterized by episodes of overeating- usually high calorie foods followed by vomiting, use of laxatives, fasting, or excessive exercise

F. Achievement Motivation
   1. Achievement- desire for significant accomplishment for mastery things, people, or ideas for attaining a high standard
      a. Henry Murray- Neo-Freudian who first established the concept of achievement
   2. David McClelland- pioneered the use of the TAT to measure individual differences in need for achievement
      a. People who score high in need for achievement tend to work harder and more persistently than others- can delay gratification
b. Need achievement (Competent motivation)- motive influenced by the degree to which a person establishes specific goals, cares about meeting goals, and experiences feelings of satisfaction with completion of goals
c. Achievement motivation- motivation and satisfaction based on outperforming others
d. Subjective well being- combination of cognitive judgment of satisfaction with life, frequent experiencing of positive moods and emotions

G. Motivating and Work
a. Industrial-organizational psychology- the application of psychological concepts and methods to optimize human behavior in workplaces
b. Personnel psychology- subfield of I/O psychology that focuses on employee recruitment, selection, placement, training, appraisal and development
c. Organizational psychology- a subfield of I/O psychology that examines organizational influences on worker satisfaction and productivity and facilitates change
d. Flow- a completely involved, focused state of consciousness with diminished awareness of self and time
   a. Task leadership- goal-orientated leadership that sets standards, organizes work, and focuses attention
   b. Social leadership- group orientated leadership that builds teamwork, mediates conflicts, and offers support
   c. Theory X- assumes that workers are basically lazy, error-prone and extrinsically motivated by money and thus should be directed
   d. Theory Y- assumes that given challenge and freedom, workers are intrinsically motivated to achieve self-esteem and demonstrate their competence and creativity
Introduction to Emotions

1. Emotions are related to motivation as people are motivated to experience happy emotions. Emotions are based on 3 factors:
   A. Cognitive appraisal
   B. Physiological reactions (which are innate)
   C. Expressive behaviors

2. The central nervous systems and the autonomic nervous system play a role in the activation of emotions. Which part of the autonomic nervous system arouses the body?
   _______________________________________
   a. As the body is confronted with a threatening stimulus through activation of the sympathetic nervous system by increasing breathing, heart-rate, muscles tightening, which is referred to as the ___________________________
   b. Also anger tends to raise skin temperature and fear tends to lower skin temperature.
   c. Emotions also cause different areas of the brain to become active. Which part of the limbic system is critical in learning emotions, especially recognizing emotional expression, and interpreting emotional stimuli?
   _______________________________________
   d. Which part of the brain is responsible for voluntary forming facial expressions? Pyramedial motor system
   e. Which part of the brain is responsible for natural face expressions? Extrapyradmidal motor system
   f. The _________ hemisphere is associated with the experience and expression of emotion.
Theories of Emotion

3. Identify the theories of emotion.

<table>
<thead>
<tr>
<th>Theory</th>
<th>Researchers</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>William James</td>
<td>Emotion is the result of the interpretation of bodily functions</td>
</tr>
<tr>
<td></td>
<td>Carl Lange</td>
<td>Criticism - if emotions are the result of changes in the body, then somebody with a spinal cord injury would not experience emotion. not true</td>
</tr>
<tr>
<td></td>
<td>Walter Cannon</td>
<td>Emotions are the result of the thalamus receiving sensory information about emotional stimuli and relaying the information simultaneously to the autonomic nervous system and cerebral cortex.</td>
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<tr>
<td></td>
<td>Phillip Bard</td>
<td></td>
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<tr>
<td></td>
<td>Stanley Schachter</td>
<td>Emotion is the result of the interaction of two separate factors:</td>
</tr>
<tr>
<td></td>
<td>Jerome Singer</td>
<td>Physiological arousal and a cognitive label that explains why there is physiological arousal.</td>
</tr>
<tr>
<td></td>
<td>Richard Lazarus</td>
<td>Emotions are the result of the cognitive appraisal of a situation and how a person decides it will affect his or her well-being</td>
</tr>
</tbody>
</table>

Emotional Expression

4. Carroll Izard believed that certain facial expressions are present at birth - like pain.  
   a. Smiling being around 3-4 weeks  
   b. Anger around 2 months  
   c. Fear around 6-7 months  

   c. Who believed that facial expressions are similar across many cultures?  
      Paul Ekman
1. Which part of the brain is responsible for facial recognition and proper emotional response? *RC: remember never make Amy mad because she may become emotional*
   A) Hypothalamus  
   B) Hippocampus  
   C) Cerebellum  
   D) Prefrontal cortex  
   E) Amygdala

2. Which theory of emotion suggests that the brain and body simultaneously experience emotion through relay of the thalamus due to stimuli response? *RC: Cannon becomes scared as Bard's heart starts to race*
   A) James-Lange  
   B) Cannon-Bard  
   C) Two-factor  
   D) Cognitive mediational  
   E) Facial feedback

3. Which theory of motivation is challenged as the idea of polygraphs do not necessarily mean guilt of an act? *RC: remember your heart accelerates the same whether its excitement or anger; James and Lange were friends until James got a girlfriend and Lange lost his best friend- both of them had the same changes in their body*
   A) Cannon-Bard  
   B) Facial feedback  
   C) James-Lange  
   D) Cognitive mediational  
   E) Two-factor

4. Larry's heart starts to race because he knows that the letter he is holding will read if he is going to be accepted to college? Larry's identification of why his heart is racing is described in which emotional theory? *RC: Oh no! my hear is racing I better find the label to explain to my brain why*
   A) James-Lange  
   B) Cannon-Bard  
   C) Cognitive mediational  
   D) Facial feedback  
   E) Two-factor

5. Which of the following statements best explains the difference between the Two-factor and Cognitive mediational theory of emotion? *RC: remember to mediate means to precede over a situation or event*
   A) Two factor is explained through a label explaining a change in the body; whereas the cognitive theory the brain decides the differences in emotional response.  
   B) Two factor looks at the situation; cognitive mediational theory looks at changes in the body.  
   C) Two factor is explained through a label explaining a change in the body; whereas the cognitive mediational theory is explaining the situation one is experiencing.  
   D) Both theories agree on the situation playing a little role and spinal cord separates what people experience.  
   E) Two factor is explained through a label explaining a change in the body
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotions</td>
<td>Comprised of cognitive appraisal-interpretation and thoughts, physiological reactions- body reactions, and expressive behaviors.</td>
<td>Interpret a part of a movie as funny (cognitive) start to feel good (physiological) then start to laugh (expressive behavior)</td>
</tr>
<tr>
<td>Fight-or-flight response</td>
<td>A body’s response to a threatening stimuli through activation of the sympathetic nervous system</td>
<td>When you are in danger you will either fight or run away (flight)</td>
</tr>
<tr>
<td>Galvanic skin response</td>
<td>Measures skin temperature that could indicate certain emotions</td>
<td>Nervous you get COLD feet/ Angry you get HOT under collar</td>
</tr>
<tr>
<td>Polygraph (lie detectors)</td>
<td>Machines that measure body fluctuations within a person that could indicate whether or not a person is lying</td>
<td>Simply measures changes in the sympathetic nervous system not if you are lying or not</td>
</tr>
<tr>
<td>Amygdala</td>
<td>A part of the brain that recognizes emotional facial expressions and interprets emotional stimuli</td>
<td>Never make Amy mad- she is very emotional</td>
</tr>
<tr>
<td>Cerebral cortex</td>
<td>A part of the brain central for the expression of emotion</td>
<td>Similar to the CPU of a computer</td>
</tr>
<tr>
<td>Right hemisphere</td>
<td>Area of the brain associated with the expression and experience of emotion</td>
<td>Right hemisphere allows you to display the RIGHT emotion- funny movie you laugh</td>
</tr>
<tr>
<td>James-Lange theory of emotion</td>
<td>Emotion result of interpreting changes that occur in the body</td>
<td>James will not laugh unless Lange tells him to laugh</td>
</tr>
<tr>
<td>Cannon-Bard theory of emotion</td>
<td>Emotions are the result of thalamus relaying information to the cerebral cortex, which interprets emotional stimuli, while at same moment information is sent to the automatic nervous system, which initiates changes in the body</td>
<td>Cannon and Bard start to laugh at the SAME TIME</td>
</tr>
<tr>
<td>Two-factor theory of emotion</td>
<td>Emotions are the result of two factors: a cognitive label, which labels a change in the body, and the change in the body that occurs.</td>
<td>Some people misinterpret the change in body/ Going to prom causes changes in body but you believe these changes are from your date</td>
</tr>
<tr>
<td>Cognitive mediational theory</td>
<td>Emotional appraisal or interpretation of a stimuli or event</td>
<td>This is interpretation of the situation NOT a change in your body/ door slams shut and you interpret this as scary</td>
</tr>
<tr>
<td>Facial feedback hypothesis</td>
<td>Certain facial expressions will cause you to feel certain emotions</td>
<td>If you simply smile you feel happy</td>
</tr>
<tr>
<td>Display rules</td>
<td>Cultural norms affect expression and intensity of emotions</td>
<td>You don’t laugh at funerals</td>
</tr>
<tr>
<td>___ 1.</td>
<td>A division of the autonomic nervous system that arouses the body and produces the fight-or-flight syndrome.</td>
<td>A) Autonomic nervous system</td>
</tr>
<tr>
<td>___ 2.</td>
<td>The hemisphere that is associated with the expression of emotions.</td>
<td>B) Display rules</td>
</tr>
<tr>
<td>___ 3.</td>
<td>An area of the brain that is critical for learning emotions, recognizing emotional expression, and the interpretation of emotional stimuli.</td>
<td>C) Cannon-Bard theory</td>
</tr>
<tr>
<td>___ 4.</td>
<td>Polygraphs do not necessary measure if a person is lying but overall changes in which nervous system?</td>
<td>D) Cognitive mediational theory</td>
</tr>
<tr>
<td>___ 5.</td>
<td>A theory of emotion that suggests emotion is the result of the interpretation of bodily fluctuations.</td>
<td>E) Amygdala</td>
</tr>
<tr>
<td>___ 6.</td>
<td>A theory of emotion that suggests emotions are the result of the thalamus receiving information about emotional stimuli and relaying the information simultaneously to the autonomic nervous system and the cerebral cortex.</td>
<td>F) Two-factory theory/ Schachter-Singer theory</td>
</tr>
<tr>
<td>___ 7.</td>
<td>A theory of emotion that suggests emotion is the result of the interaction of two factors: physiological arousal and a cognitive label that explains this fluctuation in the body.</td>
<td>G) Pain</td>
</tr>
<tr>
<td>___ 8.</td>
<td>A theory of emotion that suggests emotions are the result of the cognitive appraisal of a situation and how it affects their well-being.</td>
<td>H) James-Lange theory</td>
</tr>
<tr>
<td>___ 9.</td>
<td>According to Carroll Izard what facial expression is present at birth?</td>
<td>I) Sympathetic nervous system</td>
</tr>
<tr>
<td>___ 10.</td>
<td>Refers to cultural norms and how emotions should be displayed.</td>
<td>J) Right</td>
</tr>
</tbody>
</table>
1. Emotions - transitory positive or negative experience that is felt as happening to the self-generated in part by cognitive appraisal of situation, accompanied by both learned and innate physical responses - involving:
   1. Physiological arousal - increased heart rate
   2. Expressive behaviors - smiling, laughing
   3. Conscious experience - interpretation of situation or event

2. Theories of Emotions - Historical
   1. William James and Carl Lange - James-Lange theory - theory that our experience of emotion is awareness of our physiological responses to an emotion arousing stimulus
      a. Car accident - heart pounding (physiological arousal) then fear (emotion)
   2. Walter Cannon and Philip Bard - Cannon-Bard theory - theory that emotion arousing stimulus simultaneously triggers physiological responses and subjective (brain) experience of emotion
      a. Car accident - heart pounding (physical arousal) and fear (emotion) at same time
   3. Stanley Schachter and Jerome Singer - Two-factor theory of emotion - theory that to experience emotion one must be physically aroused and a cognitive label that explains the physiological arousal:
      a. Attribution - process of explaining the causes of an event
      b. Excitation transfer - process of carrying over arousal from one experience to an independent situation
         a. Car accident - pounding heart (physical arousal) and “I am afraid” cognitive label equals fear (emotion)
   4. Robert Zajonic - concluded that some emotional reactions involve no deliberate thinking and cognition is not always necessary for emotion-cognition and emotion are separate - before we know what we think about a situation we know how we feel - hear some rustling of leaves and our heart starts beating and we jump back and then our brain takes over and examines the situation
      a. Certain pathways skip the cortical thinking parts of the brain and take a more direct path to the amygdala - emotion control center of the brain - these short-cuts explain why our feelings are more likely to control our thoughts than our thoughts control our feelings - jumping at a noise before knowing what the noise is
   5. Cognitive mediational theory of emotion - Richard Lazaras - concluded that some emotional responses do not require conscious thought - he however does think that some sort of cognitive appraisal (if it is harmful or pleasant to us) is necessary or how would we know what we are reacting to - this maybe unconscious and we may not be aware of the label - example - rustling of leaves behind us cause us to be scared then we appraise the situation and notice that it is just the wind, which is not a threat to us
   6. Facial feedback hypothesis - expressing a specific emotion, especially facially, causes the subjective experience of that emotion
7. Evolutionary theories of emotion - assert that emotions are innate reactions that do not depend on cognitive processes
   a. Charles Darwin - face expressions tell people how one feels leads to survival

3. Physiological Changes due to Emotion
   1. Limbic system - activity in the amygdala - central to emotion
      a. Pyramidal motor system - voluntary facial movement - fake
      b. Extrapyramidal motor system - involuntary facial movement - automatic
      c. Right hemisphere - identification of emotions
   2. Autonomic nervous system - part of the nervous system that controls the glands and the muscles of the internal organs such as the heart
      a. Sympathetic nervous system - arousing the body - pupils dilate, salivation decreases, skin perspires, respiration increases, heart accelerates, digestion inhibits, stress hormones secrete
         a. SNS - releases norepinephrine - helping to prepare body for vigorous activity
      b. Parasympathetic nervous system - calms the body down - opposite responses of sympathetic nervous system
         a. PNS releases acetylcholine - neurotransmitter that helps protection, nourishment, and growth of body
         b. Lie detection - polygraph - detects emotional arousal - not lying

4. Expression of Emotion
   1. Nonverbal communication - body language and facial expressions - women tend to show more of face expressions
   2. Culture and gender - North American women smile more, use more gestures, and have more expressive face expressions - North American men seem to express one emotion more - anger
      a. Display rules - cultural rules governing how and when a person may express emotion
      b. Cultures also disagree about the meaning behind gestures - “ok” sign not a good idea in Italy
      c. Social referencing - process of letting another person’s emotional state guide our own behavior
Introduction to Stress

1. A negative emotional state in response to circumstances or situations that exceed a person’s ability to control them is referred to as stress.
   a. What type of psychologists study the effects of stress on the body?

b. Health psychologists believe that biological (genetics, family history), psychological (interpreting of stressful circumstances), and social (where one lives) play a part in a person’s health. This viewpoint is referred to as the biopsychosocial model.

Types of Stress

2. Circumstances, events, and situations that contribute to stress are called stressors.
   a. Minor inconveniences that occur somewhat daily are called daily hassles.
   b. Events that cause a person’s lifestyle to change are called life changes.
   c. According to the Social Readjustment Rating Scale, death of a spouse/death of a parent is considered for an adult the most stressful life change.

Causes of Stress

3. People experience a conflict when they are indecisive about the alternatives.
   a. Type of conflict that occurs when a person has to make a choice between two appealing or favorable alternatives is called an ____________________________
   b. Type of conflict that occurs when a person has to make a choice between two unappealing or negative alternatives is called an ____________________________
   c. The most stressful conflict, which involves an alternative that has both positive and negative attributes or parts is called a ____________________________
   d. Type of conflict that involves two choices each with both positive and negative attributes is called a ____________________________

4. When a goal is blocked this is referred to as frustration.
   a. What does a person experience when extra demands are placed on a person to perform or conform?

Pressure
Stress and the Body

5. Stress can affect the body both indirectly, causing a person to smoke, and also directly through weakening the immune system. Stress directly affects the endocrine system. Walter Cannon found that the body experiences changes at an immediate threat—referred to as the fight-or-flight syndrome:

1. They hypothalamus and lower-brain structures activate the ____________________

2. Their sympathetic nervous system then activates the adrenal medulla

3. The adrenal medulla releases hormones called ____________________ (which include the hormones adrenaline and noradrenaline that circulate in the body, and the neurotransmitters epinephrine and norepinephrine that circulate in the brain)

4. Catecholamines circulate in the bloodstream that cause increases in heart rate, blood pressure, respiration, increased blood flow the muscles, pupils to dilate, and digestion to slow.

6. Hans Seyle studied the effects of prolonged stress. He referred to the toll stress has on the body as the ______________________

a. Fill in Seyle’s GAS chart:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>___________</td>
<td>Intense body arousal as threat of a stressor is interpreted—causes the</td>
</tr>
<tr>
<td>___________</td>
<td>release of catecholamines—fight-or-flight syndrome</td>
</tr>
<tr>
<td>___________</td>
<td>The body trying to adjust to the intense arousal triggered in the alarm</td>
</tr>
<tr>
<td>___________</td>
<td>stage—release of corticosteroids</td>
</tr>
<tr>
<td>___________</td>
<td>If stressor continues to arouse body—becomes exhausted which can lead to</td>
</tr>
<tr>
<td></td>
<td>burn-out</td>
</tr>
</tbody>
</table>

b. Selye also discovered a second endocrine pathway that occurs during exposure to prolonged stress:

1. Their hypothalamus triggers the ____________________

2. The pituitary gland then releases adrenocorticotropic hormone (ACTH)

3. ACTH triggers the adrenal cortex to release the stress hormones known as ____________________

4. Corticosteroids increase the release of stored energy and reduce the response of the immune system.
The Effects of Stress on the Immune System

7. Who demonstrated that the immune system could be affected by psychological thought processes?

Robert Adler and Nicholas Cohen

a. This led to the development of psychoneuroimmunology, a field of psychology that looked for connections of the psychological, nervous, and the immune system.

Beating Stress and Promoting Wellness

8. Identify different types of handling stress:

<table>
<thead>
<tr>
<th>Method</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived control</td>
<td>The more sense of control a person has over a situation or circumstances, the less stress that person will encounter</td>
</tr>
<tr>
<td>Optimistic</td>
<td>explain negative events through specific explanations and consideration of external factors</td>
</tr>
<tr>
<td>Pessimistic</td>
<td>explain negative events with personal vindication and self-defeating attitudes</td>
</tr>
<tr>
<td>Social support</td>
<td>Advice and resources provided by knowledgeable and productive friends and family</td>
</tr>
</tbody>
</table>

Coping Strategies

9. Coping refers to the adjustments and changes made to handle stressful situations or circumstances.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addressing problem by changing the factors associated with the problem</td>
<td></td>
</tr>
<tr>
<td>Changing certain emotions that are triggered by a stressor (anger management)</td>
<td></td>
</tr>
</tbody>
</table>

The Role of culture on Stress

10. What type of culture, like the United States, tends to keep problems to themselves, and rely more on problem-focused coping strategies?

a. Which type of culture relies more on emotion-focused coping through relying on people and social support?

b. What type of stress occurs through the pressure of trying to adapt or assimilate to a new culture?

Acculturative stress
1. Jimmy wants to buy a car but he is torn because on one hand the car looks sharp, but on the other it gets bad gas mileage. Which type of conflict is Jimmy experiencing? *RC: Remember most things have good and bad points; some make you approach and others avoid*
   A) approach-approach  D) double avoidance
   B) avoidance-avoidance  E) multiple approach
   C) approach-avoidance

2. According to Hans Seyle's General Adaptation Syndrome, in which stage are catecholamines released in turn causing flight-or-flight syndrome in response to a stressful stimuli? *RC: think of catecholamines as fire engines racing out of the firehouse at the sound of an alarm*
   A) Alarm  B) Resistance  C) Exhaustion  D) Denial  E) Reaction

3. According to Hans Seyle's General Adaptation Syndrome, in which stage are corticosteroids released helping the body fight the struggles of prolonged stress? *RC: people are amazed how much energy they have during stressful times; it is because they have little helpers fighting the stress battle*
   A) Alarm  B) Resistance  C) Exhaustion  D) Denial  E) Baseline

4. Which of the following would support an optimistic explanatory style? *RC: remember "O there is a good reason why the outcome occurred that way"*
   A) A football player thinks that he should quit because he will never be any good.
   B) A student who did not picked for a leading role in a play thinks the teacher does not like him.
   C) Sarah understands that other students are more qualified as why she did not get chosen for the leadership.
   D) Frank says that his parents will call the coach and make sure that he plays the next game.
   E) June takes pride in knowing she cheated on the recent exam.

5. Which of the following is NOT a characteristic of Type A behavior? *RC: remember A for angry, agitated....*
   A) Competitive  D) Patient
   B) Easily annoyed  E) Consumed with time
   C) Prone to heart disease
<table>
<thead>
<tr>
<th>Key Term</th>
<th>Definition</th>
<th>Analogy</th>
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</thead>
<tbody>
<tr>
<td>Stress</td>
<td>An emotional response to circumstances or situations that exceed a person’s ability to cope</td>
<td>Stress occurs when your routine is disrupted or changed</td>
</tr>
<tr>
<td>Health psychologists</td>
<td>Study how people interpret stressful situations and the effect stress has on the body</td>
<td>These are people that counsel people have a heart-attack or stroke to help them live healthier lives</td>
</tr>
<tr>
<td>Stressors</td>
<td>Circumstances, events, or situations that cause stress</td>
<td>Traffic jams</td>
</tr>
<tr>
<td>Daily hassles</td>
<td>Minor inconveniences that occur throughout the day</td>
<td></td>
</tr>
<tr>
<td>Life changes</td>
<td>Events and situations that cause a person’s life to dramatically change as shown on the Social Readjustment Scale; death of spouse/parent most stressful</td>
<td></td>
</tr>
<tr>
<td>Approach-approach conflict</td>
<td>Having to make a choice between two appealing items or choices</td>
<td>Choosing between 2 movies you want to rent but only have money for one</td>
</tr>
<tr>
<td>Avoidance-avoidance conflict</td>
<td>Having to make a choice between two non-appealing items or choices</td>
<td>Not liking math classes but having to choose one to graduate</td>
</tr>
<tr>
<td>Approach-avoidance conflict</td>
<td>A choice that has both positive and negative characteristics; considered the most stressful</td>
<td>Most realistic- an option usually has positive and negative points</td>
</tr>
<tr>
<td>Multiple-approach-avoidance conflict</td>
<td>Two choices that have both positive and negative characteristics</td>
<td></td>
</tr>
<tr>
<td>Frustration</td>
<td>Occurs when a goal is blocked from either losing or failure</td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td>Extreme demands place on a person to perform or conform</td>
<td></td>
</tr>
<tr>
<td>Flight-or-flight syndrome</td>
<td>Hypothalamus triggers the sympathetic nervous system to activate adrenal medulla to release catecholamines, which include the hormones noradrenaline and adrenaline and neurotransmitters norepinephrine and epinephrine that increase blood pressure, respiration, slows down digestion, dilates pupils</td>
<td>S for Sympathetic  S for speeds up Remember CATS are very quick just like catecholamines that race through body making you excited Occurs when you first realize bad news- your body responds before you really understand what happen</td>
</tr>
<tr>
<td>Prolonged stress</td>
<td>Hypothalamus triggers the pituitary gland to release adrenocorticotropic hormone (ACTH) to trigger the adrenal cortex to release the stress hormones corticosteroids that release stored energy</td>
<td>Pituitary gland is like a drippy faucet- the drip is very slow but does continue to drip throughout the day like having a stressful weak</td>
</tr>
<tr>
<td>General adaptation syndrome (GAS)</td>
<td>According to Hans Seyle, a person goes through three stages of stress: alarm stage- characterized by release of catecholamines in the fight-or-flight syndrome/ resistive stage- body trying to cope with the effects of stress through releasing corticosteroids/ and exhaustive stage- when body becomes burned out or exhausted resulting in sickness</td>
<td>ARE you stressed? A for Alarm stage R for Resistance stage E for Exhaustive stage</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Psychoneuroimmunology</td>
<td>A field that examines the connections between psychological, nervous systems, and the immune system in relation to stress</td>
<td></td>
</tr>
<tr>
<td>Lymphocytes</td>
<td>Battle harmful bacteria and viruses</td>
<td></td>
</tr>
<tr>
<td>Perceived control</td>
<td>More control over a situation the less stress a person experiences</td>
<td></td>
</tr>
<tr>
<td>Optimistic explanatory style</td>
<td>Explaining negative events through specific explanations</td>
<td>O for optimistic/ O for there must be a reason why the outcome occurred</td>
</tr>
<tr>
<td>Pessimistic explanatory style</td>
<td>Explaining negative events through personal faults</td>
<td>P for pessimistic/ P for personal reason</td>
</tr>
<tr>
<td>Type A behavior</td>
<td>Characterized by aggressive, competitive, and impatient behavior; often leads to coronary heart disease</td>
<td>A for angry person</td>
</tr>
<tr>
<td>Type B behavior</td>
<td>A more relaxed type of behavior</td>
<td>B for B relaxed</td>
</tr>
<tr>
<td>Catharsis</td>
<td>According to Sigmund Freud, the releasing or displacement of emotional aggression and tension</td>
<td>Going and working out after a bad day</td>
</tr>
<tr>
<td>Problem-focused coping</td>
<td>Coping strategies that emphasize addressing the problem</td>
<td>Addressing the PROBLEM-switching classes because you don’t like a fellow student</td>
</tr>
<tr>
<td>Emotion-focused coping</td>
<td>Coping strategies that address negative emotions associated with a specific problem</td>
<td>Addressing the EMOTIONS connected with the problem- not getting mad when you see a certain individual</td>
</tr>
<tr>
<td>Individualistic cultures</td>
<td>Cultures, like America, that emphasize the individual and utilize problem-focused coping</td>
<td>Americans will usually go and tell a person their feelings for that person</td>
</tr>
<tr>
<td>Collectivistic cultures</td>
<td>Cultures, like tribal cultures, that focus on the group, and utilize emotion-focused coping</td>
<td>Collectivistic cultures consider the group before speaking their dislike for a person</td>
</tr>
<tr>
<td>Acculturative stress</td>
<td>Stress that occurs for people trying to assimilate into a new culture</td>
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<td></td>
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<td></td>
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<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td><strong>1.</strong> A type of conflict when a person has to choose between two appealing choices.</td>
<td>A) Catecholamines</td>
<td></td>
</tr>
<tr>
<td><strong>2.</strong> A type of conflict considered the most stressful as one alternative has both positive and negative characteristics.</td>
<td>B) Catharsis</td>
<td></td>
</tr>
<tr>
<td><strong>3.</strong> According to Walter Cannon, during flight-or-flight syndrome the hypothalamus causes the sympathetic nervous system to activate the:</td>
<td>C) General adaptation syndrome</td>
<td></td>
</tr>
<tr>
<td><strong>4.</strong> A group of hormones when circulating in the bloodstream increase heart rate, blood pressure, respiration, pupils to dilate and digestion to slow down.</td>
<td>D) Alarm stage</td>
<td></td>
</tr>
<tr>
<td><strong>5.</strong> According to Hans Selye, refers to how stress affects the body in three stages.</td>
<td>E) Approach-approach conflict</td>
<td></td>
</tr>
<tr>
<td><strong>6.</strong> The first stage of the general adaptation syndrome that is characterized by the flight-or-flight syndrome through the release of catecholamines.</td>
<td>F) Corticosteroids</td>
<td></td>
</tr>
<tr>
<td><strong>7.</strong> According to Hans Seyle, during prolonged periods of stress the body releases ______ that increases stored energy but reduce the immune system; occurs during the resistive stage of the general adaptation syndrome.</td>
<td>G) Type A behavior</td>
<td></td>
</tr>
<tr>
<td><strong>8.</strong> A type of behavior described by Meyer and Friedman that is described as impatient, competitive, and prone to heart disease.</td>
<td>H) Approach-avoidance conflict</td>
<td></td>
</tr>
<tr>
<td><strong>9.</strong> According to Sigmund Freud, the releasing and displacement of emotional tension through various positive outlets.</td>
<td>I) Problem-focused coping</td>
<td></td>
</tr>
<tr>
<td><strong>10.</strong> A type of constructive coping that addresses the problem and conflicts associated with the problem.</td>
<td>J) Adrenal medulla</td>
<td></td>
</tr>
</tbody>
</table>
A. Stress- process of adjusting to circumstances that disrupt, or threaten to disrupt, a person’s equilibrium
   a. Stressor- an event or situation to which people must adjust
   b. Stress reaction- physical, psychological, and behavioral response that occurs at stressor
   c. Appraisal- how people interpret stress
1. Health Psychology- a subfield of psychology that focuses on how stress affects our well-being and our health
2. Behavioral medicine- an interdisciplinary field that integrates behavioral and medical knowledge and applies that knowledge to health and disease

B. Responding to Stress
1. Walter Cannon- American psychologist who concluded that physiological and emotional experiences occur simultaneously
   a. Fight-of-Flight- physical reaction initiated by the sympathetic nervous system that prepare the body for- anger (fight) or flee from it- fear (flight)
   b. Acute stress:
      i. Hypothalamus causes
      ii. Sympathetic nervous system causes
      iii. Adrenal medulla (inner surface) causes
      iv. Release of catecholamines- increased respiration, heart rate, blood pressure, blood to muscles, digestion slows, pupils dilate
   c. Prolonged Stress
      i. Hypothalamus causes
      ii. Pituitary gland causes
      iii. ACTH (hormone) causes
      iv. Adrenal cortex (outer surface) causes
      v. Release of corticosteroids- increased stored energy, reduces inflammation, reduces immune system
      vi. Release of endorphins- dull pain
2. Hans Selye- Psychologists who researched a recurring response to stress that he called the general adaptation syndrome
   a. General adaptation syndrome (GAS)- Selye’s concept of the body’s adaptive response to stress in three stages, alarm, resistance, exhaustion
      1. Alarm reaction- Nervous system is activated following an emotional or physical trauma- your body gets ready for the event (same as Walter Cannon’s description of fight-or-flight)
      2. Resistance- outpouring of stress-related hormones keep your respiration, temperature, and blood pressure high
      3. Exhaustion- with extended exposure your body’s reserves become depleted and exhaustion happens in illness and eventually death- flood of stress hormones appears to shrink the hippocampus which may explain why recall is hard after a stressful event
         a. Diseases of adaptation- illnesses that are caused or worsened by stressors
         b. Burnout- gradually intensifying pattern of physical, psychological, and behavioral dysfunction in response to continuous flow of stressors
C. Sources of Stress
   1. Daily hassles - reoccurring sources of aggravation
   2. Acute stressors - short bouts of stress
   3. Chronic stressors - long term bouts of stress
   4. Life changes - noticeable change that requires readjustment - death of a loved one, marriage, having a child
      a. Determined by life change units - death of a spouse/death of a parent highest on Social Readjustment Rating Scale
   5. Catastrophes - earthquakes, floods, wars
   6. Pressure - expectations to perform or conform
   7. Frustration - goal is blocked - failures and losses
   8. Conflicts - decision between two choices
      a. Approach-approach - choice must be made between two appealing goals
      b. Avoidance-avoidance - choice must be made between two unattractive goals
      c. Approach-avoidance - most stressful - choice must be made about a goal that has good and bad aspects or points
      d. Multiple-approach-avoidance conflict (double) - two alternatives - each with positive and negative characteristics.

D. Stress and the Immune System
   1. Psychoneuroimmunology - research the interaction of psychological, social, behavioral, neural, hormonal, and immune system processes that affect the body’s defenses against disease
   2. Psychophysiological illness - “mind-body” illnesses - any stress related physical illness such as hypertension and some headaches
   3. Lymphocytes - two types of white blood cells that are part of the body’s immune system
      a. B lymphocytes - in bone marrow and release antibodies that fight bacterial infections
      b. T lymphocytes - in the thymus - attack cancer cells, viruses, and foreign substances
         i. Stress hormones reduce lymphocytes

E. Coronary heart disease - number 1 killer among Americans

F. Martin Seligman - American psychologist and proponent of positive psychology
   1. Wellness - common result of a healthy lifestyle and healthy attitude
      a. Family and Friends - support home and friends leads to wellness
      b. Faith factor - faith leads to wellness
   2. Positive Psychology - subfield of psychology that focuses on the study of optimal human functioning and the factors that allow individuals and communities to thrive
      a. Flow - state of optimal experience - for flow to occur - the experience must be a challenge requiring skill have clear goals and provide feedback
      b. Happiness - leads to high self-esteem, optimistic outlooks, outgoing, close friendships, good work skills/ not connected to age, gender, parenthood, physical attractiveness
   3. Explanatory style - habits we have for thinking about the good or bad causes or events
      a. Optimism - positive - things will work - other causes besides oneself
b. Pessimism- negative- find fault within oneself for outcomes- things will never get better

4. Quit smoking leads to wellness
   a. Smoking affects dopamine receptors

5. Weight control and losing weight
   a. Reduce exposure to tempting food cues
   b. Boost metabolism
   c. Be patient and realistic about losing weight

6. More aerobic exercise

7. Social support network- friends and social contacts

G. Effects of Perceived Control

1. Type A personality vs. Type B personality- Friedman and Rosenman’s
   a. Type A personality- term for competitive, hard-driving, impatient, verbally aggressive and anger-prone people/ risk for heart disease
   b. Type B personality- easygoing and relaxed people

2. Predictability- tend to have less impact

3. Perception of control- people with more control have less impact from stressors

H. Coping strategies

1. Problem focused coping- addressing the problem
   a. Confronting
   b. Seeking social support

2. Emotion-focused coping
   a. Self-controlling
   b. Distancing- try to not think about
   c. Positive reappraisal – changing your mind- minimize negative/ emphasize positive
   d. Accepting responsibility
   e. Escape/avoidance- wishful thinking
   f. Downward comparison—compare self to those less fortunate

3. Cultures
   a. Individualistic cultures- favor problem-focused coping- not seek social support
   b. Collectivistic cultures- favor emotion-focused coping- seek social support
1. **Homeostasis** – the maintaining of a balanced internal state in the body (like body temp) / **Drive-reduction theory** - needs like water and food not being met produce *internal drives* like thirst and water which motivate a person to reduce the drives and satisfy the needs - needs are monitored through homeostasis

2. **Abraham Maslow** - *Humanistic Psychology* - perspective of psychology that emphasizes a person’s *innate* growth and free will through the motivation to reach *self-actualization* - reaching fullest potential or being all you can be, (Maslow thought Abraham Lincoln and Eleanor Roosevelt achieved self-actualization but never met) through addressing and satisfying levels in the hierarchy of needs – physiological (hunger) first to be satisfied, then safety, then love, then cognitive, finally self-actualization (very few people ever reach this level) Clayton Alderfer- did not believe each level had to be addressed before as seen with Ghandi- not addressing physiological level to reach self-actualization

3. **Optimum arousal theory** (Arousal theory) - people are motivated to maintain an optimum level of arousal; explains boredom, boring day you want something more exciting at night for boring day/ Yerkes Dodson law of arousal - performance best when situation offers moderate level of arousal - too boring don’t try, too hard you give up

4. **Incentive theory** - *intrinsic motivation* - doing tasks for personal reasons or satisfaction / *extrinsic motivation* - doing tasks for extra incentives like money, extra credit - **overjustification effect** - is the result of giving extrinsic motivation for a behavior that was once intrinsically performed that now is only done if something extra is given like getting paid to play a sport

5. **Industrial-organizational psychology** - apply psychological aspects to improve workplace and employee satisfaction and productivity done through organizational psychology (division of I/O) and matching employees with the proper job as administered by *personnel psychology* (division of I/O) **Theory Y** - workers need to be challenged and are best motivated through intrinsic motivation/ **Theory X** - workers are lazy and need extrinsic motivation

6. **Competence motivation** - need to be the best one can be/ **Achievement motivation** need to outperform other people measured through TAT test by David McClelland.

7. **Hunger** - controlled by Hypothalamus / lateral hypothalamus starts hunger through the release of the hormone orexin / ventromedial hypothalamus stops hunger / Glucose- sugar that circulates through body - used for energy, when glucose is low we feel hungry / Insulin converts glucose to energy- when goes up glucose does down and you get hungry

8. **BMR** - basal metabolic rate- rate at which body conserves or burn off calories- obese people that have a BMI (body mass index of greater than 30 is obese and have a higher BMR.) CCK short term signals for satiation or fullness/ Leptin- based on amount of fat in blood stream long-term signals for satiation or fullness - leptin resistance- obese people that have brains that don’t respond to amount of leptin in blood/ **Set point theory** - body weight maintained through homeostasis- person’s ideal weight affects way BMR works

9. **Theories of Emotion that involve the right hemisphere** - William James and Carl Lange- James-Lange theory- stimulus (seeing a snake) leads to physiological arousal and from this arousal a person then experiences emotion (like heart beating then experience emotion of fear); can’t support spinal cord injuries or that a heart can race for a number of emotions which explains why polygraphs that just measure changes in the body and not a good device to determine lying for example being nervous same body response as lying / Walter Cannon/ Philip Bard- Cannon Bard theory- physiological response and
interpretation of stimuli by the brain occur at the same time through the thalamus relaying signals to the autonomic nervous system and cerebral cortex resulting in emotion- a snake causes the body to show change as brain interprets this as a fearful stimulus at the SAME TIME/ **Two-factor theory - Schachter and Singer**- consider more cognitive components and suggest physiological arousal and a cognitive label that explains why there is arousal taking place “My heart is racing because I am about to take a test” resulting in emotion- often people mislabel arousal in body, such as loving someone in a scary situation / **Richard Lazaras - cognitive mediational theory**; appraisal or the interpretation of a stimuli results in emotion… the interpretation of leaves starting to blow leads to fear (**difference between Two-factor and cognitive mediational theory is two-factor interprets changes in body and mediational theory interprets the situation**) Robert Zajonic- emotions happen without brain interpretation; jump then think about after why jumped which means information goes directly to **amygdala**- emotional control center that recognizes face expressions and proper emotion associated with each/ instead Zajonic states information does not first go to the cerebral cortex or frontal lobes

10. **Stress**: Walter Cannon- **Fight-or-Flight response**- hypothalamus triggers sympathetic nervous system which causes **adrenal medulla to release catecholmines** which include hormones adrenaline and noradrenaline to be released in the body or through the endocrine system and neurotransmitters epinephrine and norepinephrine to be circulated in brain preparing for a fight or a flight reaction

11. **Reacting to Stress**: General Adaptation syndrome (Hans Seyle) - **Alarm reaction** (fight or flight reaction), **Resistance stage** (release of stress-related hormones- **corticosteroids** which reduce inflammation in body and provide energy to battle stress but reduces lymphocytes or our white blood cells of the immune system making us more prone to get sick), **Exhaustion stage** (body reserves become low and get sick)

12. **Types of Stress**: **Conflicts** - approach-approach- choosing between 2 equally like choices/ avoidance-avoidance- choosing between choices don’t like / **Approach-avoidance**- one item that has good and bad points- most stressful / **Multiple approach-avoidance**- 2 items that have good and bad points/ **Life changes**- according to social readjustment scale- losing a parent- child or a spouse- adult considered most stressful

13. **Constructive Coping**- **emotion focused coping**- handling emotions associated with a problem/ **problem-focused coping**- addressing and fixing problem associated with problem/ **Individualistic cultures**, America who stresses ourselves, use problem-focusing coping/ and **Collectivistic cultures**, stress good of the group, use emotion-focused coping

14. **Explanatory style**- **optimistic**- give specific reason for outcome- **pessimistic**- give negative, vague explanation for outcome, and attack themselves personally for outcome

15. **Type A personality**- very competitive and impatient prone to coronary heart disease number 1 killer among humans/ **Type B**- more relaxed

16. **Catharis theory**- according to Freud- people must find socially acceptable outlets for frustration and release pent up aggression or will self-destruct or doing something stupid

17. **Acculturative stress**- stress trying to assimilate to a new culture

18. **Biofeedback**- being able to consciously control your autonomic nervous system and calm yourself down
<table>
<thead>
<tr>
<th><strong>Drive reduction theory</strong> - motivation is to reduce an internal drive through satisfying biological need</th>
<th><strong>Vs.</strong></th>
<th><strong>Instinct theory</strong> - motivation is based on instincts - fixed, not learned patterns of behavior specific to environmental stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrinsic motivation</strong> - motivation based on internal or personal reasons for behavior</td>
<td><strong>Vs.</strong></td>
<td><strong>Extrinsic motivation</strong> - motivation based on attaining external or inside factors such as money</td>
</tr>
<tr>
<td><strong>Competence motivation or intrinsic motivation</strong> - the desire to be good or competent at something for personal reasons</td>
<td><strong>Vs.</strong></td>
<td><strong>Achievement motivation</strong> - the desire to outperform other people for achievement reasons; often measured through the TAT (thematic apperception test)</td>
</tr>
<tr>
<td><strong>Self-actualization</strong> - the pursuit of self-mastery or living up to one's potential or personal best</td>
<td><strong>Vs.</strong></td>
<td><strong>Incentive theory</strong> - behavior based on attaining certain incentives like pay raises or trophies</td>
</tr>
<tr>
<td><strong>Theory Y</strong> - workers need to be challenged through intrinsic motivation</td>
<td><strong>Vs.</strong></td>
<td><strong>Theory X</strong> - workers need extra things, like pay raises in order to become motivated</td>
</tr>
<tr>
<td><strong>Lateral hypothalamus</strong> - part of the hypothalamus that starts hunger</td>
<td><strong>Vs.</strong></td>
<td><strong>Ventromedial hypothalamus</strong> - part of the hypothalamus that stops hunger point of satiation</td>
</tr>
<tr>
<td><strong>CCK</strong> - hormone that signals short-term satiation or full</td>
<td><strong>Vs.</strong></td>
<td><strong>Leptin</strong> - hormone that signals long-term satiation connected to fat intake</td>
</tr>
<tr>
<td><strong>Insulin</strong> - hormone that converts sugar to energy - runs low feel hungry</td>
<td><strong>Vs.</strong></td>
<td><strong>Orexin</strong> - hormone responsible for becoming hungry</td>
</tr>
<tr>
<td><strong>Right hemisphere</strong> - processes emotional aspects</td>
<td><strong>Vs.</strong></td>
<td><strong>Amygdala</strong> - facial recognition and proper emotional display</td>
</tr>
<tr>
<td><strong>James-Lange theory of emotion</strong> - emotion is the result of changes within the body</td>
<td><strong>Vs.</strong></td>
<td><strong>Cannon-Bard theory of emotion</strong> - emotion is the result of an interpretation of the brain while there is a change in the body</td>
</tr>
<tr>
<td><strong>Two-factor (Schachter-Singer theory)</strong> - emotion result of a cognitive label explaining why there is a change in the body</td>
<td><strong>Vs.</strong></td>
<td><strong>Cognitive mediational theory</strong> - a cognitive interpretation of a situation accounts for emotion displayed</td>
</tr>
<tr>
<td><strong>Seyle’s</strong> - Alarm stage - Fight-or-Flight - the release of catecholamines that cause body to become aroused in response to stimuli</td>
<td><strong>Vs.</strong></td>
<td><strong>Seyle’s</strong> - Resistive stage - outpouring of corticosteroids that battle effects of stress on body</td>
</tr>
<tr>
<td><strong>Approach-approach conflict</strong> - choosing between 2 appealing or good choices</td>
<td><strong>Vs.</strong></td>
<td><strong>Approach-avoidance</strong> - an item with both good and bad points</td>
</tr>
<tr>
<td><strong>Type A behavior</strong> - aggressive, impatient, angry people</td>
<td><strong>Vs.</strong></td>
<td><strong>Type B behavior</strong> - relaxed, go-with-the-flow behavior</td>
</tr>
<tr>
<td><strong>Optimistic explanatory style</strong> - finding possible reasons for outcomes</td>
<td><strong>Vs.</strong></td>
<td><strong>Pessimistic explanatory style</strong> - finding personal fault for outcomes</td>
</tr>
<tr>
<td><strong>Individualistic cultures</strong> - use problem-focused coping strategies - including confrontation of problem</td>
<td><strong>Vs.</strong></td>
<td><strong>Collectivistic cultures</strong> - use emotion-focused coping strategies and try to addresses emotions connected with the problem thinking about good of group</td>
</tr>
</tbody>
</table>
1. Internal and external factors that direct an organism’s behavior towards a desired outcome is referred to as (A) emotion (B) homeostasis (C) motivation (D) arousal (E) behavior

2. Jimmy got up in the middle of night for a drink of water because he was thirsty. Which theory of motivation best explains why Jimmy got out of bed? (A) Instinct theory (B) Optimum arousal theory (C) James-Lange theory (D) Drive-reduction theory (E) Self-actualization

3. Jenny wants to leave a party because it is boring and go somewhere that is more exciting. Which theory of motivation would explain Jenny’s reason for leaving the party? (A) Instinct theory (B) Optimum arousal theory (C) Drive-reduction theory (D) Cannon-Bard theory (E) James-Lange theory

4. Joe was motivated to work flex-time at his job because if he worked an extra hour Monday through Thursday he could leave at noon on Friday. Which motivational theory would best explain the rationale for Joe’s wanting to work a flex-time schedule? (A) Drive-reduction theory (B) James-Lange theory (C) Instinct theory (D) Incentive theory (E) Yerkes-Dodson law

5. CCK is a signal for satiety of ___ hunger, and leptin is a signal for satiety of ___ hunger. (A) long-term; short-term (B) short-term; long-term (C) long-term; long-term (D) short-term; short-term (E) none of the above

6. As Tommy was mowing his lawn on a hot summer day, he started to sweat profusely. Tommy began to sweat to cool his body in response to his body temperature becoming too hot. What refers to maintaining a constant internal state within the body? (A) Drive (B) Parallel processing (C) Homeostasis (D) Hemoglobin (E) Activity-synthesis

7. ___ hypothalamus initiates hunger, and ___ hypothalamus stops hunger. (A) Lateral; lateral (B) Ventromedial; lateral (C) Ventromedial; ventromedial (D) Lateral; ventromedial (E) Amygdala; ventromedial

8. Suzy has started to consume less and less food. She also spends three to four hours at the gym working out each day. The mention of food upsets her, and she won’t listen to anybody who suggests that she is not eating enough. Suzy may be suffering from (A) anorexia nervosa (B) bulimia nervosa (C) the misinformation effect (D) serial processing (E) the egocentrism effect
9. When Jimmy started to learn to play golf, he struggled with the fundamentals. Instead of quitting, Jimmy continued to practice and tried to get better. This pursuit of self-mastery or realization of his potential is referred to as
(A) love and belongingness needs
(B) safety needs
(C) physiological needs
(D) personal needs
(E) self-actualization

10. The ___, a part of the limbic system, is important in perceiving emotion.
(A) hippocampus
(B) amygdala
(C) hypothalamus
(D) pons
(E) cerebellum

11. When Julie heard a noise outside her window, her heart started to beat faster, and as a result she became scared. Which theory of emotion could best explain Julie’s response of fear?
(A) Cannon-Bard theory of emotion
(B) James-Lange theory of emotion
(C) Two-factor theory of emotion
(D) Cognitive-mediational theory of emotion
(E) Facial-feedback hypothesis

12. Which theory suggests that emotion is the result of applying a cognitive label to explain a physiological reaction?
(A) Cannon-Bard theory of emotion
(B) James-Lange theory of emotion
(C) Schachter-Singer’s two-factor theory of emotion
(D) Cognitive-mediational theory of emotion
(E) Facial-feedback hypothesis

13. ___ psychology is a field of psychology that studies the effects of stress on the human body and shows how to handle stress by promoting a positive lifestyle.
(A) Cognitive
(B) Behavioral
(C) Industrial-organizational
(D) Health
(E) Social

14. In the fight-or-flight response, the adrenal medulla releases ___, a hormone that alerts the body by elevating heart rate and respiration while tightening muscles.
(A) catecholamines
(B) corticosteroids
(C) melatonin
(D) insulin
(E) leptin

15. Tracy doesn’t like to talk in front of large groups, so she convinces a co-worker to join her scheduled presentation. Which strategy did Tracy use?
(A) Catharsis expression coping
(B) Constructive coping
(C) Denial coping
(D) Perceptual inconsistency coping
(E) Self-indulgence coping
1. **Answer: C**. Motivation refers to the internal and external factors that affect an organism’s behavior.

2. **Answer: D**. The drive-reduction theory of motivation says that organisms are driven to satisfy biological needs that are not being met.

3. **Answer: B**. The optimum arousal theory states that people are motivated to maintain a certain amount of arousal.

4. **Answer: D**. Incentive theory suggests that people are pushed or motivated by appealing stimuli, such as being able to leave work early on a Friday.

5. **Answer: B**. CCK sends signals that signify short-term satiation, as during a meal, and leptin sends signals that signify the amount of fat in the bloodstream, which contributes to long-term satiation.

6. **Answer: C**. Homeostasis monitors the internal states of the body, producing tension when levels become too high or too low.

7. **Answer: D**. The lateral hypothalamus initiates hunger and the ventromedial hypothalamus stops it.

8. **Answer: A**. Anorexia nervosa is an eating disorder characterized by lack of caloric intake, vigorous exercise, and a fear of gaining weight.

9. **Answer: E**. Self-actualization, according to Abraham Maslow, is on top of the hierarchy of needs and signifies mastery and working at potential.

10. **Answer: B**. The amygdala is located in the limbic system and is responsible for expressing and perceiving emotion.

11. **Answer: B**. The James-Lange theory of emotion states that emotions are the result of physiological changes in the body.

12. **Answer: C**. The two-factor theory of emotion states that emotion is the result of providing a cognitive label as an explanation for changes in physiological responses.

13. **Answer: D**. Health psychology studies the effects of stress by providing information that helps people learn what stress is and how it affects the body.

14. **Answer: A**. Catecholamines are released into the bloodstream by the adrenal medulla, where they work to elevate the heart and breathing rates and increase muscle tension, thus preparing the body for fight-or-flight.

15. **Answer: B**. Constructive coping strategies address the problem, or the cause of the problem, and seek a more favorable solution.
Midterm 2

- Cognition
- Testing & Individual Differences
- Motivation, Emotion, & Stress
<table>
<thead>
<tr>
<th>Concept</th>
<th>Chapter 4</th>
<th>Mental category that is based on similarities</th>
<th>Like a playlist on your phone- all are relatively the same type of songs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prototype</td>
<td>The best or most typical example of a concept that is used for quick categorization of an item</td>
<td>The first song that you place on your playlist because it is the first song that comes to your mind and probably your favorite song</td>
<td></td>
</tr>
<tr>
<td>Algorithm</td>
<td>A step-by-step procedure used to guarantee a solution; often time-consuming</td>
<td>A YAHOO map is like an algorithm- it is step-by-step set of directions that guarantees you arrive</td>
<td></td>
</tr>
<tr>
<td>Representative heuristic</td>
<td>Rule of thumb where decision relies on how well information matches the prototype</td>
<td>How well your prototype MATCHES or REPRESENTS the item influences your decision/ like an ASSUMPUTION- you assume because wears a tie profession</td>
<td></td>
</tr>
<tr>
<td>Availability heuristic</td>
<td>Rule of thumb where a decision depends on how much available information a person has about an item; first thing that comes to mind about an item</td>
<td>Why pizza places advertise on TV during dinner time- is the most present or Available information you have at decision time/ same as IGNORANCE- only know things that you have AVAILABLE information about</td>
<td></td>
</tr>
<tr>
<td>Incubation</td>
<td>Taking a step back from a problem and then readressing problem with fresh mind set</td>
<td>You step out of your work CUBE- ical when you can’t think of any new ideas</td>
<td></td>
</tr>
<tr>
<td>Functional fixedness</td>
<td>Inability to see an object with more than one purpose other than original purpose or design</td>
<td>You are MENTALLY FIXED that the FUNCTION of a backpack is to carry books rather than it could be a pillow</td>
<td></td>
</tr>
<tr>
<td>Confirmation bias</td>
<td>Tendency to only accept information that support one’s opinion or belief ignoring all contradictory information</td>
<td>You stop actively listening once a person disagrees with you</td>
<td></td>
</tr>
<tr>
<td>Framing effect</td>
<td>Influencing a person’s decision by the way the information or question is presented</td>
<td>You say 90% chance it will rain and people bring an umbrella/ but 10% chance it won’t rain no one brings umbrella</td>
<td></td>
</tr>
<tr>
<td>Phonemes</td>
<td>Smallest unit of sound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphemes</td>
<td>Smallest meaning in language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overextension of words</td>
<td>“Da” means a number of words</td>
<td>Da means dad, dog, car, food</td>
<td></td>
</tr>
<tr>
<td>Two-word stage of language development</td>
<td>Characterized by telegraphic speech, which sounds like a telegram- which is why little kids seem to be rude they get right to the point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overregularization of words</td>
<td>Misapplication of rules of grammar</td>
<td>Sitted instead of sat</td>
<td></td>
</tr>
<tr>
<td>Behavioral theory of language acquisition</td>
<td>According to B.F. Skinner, language is learned through reinforcement and imitation</td>
<td>Hooked on Phonics is an example that supports Skinner’s theory, but can’t explain why some people have speech impediments that were around people with no such impediment</td>
<td></td>
</tr>
<tr>
<td>Biological theory of language acquisition</td>
<td>According to Noam Chomsky, humans have universal grammar, innate knowledge for grammar</td>
<td>Chomsky “chopped” down trees in Nature/ nature meaning speech is natural</td>
<td></td>
</tr>
<tr>
<td><strong>Linguistic determinism or linguistic relatively theory</strong></td>
<td><strong>Analogies</strong></td>
<td><strong>Theory</strong></td>
<td></td>
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<tr>
<td>----------------------------------------------------------</td>
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</tr>
<tr>
<td>Suggests that culture dictates structure of language, which then affects the way a person thinks about the environment</td>
<td>Your culture DETERMINES how you will talk (linguistic) live up North you use the word pop not soda</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Sensory memory** | **According to George Sperling, sensory memories are very brief; iconic or visual memory retained for less than a second, echoic or auditory memory is retained for a few seconds** |

| **Short-term memory** | **Receives information from what is paid attention to in sensory memory and is where information is processed or thought about/ limited to processing 7 items +/- 2 limited to about 20-30 seconds in duration to think about** |

| **Working memory** | **How person actively works with information in short-term** |
| **Maintenance rehearsal** | **Repeating an item to keep active in short-term memory** |
| **Chunking** | **Grouping items into meaningful chunks to increase capacity of short-term memory** |
| **Elaborative rehearsal** | **The application of personal meaning and understanding of material being encoded into long-term memory** |
| **Explicit memories (declarative memories)** | **Memories that requires thinking about or conscious recall in order to retrieve** |
| **Episodic information (memories)** | **Type of explicit memory, that describes personal memories** |
| **Semantic information (memories)** | **Type of explicit memory, that describes general knowledge that most people are aware of** |
| **Implicit memories (nondeclarative memories)** | **Memories that do not require any thought or thought or conscious recall** |
| **Procedural information (memories)** | **Type of implicit memory, that are procedures or how a skill that don’t require a thought process to perform** |
| **Prospective memory** | **Remembering to perform an action or behavior in the future** |
| **Retrospective memory** | **Remembering things, events, or situations from the past** |
| **Semantic network model of organizing memories** | **Long-term memories are based on associations** |
| **Priming** | **Unconscious process of activating -retrieving long-term memories in semantic model** |
| **Tip-of-the-tongue phenomenon** | **When there is a memory in long-term memory but the retrieval cue is not strong enough to retrieve it** |

This is occurs when you say, “I know the answer, I just can’t remember right now.”
<table>
<thead>
<tr>
<th><strong>Serial position effect</strong></th>
<th>The tendency to not be able to retrieve items in the middle of a list</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primacy effect</strong></td>
<td>Being able to remember items in the first part of the list</td>
</tr>
<tr>
<td></td>
<td>P (primacy) comes before R (recency)</td>
</tr>
<tr>
<td><strong>Recency effect</strong></td>
<td>Being able to remember the last part of a list</td>
</tr>
<tr>
<td></td>
<td>Recency = Rear</td>
</tr>
<tr>
<td><strong>Encoding specificity principle</strong></td>
<td>Suggests retrieval cues are more effective when retrieval conditions are similar to when information was encoded</td>
</tr>
<tr>
<td></td>
<td>Where you learn something (memory being formed) is where you best remember something (because it is a retrieval cue)</td>
</tr>
<tr>
<td><strong>Context-dependent memories (context cues)</strong></td>
<td>Retriving information in the same context or setting that information was encoded in</td>
</tr>
<tr>
<td></td>
<td>Your bedroom is a retrieval cue- when you form a memory it is not like a vacuum everything gets sucked into the memory</td>
</tr>
<tr>
<td><strong>Mood congruence effect</strong></td>
<td>Emotions moods are retrieval cues for similar memories</td>
</tr>
<tr>
<td></td>
<td>An argument does not stop because bad mood triggers all bad memories</td>
</tr>
<tr>
<td><strong>State-dependent memory</strong></td>
<td>A person’s internal state, like hunger, serves as a retrieval cue</td>
</tr>
<tr>
<td></td>
<td>Being hungry will be a retrieval cue for other memories of being hungry</td>
</tr>
<tr>
<td><strong>Misinformation effect</strong></td>
<td>According to Elizabeth Loftus, presentation of misleading information into established memories can distort or change the established memory</td>
</tr>
<tr>
<td></td>
<td>Lawyers may try to mislead witnesses by adding different viewpoints- this misinformation may cause accommodation or a schema to CHANGE</td>
</tr>
<tr>
<td><strong>Source monitoring (source amnesia)</strong></td>
<td>Memories often formed without reference to where or when</td>
</tr>
<tr>
<td></td>
<td>People have a hard time remembering when or where they heard something</td>
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<tr>
<td><strong>Ebbinghaus forgetting curve</strong></td>
<td>According to Ebbinghaus, information that is not initially forgotten after learning will be retained in long-term memory</td>
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<td></td>
<td>If during 2nd hour you can remember a test question from 1st hour then you will more than likely remember that question the rest of the day</td>
</tr>
<tr>
<td><strong>Retroactive interference</strong></td>
<td>New memory, interferes with remembering an old memory</td>
</tr>
<tr>
<td></td>
<td>RETRO MEANS CANT REMEMBER SOMETHING OLD</td>
</tr>
<tr>
<td><strong>Proactive interference</strong></td>
<td>Older memory interferes with remembering a new memory</td>
</tr>
<tr>
<td></td>
<td>PROACTIVE REMEMBER SOMETHING NEW</td>
</tr>
<tr>
<td><strong>Long-term potentiation</strong></td>
<td>Formation of memories cause an increased firing between neurons, which reduces synapse between the neurons creating a memory trace or path in brain</td>
</tr>
<tr>
<td></td>
<td>If you walk back-and-forth in snow you will make a path- path will make it easier to walk through snow- when you study you walk back-and-forth with the material producing a path in your brain making it easier to remember the information</td>
</tr>
<tr>
<td><strong>Retrograde amnesia</strong></td>
<td>The inability to remember information from the past</td>
</tr>
<tr>
<td></td>
<td>RETRO MEANS Old</td>
</tr>
<tr>
<td><strong>Anterograde amnesia</strong></td>
<td>Inability to form new memories</td>
</tr>
<tr>
<td></td>
<td>“50 First Dates”</td>
</tr>
<tr>
<td><strong>Hippocampus</strong></td>
<td>Area of the brain that includes the pathway of the brain that encodes new explicit memories</td>
</tr>
<tr>
<td></td>
<td>Hippos THINK when they are on college CAMPUSES- explicit memories</td>
</tr>
<tr>
<td><strong>Cerebellum</strong></td>
<td>Part of the brain involved in the procedured of implicit memories</td>
</tr>
<tr>
<td></td>
<td>You use your cerebellum to walk- which does not require you to think</td>
</tr>
<tr>
<td><strong>Method of loci</strong></td>
<td>A mnemonic device that involves associating an item with a location or place item resides in</td>
</tr>
<tr>
<td></td>
<td>Picturing your room to remember where you put your book</td>
</tr>
<tr>
<td>Topic</td>
<td>Description</td>
</tr>
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<td>-------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>G factor</strong></td>
<td>According to Charles Spearman, single intelligence factor responsible for all thinking. Similar to your GPA- one number indicates all of your work.</td>
</tr>
<tr>
<td><strong>Triarchic theory of intelligence</strong></td>
<td>According to Robert Sternberg, 3 types of intelligence: analytical intelligence- accumulated knowledge gained through school, creative intelligence- ability to generate new and novel ideas, and practical intelligence- ability to interact successfully with one’s environment. Sternberg wore a thinking CAP C- creative- outside of the box- electives A- analytical- math and science grades P- practical- working well with others.</td>
</tr>
<tr>
<td><strong>Multiple intelligence</strong></td>
<td>According to Howard Gardner, humans have separate multiple intelligences: linguistic, logical-mathematical, musical, kinesthetic, spatial, interpersonal (emotions of others), and intrapersonal (emotions of oneself), and naturalistic. Like a GARDEN has MULTIPLE items in the garden.</td>
</tr>
<tr>
<td><strong>Mental age</strong></td>
<td>According to Alfred Binet, the mental abilities of a certain age determined by the number of right answers on a test; first modern intelligence test; “he may only be 6 years old (chronological age) but he reads at an 8th grade level (mental age) Alfred Binet wrote the first intelligence test- you strive A lfred or B inet on a test.</td>
</tr>
<tr>
<td><strong>Intelligence quotient (IQ)</strong></td>
<td>According to Wilhem Stern, a formula that divides mental age by chronological age then multiply by 100 equaling IQ; Lewis Terman was DETERMINED to bring Binet’s test to the USA.</td>
</tr>
<tr>
<td><strong>Stanford-Binet Intelligence scale</strong></td>
<td>Lewis Terman adapted Binet’s test to be used in the USA cannot be used with adults. Lewis Terman was DETERMINED to bring Binet’s test to the USA.</td>
</tr>
<tr>
<td><strong>Wechsler Adult Intelligence Scale (WAIS) and Wechsler Intelligence Scale for Children (WISC)</strong></td>
<td>Written by David Wechsler, intelligence tests based on verbal and performance tests where scores are compared to people of the same age. Most popular intelligence test scores can be compared to people of the same age/ not tied to mental age; a person has a better chance to win a race within their AGE division rather than win overall race.</td>
</tr>
<tr>
<td><strong>Normal distribution</strong></td>
<td>A bell-shaped curve with majority of scores falling around middle or average.</td>
</tr>
<tr>
<td><strong>Aptitude test</strong></td>
<td>Designed to measure a person’s potential. The P stands for- A-PREDICTION test.</td>
</tr>
<tr>
<td><strong>Achievement test</strong></td>
<td>Designed to measure a person’s knowledge of a particular topic or subject. The C in achievement stands for “C what I have learned”</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>Giving a test multiple times and receiving the same results through test-retest procedure. Your friend is RELIABLE if he or she shows up EVERY DAY ON TIME.</td>
</tr>
<tr>
<td><strong>Split-half reliability</strong></td>
<td>Form of assessing reliability where odd- even questions are compared.</td>
</tr>
<tr>
<td><strong>Validity</strong></td>
<td>How a test measures what test is designed to measure. To VALIDATE means to MAKE REAL-like a VALID driver’s license.</td>
</tr>
<tr>
<td><strong>Content validity</strong></td>
<td>The material on a test matches the material covered in class.</td>
</tr>
<tr>
<td><strong>Criterion (predictive) validity</strong></td>
<td>The ability of test to make predictions about future performances; how ACT predicts college success</td>
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<td>--------------------------------------------------------------------------------------------------</td>
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<tr>
<td><strong>Construct validity</strong></td>
<td>How a test is designed and written; font, spacing</td>
</tr>
<tr>
<td><strong>Standardization</strong></td>
<td>Process of comparing a score to previous scores given under identical conditions; a good basketball player sets the standard for future basketball players to meet</td>
</tr>
<tr>
<td><strong>Divergent thinking</strong></td>
<td>Ability to generate multiple solutions to a problem; like brainstorming</td>
</tr>
<tr>
<td><strong>Convergent thinking</strong></td>
<td>Narrowing down alternatives to the best solution for a problem; to converge means to close in on one good idea</td>
</tr>
<tr>
<td><strong>Instinct theory Chapter 5</strong></td>
<td>Motivation occurs through instinctual behavior; geese fly South in response to cold; instinct theory simply provides labels but does not give any explanation for why</td>
</tr>
<tr>
<td><strong>Homeostasis</strong></td>
<td>The notion the body monitors and maintains internal physiological systems at a constant and; like body temperature and set weight; similar to a thermostat the thermostat monitors air temperature when the temperature becomes too cold the thermostat alerts the furnace to turn on</td>
</tr>
<tr>
<td><strong>Drive-reduction theory</strong></td>
<td>Motivation based on performing behaviors to reduce drives produced from needs not met; the need for water drives (or motivates) to get out of bed thus reducing the drive and satisfying the need</td>
</tr>
<tr>
<td><strong>Optimum arousal theory</strong></td>
<td>Motivation is based on people trying participating in certain activities that help to maintain a steady or optimum level of arousal within their body; having a boring day you are motivated to go out that night and have fun/have an exhausting day you are motivated to do nothing that night</td>
</tr>
<tr>
<td><strong>Yerkes-Dodson law</strong></td>
<td>People perform best in an activity when the task is moderate or fair; not too hard or not too easy; fair is another word if the assignment or game is fair you will try your best/too easy don’t put in your best effort/too hard and you give up before even trying or first sign of trouble</td>
</tr>
<tr>
<td><strong>Incentive theories</strong></td>
<td>Positive or favorable incentives motivate people to perform activity; while negative incentives push people from performing activity; incentives are extra things extra credit pushes you to do it/while detentions push you away from coming to school late</td>
</tr>
<tr>
<td><strong>Humanistic perspective</strong></td>
<td>Suggests people are innately motivated to have a positive self-concept, or beliefs about themselves, allowing them to reach their full potential; humanistic perspective is interested in making you the best human possible through reaching your potential and being who you really are</td>
</tr>
<tr>
<td><strong>Hierarchy of needs</strong></td>
<td>According to Maslow, people motivated to progress through the hierarchy of needs through satisfying each level beginning with physiological needs, then safety, then love, then cognitive, and ending at self-actualization; hierarchy of needs are like stairs you have to step on each stair to get to the top you can’t study if you are hungry have to satisfy hunger before addressing another level</td>
</tr>
<tr>
<td><strong>Self-actualization</strong></td>
<td>The striving for and realization of one’s potential</td>
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<tr>
<td><strong>Insulin</strong></td>
<td>A hormone used to convert glucose to energy; when insulin rises glucose decreases signaling hunger</td>
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<tr>
<td><strong>Ventromedial hypothalamus</strong></td>
<td>Area of the hypothalamus that stops hunger</td>
</tr>
<tr>
<td><strong>Lateral hypothalamus</strong></td>
<td>Area of the hypothalamus that imitates or starts hunger</td>
</tr>
<tr>
<td>Competence motivation (need motivation)</td>
<td>A desire or motivation to master or excel at a task or personal goal</td>
</tr>
<tr>
<td>Achievement motivation</td>
<td>The desire or motivation to outperform other people</td>
</tr>
<tr>
<td><strong>Thematic apperception test (TAT)</strong></td>
<td>According to David McCelland, the TAT, which a person tell’s a story of a scene he or she sees, measures a person’s level for achievement motivation</td>
</tr>
<tr>
<td><strong>Self-efficacy beliefs</strong></td>
<td>According to Albert Bandura, self-efficacy beliefs include a person’s level of confidence at completing or performing a task</td>
</tr>
<tr>
<td><strong>Industrial-organizational psychology (I/O)</strong></td>
<td>Area of psychology that applies psychological concepts and ideals to optimize or improve the work place</td>
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<tr>
<td><strong>Intrinsic motivation</strong></td>
<td>Motivation to achieve a personal goal or satisfaction at performing a task</td>
</tr>
<tr>
<td><strong>Extrinsic motivation</strong></td>
<td>Motivation to achieve an external or outside reward for performing a task</td>
</tr>
<tr>
<td><strong>Theory Y</strong></td>
<td>Workers motivated to work through intrinsic motivation</td>
</tr>
<tr>
<td><strong>Theory X</strong></td>
<td>Workers motivated to work through extrinsic motivation</td>
</tr>
<tr>
<td><strong>Hawthorne effect</strong></td>
<td>Tendency for individual to perform better when singled out or given special attention</td>
</tr>
<tr>
<td><strong>Polygraph (lie detectors)</strong></td>
<td>Machines that measure body fluctuations within a person that could indicate whether or not a person is lying</td>
</tr>
<tr>
<td><strong>Amygdala</strong></td>
<td>A part of the brain that recognizes emotional facial expressions and interprets emotional stimuli</td>
</tr>
<tr>
<td><strong>Right hemisphere</strong></td>
<td>Associated with expression experience of emotion</td>
</tr>
<tr>
<td><strong>James-Lange theory of emotion</strong></td>
<td>Emotion is the result of interpreting changes that occur in the body</td>
</tr>
<tr>
<td><strong>Cannon-Bard theory of emotion</strong></td>
<td>Emotions result of thalamus relaying information to cerebral cortex, which interprets emotional stimuli, while at the same time the same information is sent to the automatic nervous system, which initiates changes in the body</td>
</tr>
<tr>
<td><strong>Two-factor theory of emotion (Schachter-Singer theory)</strong></td>
<td>Emotions result of two factors: a cognitive label, which labels a change in the body, and the change in the body that occurs. TWO FACTORS: ONE FACTOR= Change in Body TWO FACTOR= Label for why there is a change</td>
</tr>
<tr>
<td><strong>Cognitive mediational theory</strong></td>
<td>Emotions result of a cognitive appraisal or interpretation of a stimuli or event</td>
</tr>
<tr>
<td><strong>Facial feedback hypothesis</strong></td>
<td>Certain facial expressions will result in the subjective experience of that emotion</td>
</tr>
<tr>
<td><strong>Display rules</strong></td>
<td>Cultural norms that dictate how to express emotions</td>
</tr>
<tr>
<td><strong>Approach-approach conflict</strong></td>
<td>Choice between two appealing items or choices</td>
</tr>
<tr>
<td><strong>Avoidance-avoidance conflict</strong></td>
<td>Choice between two non-appealing items or choices</td>
</tr>
<tr>
<td><strong>Approach-avoidance conflict</strong></td>
<td>A choice that has both positive and negative characteristics; considered the most stressful</td>
</tr>
<tr>
<td><strong>General adaptation syndrome (GAS)</strong></td>
<td>According to Hans Seyle, three stages of stress: alarm stage-release of catecholamines- fight-or-flight syndrome/ resistive stage- body copes with stress-release of corticosteroids/ exhaustive stage- body gets sick</td>
</tr>
<tr>
<td><strong>Optimistic explanatory style</strong></td>
<td>Explaining negative events through specific explanations</td>
</tr>
<tr>
<td><strong>Pessimistic explanatory style</strong></td>
<td>Explaining negative events through personal reasons</td>
</tr>
<tr>
<td><strong>Type A behavior</strong></td>
<td>Characterized by aggressive, competitive, impatient behavior; leads to heart disease</td>
</tr>
<tr>
<td><strong>Type B behavior</strong></td>
<td>Relaxed type of behavior</td>
</tr>
<tr>
<td><strong>Individualistic cultures</strong></td>
<td>Cultures, like America, that emphasize the individual and utilize problem-focused coping</td>
</tr>
<tr>
<td><strong>Collectivistic cultures</strong></td>
<td>Cultures, like tribal cultures, that focus on the group, and utilize emotion-focused coping</td>
</tr>
</tbody>
</table>
Sample Essay Questions

Cognition

1. The process of memory is said to be influenced by numerous factors. Explain how each of the following contributes to recall.

   a. Serial position effect

   b. Representativeness heuristic

   c. Framing effect

   d. Elaborative rehearsal

2. Jerry is preparing for a geography test on the names of the states and their capitals. (a) explain how each of the following would impact Jerry’s taking the test. Be sure to define each term before citing an example that applies to the question.

   a. context dependent memory

   b. cognitive map

B. How might the following strategies aid Jerry in remembering the locations of the states, their names and the name of each state’s capital?

   a. Method of loci

   b. Incubation

Testing and Individual Differences

1. Explain how each of the following psychologists views intelligence.

   a. Charles Spearman
b. Robert Sternberg

c. Howard Gardner

2. Intelligence has always been a controversial area of study.
a. Contrast two opposing views regarding intelligence.

b. Discuss validity and reliability in intelligence tests.

**Motivation, Emotion, and Stress**

1. Larry gets very fearful when he takes examinations. Explain how each of the following emotional theories would explain why he is experiencing fear.
   a. James/Lange

   b. Cannon/Bard

   c. Two factor (Schacter-Singer)

   d. Cognitive mediational

   e. Facial Feedback

2. Describe how the following factors could affect a person’s level of stress.
   a. Type A vs. Type B behavior:
   
   b. Optimistic vs. Pessimistic explanatory styles:
___ 1. Jimmy does not know that much about car companies and their profitability, so when asked which car company sells the most amount of cars he simply bases his answer on which car company he knows the most about. This is an example of a(n)
A) Insight
B) Intuition
C) Representativeness heuristic
D) Availability heuristic
E) Algorithm

___ 2. Jimmy decides to pick his prom date on which option has the most positive and appealing features. This is an example of which type of decision-making model?
A) Single-feature
B) Availability
C) Additive
D) Elimination by aspects
E) Heuristic

___ 3. Robert Sternberg developed the Triarchic theory of intelligence, which he believed is comprised of 3 types of intelligence:
A) interpersonal, intrapersonal, creative
B) interpersonal, analytical, practical
C) practical, creative, interpersonal
D) analytical, creative, practical
E) creative, intrapersonal, practical

___ 4. Morphemes are the
A) smallest distinctive sound unit
B) smallest unit that carries meaning
C) first stage of language development
D) second stage of language development
E) rules for sentence structure

___ 5. Jimmy's friends are trying to figure out what to do on a Friday night. They decide to list as many ideas as possible to come up with an idea. This would be an example of
A) convergent thinking
B) by product thinking
C) scripts
D) schemas
E) divergent thinking

___ 6. Who would agree that proper schooling and instruction will help a person to develop proper language acquisition?
A) Noam Chomsky
B) B.F. Skinner
C) L.L. Thurstone
D) Charles Spearman
E) Howard Gardner

___ 7. Jimmy did not realize that if he used a dime he could have tightened up a screw on his bike. Jimmy's lack of multiple uses for a dime is considered
A) mental set
B) functional mental set
C) functional fixedness
D) intuition
E) incubation

___ 8. The linguistic relativity hypothesis states that
A) language is inborn and uninfluenced by learning
B) language is primary a product of learning and modeling
C) language does not influence how we think
D) a person's language ability would have a direct influence on the way a person thinks
E) a person's language ability is inborn and as a result dependent on proper genetic codes
9. Jimmy is only concerned with having the highest score in the class. This is known as __________ motivation
   A) Intrinsic
   B) Need
   C) Competence
   D) Achievement
   E) Security

10. _______ represents short-term signals for satiation and _______ provides information from long-term feelings of satiation.
    A) CCK; Leptin
    B) Leptin; CCK
    C) CCK; Glucose
    D) CCK; Insulin
    E) Leptin; Insulin

11. Jimmy wants to prove to himself that he can be a good runner, which type of motivation is he exhibiting?
    A) Extrinsic
    B) Intrinsic
    C) Arousal
    D) Drive
    E) Physiological

12. The rate at which your body burns and conserves calories is referred to as the
    A) Basal metabolic rate
    B) Set point theory
    C) Lateral deviation rate
    D) Transduction
    E) Sensation

13. A test-retest, which is the procedure of giving a test multiple times to see if the test yields similar results, would indicate
    A) validity
    B) content validity
    C) reliability
    D) standardization
    E) normal curve

14. Standardization is
    A) giving a test to a sample group which can later be used for comparison in terms of drawing inferences
    B) giving a test over and over to see if similar results are likely.
    C) making sure a test measure what it is designed for.
    D) measuring a specific theory.
    E) making predictions for future behaviors.

15. Jimmy's is getting the idea that his students are not paying attention in class. Jimmy decides to write a couple of questions that are specific to what he stated in class, which would mean that a student would only get right if he or she was paying attention in class. This is an example of
    A) content validity
    B) construct validity
    C) predictive validity
    D) test-retest
    E) aptitude

16. Jimmy really like vanilla bean ice cream, in fact it is his favorite type of ice cream. Each time he tries a different flavor ice cream he always compares it to vanilla bean. Jimmy's love of vanilla bean ice cream would be considered his
    A) concept
    B) prototype
    C) schema
    D) script
    E) obsession

17. Charles Spearman believed that _______ , a single determinant was responsible for a person's overall intelligence
    A) Triarchic
    B) 7 primary abilities
    C) Creativity
    D) g factor
    E) t factor
18. Factor analysis is a
A) set of 10 inkblots
B) unfinished story
C) statistical procedure that identifies relationships among items, or factors
D) type of intelligence specific to down syndrome
E) type of intelligence problem

19. Mental groupings of information, which are based on similarities are referred to as
A) Prototypes
B) Heuristics
C) Concepts
D) Algorithms
E) Cognition

20. Jimmy’s Dad instructs him that if he follows the instruction step-by-step he will be able to construct his model airplane. Following these instructions specifically and not skipping any would be an example of
A) heuristic
B) representativeness heuristic
C) anchoring heuristic
D) availability heuristic
E) algorithm

21. _______ was the first to develop an intelligence test that was based on a person’s mental abilities in comparison to their chronological age. For example, if a person had a mental age of 8 and was only 6 then this individual could be gifted.
A) William Stern
B) Charles Spearman
C) Howard Gardner
D) David Wechsler
E) Alfred Binet

22. Jimmy does not want to try to figure out which football team could have the best record this season, so he simply picks a team based on who had the best record last year. This would be an example of
A) Representativeness heuristic
B) Algorithm
C) Anchoring heuristic
D) Availability heuristic
E) Insight

23. Jimmy is great at math and interpersonal reasoning, but seems to struggle with verbal skills and ability. Which theorist would support the idea that it is possible for a person to have separate or multiple intelligence?
A) Charles Spearman
B) B.F. Skinner
C) Noam Chomsky
D) Alfred Binet
E) Howard Gardner

24. Explicit memories are processed in the __________; and implicit memories are processed in the __________ of the brain.
A) hippocampus; cerebellum
B) cerebellum; hippocampus
C) amygdala; hippocampus
D) amygdala; cerebellum
E) cerebellum; amygdala

25. Jimmy was reminded in his 3rd hour that he was going to have a test the following day. Jimmy became preoccupied with activities throughout the day and forgot that he had to study for the test. The next day when Jimmy walked into his 3rd hour he quickly remembered he had a test. This is an example of
A) mood congruent memory
B) state-dependent memory
C) encoding failure
D) retrieval cue failure
E) context-dependent memory
26. Applying meaning to what is being encoded is an example of
A) Acoustic encoding
B) Semantic encoding
C) Visual encoding
D) Imagery
E) Mnemonics

27. Mood congruent memories are
A) aided or impeded by a person's internal state
B) the memory construction in the amygdala
C) the gradual disappearance of information
D) the tendency to recall experiences consistent with the emotion being exhibited
E) the context acting as a retrieval cue

28. Jimmy was asked what he had for dinner last night. He is amazed that he is able to remember despite the fact that he did not make a conscious effort to learn what he ate the previous night. This is an example of
A) automatic processing
B) semantic encoding
C) effortful processing
D) rosy retrospection
E) method of loci

29. The memory of falling off your bike would be considered
classified as a ___________ memory
A) Episodic; implicit
B) Episodic; explicit
C) Semantic; explicit
D) Semantic; implicit
E) Procedural; implicit

30. Which statement would Herman Ebbinghaus agree with:
A) information that is not forgotten right away will be information that will remembered for a long period of time.
B) information that is forgotten right away will be information that will remembered for a long period of time.
C) information that is forgotten right away will be information that will be remembered for a short-period of time.
D) information that is forgotten is meant to be forgotten.
E) information is better off to be forgotten.

31. George Miller believed that the capacity of short-term memory is limited to
A) 3 items +/- 2
B) 4 items +/- 2
C) 5 items +/- 2
D) 7 items +/- 2
E) 12 items +/- 2

32. While Jimmy was taking a test he could not remember the answer to a question. As a result, he asked the teacher for help, when the teacher reexamined the question Jimmy was able to remember. Since Jimmy could not remember the answer based on the how the question was originally written this question would be example of
A) decay theory
B) retrieval cue failure/ tip-of-the-tongue
C) encoding failure
D) proactive interference
E) retroactive interference
___ 33. In order for information to transfer from sensory memories to be processed in short-term memories, then the technique of _____________ has to occur.
   A) selective attention  
   B) elaborative rehearsal  
   C) maintenance rehearsal  
   D) transduction  
   E) visual capture

___ 34. The repeating of information to keep it active for a longer period of time in short-term memory is referred to as
   A) chunking  
   B) maintenance rehearsal  
   C) elaborative rehearsal  
   D) semantics  
   E) method of loci

___ 35. ______ memories, which are memories of visual stimuli tend to be shorter in duration than ______ memories, which are memories of auditory sensory information.
   A) iconic; hepatic  
   B) echoic; hepatic  
   C) iconic; echoic  
   D) echoic; iconic  
   E) hepatic; iconic

___ 36. During the process of memory, specifically the process of long-term potentiation, which neurotransmitter is released allowing learning and memories to occur?
   A) Dopamine  
   B) Norepinephrine  
   C) Serotonin  
   D) Acetycholine  
   E) Endorphins

___ 37. Jimmy cannot remember his new locker combination because he always dials his old locker combination. This an example of
   A) Retroactive interference  
   B) Decay theory  
   C) Proactive interference  
   D) Encoding difficulty  
   E) Amnesia

___ 38. According to the serial position effect is the tendency to remember the first or ________ and the last or _______ items of a list.
   A) recency; primacy  
   B) primacy; priming  
   C) primacy; recency  
   D) recency; meaning  
   E) priming; primacy

___ 39. The process of _____________ enables meaning to be applied to information allowing the information to go from short-term memory to being stored permanently in long-term memory.
   A) maintenance rehearsal  
   B) selective attention  
   C) rosy retrospection  
   D) implied learning  
   E) elaborative rehearsal

___ 40. When people try to confuse others in terms of what they remember they might try to provide new information that contradicts what these people had previously remembered or thought they learned. This is referred to as the
   A) retroactive interference theory  
   B) proactive interference theory  
   C) misinformation effect  
   D) analogies  
   E) automatic encoding
__ 41. Jimmy does not have to think any longer how to tie his shoes. The memory of tying his shoes is considered ____________ information stored as __________ memory.
   A) episodic; explicit
   B) episodic; explicit
   C) procedural; explicit
   D) procedural; implicit
   E) semantic; implicit

__ 42. Jimmy is trying to remember what school supplies he has to purchase for the his upcoming classes. He imagines his locker and what items are normally placed in there. This is an example of which mnemonic device?
   A) rosy retrospection
   B) peg system
   C) method of loci
   D) imagery skills
   E) semantic encoding

__ 43. Semantic network suggests that memories are
   A) organized in a hierarchy based on groups of shared characteristics.
   B) organized through a network of associations that are linked by common characteristics.
   C) organized by the order they were learned
   D) organized by the importance or rank of the memory.
   E) organized through specific moods and times of the learning process.

__ 44. Jimmy decides that his friend's car is a nice car because it pretty much matches his favorite type of a car. This would be an example of
   A) anchoring heuristic
   B) representativeness heuristic
   C) algorithm
   D) insight
   E) incubation

__ 45. Jimmy has a boring day at work and feels the need to go out and cut the rug at a dance club, which motivational theory could account for his need to party?
   A) Drive-reduction theory
   B) Incentive theory
   C) Optimum arousal theory
   D) Male bonding
   E) Yerkes-dodson law

__ 46. When insulin levels rise ____________ becomes lower resulting in hunger.
   A) CCK
   B) Leptin
   C) Endorphins
   D) Glucose
   E) CSKDS

__ 47. Destroying the ventromedial hypothalamus would result in the rat not eating
   A) rat not eating
   B) rat continuously overeating
   C) rat drinking lots of water
   D) rat exercising rigorously
   E) rat not drinking water

__ 48. The set point theory, which maintains a person's ideal body weight, is monitored and maintained through the concept of
   A) leptin
   B) CCK
   C) homeostasis
   D) body mass index
   E) glucose

__ 49. Obesity is indicated by a number of over _____ on the BMI- Body Mass Index
   A) 20
   B) 25
   C) 30
   D) 14
   E) 27
__ 50. Self-actualization is defined as
   A) pursuit and accomplishment of human potential
   B) being loved
   C) eating and satisfying the hunger drive
   D) seeing things for the first time
   E) need for achievement

__ 51. Jimmy wants to pursue a degree in psychology. When asked specifically what he would like to study, Jimmy stated, "I would like to help businesses to perform better and teach employees how to get along better." What field of psychology should Jimmy pursue?
   A) Behavioral
   B) Cognitive
   C) Gestalt
   D) Industrial-organizational
   E) Biological

__ 52. An obsession with body weight demonstrated through excessive exercise and not eating is described as
   A) Bulimia nervosa
   B) Anorexia nervosa
   C) Set point theory
   D) Leptin resistance
   E) Arousal theory

__ 53. Jimmy notices that every runner in the race has won a previous event. As a result, Jimmy feels defeated and does not try his best finishing last. Which term describes Jimmy's lack of effort.
   A) Drive-reduction theory
   B) Yerkes-Dodson law
   C) Instinctual theory
   D) Homeostasis
   E) Extrinsic motivation

__ 54. Homeostasis is defined as
   A) the external state of the body in response to change
   B) the maintaining of a constant internal state in the body
   C) motivation to prove to oneself
   D) motivation to excel in the presence of others
   E) boredom brought on by an internal state of the body

__ 55. If a person chooses not to eat in order to lose weight then the basal metabolic rate would be
   A) not affected in the short run, but then be activated
   B) burn off more calories
   C) burn off less calories
   D) higher and also lower
   E) not affected in the long run

__ 56. David McClelland believed that the ______ test could measure a person's need for achievement.
   A) MMPI
   B) Neo-re
   C) TAT
   D) Yerkes-Dodson
   E) CAT

__ 57. Which theory suggest that workers are lazy and need to be extrinsically motivated?
   A) Theory X
   B) Theory Y
   C) Theory M
   D) Theory N
   E) Theory T

__ 58. Geese fly south for the winter in response to colder temperatures. This behavior is supported through the
   A) Drive-reduction theory
   B) Optimum arousal theory
   C) Yerkes-Dodson Law
   D) Instinct theory
   E) Self-actualization
59. Which part of the brain is in charge of initiating hunger?
A) Ventromedial hypothalamus
B) Amygdala
C) Lateral hypothalamus
D) Occipital
E) Hippocampus

60. Jimmy did not get enough water before he ran and during his run he became extremely thirsty resulting in Jimmy having to stop and get a drink of water. Which motivational theory describes Jimmy's motivation to get a drink or water?
A) Optimum arousal theory
B) Incentive theory
C) Yerkes-dodson law
D) Drive-reduction theory
E) Instinct theory

61. Which theory of emotion has been discredited based on people who have experienced spinal cord injuries still experiencing emotions.
A) Cannon-Bard
B) James-Lange
C) Two-factor
D) Cognitive mediational theory
E) Facial feedback

62. Jimmy laughed hysterically at a funny scene in a movie; however no one else in the theatre laughed. Which theory of emotion explains why Jimmy was the only person to laugh?
A) James-Lange theory
B) Cannon-Bard theory
C) Facial feedback theory
D) Two-factor theory
E) Cognitive mediational theory

63. Jimmy just finished the Detroit Marathon and is elated with excitement, as he walked over to his girlfriend, who he has not known for long, he immediately tells her that he loves her. Later that day Jimmy realized that he made a mistake by telling his girlfriend that he was love with her. His Dad later explained that all of the excitement of finishing the marathon must have confused him. Which theory of emotion does this provide a problem for?
A) James-Lange
B) Cannon-Bard
C) Two-factor
D) Facial feedback
E) Feedback hypothesis

64. Jimmy almost hit the car next to him, which caused his _____ nervous system to become active elevating his heart rate and respiration; however once he avoided the car next to him the _____ nervous system allowed his body to calm down.
A) central; peripheral
B) peripheral; central
C) central; parasympathetic
D) sympathetic; central
E) sympathetic; parasympathetic

65. Which area of the brain is involved in the recognition of facial expressions and the proper emotion?
A) Hypothalamus
B) Hippocampus
C) Amygdala
D) Hippocampus
E) Occipital

66. Emotion is the result of the brain's interpretation of a stimuli and simultaneously changes within the body. This is described in the
A) Cannon-Bard theory
B) James-Lange theory
C) Two-factor theory
D) Cognitive mediational theory
E) Facial feedback
67. Damage to the _______ hemisphere could cause an inability to recognize and interpret emotions.
   A) Left
   B) Right
   C) Middle
   D) hypothetical
   E) left centered

68. As Jimmy meets his blind date for the first time he becomes extremely happy as a result of his brain interpreting the girl as attractive and his heart starting to pound at the same time. This encounter is explained through which theory of emotion?
   A) Cannon-Bard
   B) James-Lange
   C) Two factor
   D) Facial feedback
   E) Three factor

69. Which theory of emotion suggests that emotions are the result of physiological changes in the body?
   A) Two-factor theory
   B) Cannon-Bard theory
   C) Facial feedback theory
   D) James-Lange theory
   E) Cognitive mediational theory

70. Jimmy knew why his heart started to pound as he was experiencing fear from not knowing an example on the exam he was taking. Which theory of emotion described this situation?
   A) James-Lange theory
   B) Cannon-Bard theory
   C) Two-factor theory
   D) Cognitive mediational theory
   E) Facial feedback theory

71. Jimmy just lost a race when asked how he could have lost, he commented, "the other runners where just better than I was today." Which explanatory style did Jimmy use?
   A) Pessimistic
   B) Optimistic
   C) Negative
   D) Unrealistic
   E) Type A

72. During which stage of Hans Selye's General Adaptation Syndrome is the sympathetic nervous system activated?
   A) Resistance
   B) Alarm
   C) Exhaustion
   D) Denial
   E) Endorphic

73. _______ conflict is considered the most stressful because the choice has both an appealing and unappealing aspect.
   A) Avoidance-avoidance
   B) Approach-approach
   C) Approach-avoidance
   D) Life change
   E) Stressor

74. The correct order of Hans Seyle's General Adaptation Syndrome are
   A) alarm, resistance, exhaustion
   B) resistance, alarm, exhaustion
   C) exhaustion, alarm, resistance
   D) resistance, exhaustion, alarm
   E) alarm, exhaustion, resistance

75. _______ is the number one health killer among Americans.
   A) AIDS
   B) Coronary heart disease
   C) STDS
   D) Back ache
   E) Strokes
__ 76. Jimmy cannot pick between two girls who he would like to go to prom with. Which type of conflict is Jimmy experiencing?
   A) Approach-approach  
   B) Approach-avoidance  
   C) Multiple approach-avoidance  
   D) Avoidance-avoidance  
   E) Single avoidance-approach

__ 77. During periods of prolonged stress the hypothalamus triggers the
   A) Endorphins  
   B) ACTH hormone  
   C) Sympathetic nervous system  
   D) Pituitary gland  
   E) Adrenal gland

__ 78. __________ personalities are at a greater risk for coronary heart disease.
   A) Type D  
   B) Type B  
   C) Optimistic  
   D) Type C  
   E) Type A

__ 79. During acute stress the adrenal medulla releases ____________ that increase heart-rate and respiration.
   A) Endorphins  
   B) Dopamine  
   C) Catecholamines  
   D) Corticosteroids  
   E) Acetycholine

__ 80. The release of ________ reduces the effectiveness of the immune system in response to prolong stress.
   A) Corticosteroids  
   B) Endorphins  
   C) Dopamine  
   D) Catecholamines  
   E) Serotonin

__ 81. Acute stress involves activation of the _________ system; and prolonged stress involves activation of the _______ system.
   A) sympathetic nervous; endocrine  
   B) parasympathetic nervous; endocrine  
   C) endocrine; sympathetic nervous  
   D) endocrine; parasympathetic nervous  
   E) sympathetic nervous; parasympathetic nervous

__ 82. For an adolescent, death of a parent is known as one of the hardest ________; as death of a spouse is for an adult.
   A) daily hassles  
   B) life changes  
   C) conflicts  
   D) pressures  
   E) catecholamines

__ 83. Jimmy wants to pursue of helping people overcome stress and live more productive, healthier lives. Which field of psychology should Jimmy pursue?
   A) Biomedical  
   B) Neural  
   C) Health  
   D) Stress immune functioning  
   E) Biodegradable

__ 84. Jimmy decides not to walk the same way to school to avoid some students who have picked on him in the past. Which coping strategy has Jimmy just used?
   A) Emotion-focused  
   B) downward spiral  
   C) comparison  
   D) evasive tactics  
   E) Problem-focused