

## Unit 5: Cognitive Psychology/Intelligence/Language Acquisition

### 13-17% AP Exam Weighting

In this unit, knowledge surrounding sensation, perception, and learning provides the foundation for an understanding of cognition. Cognitive psychologists focus their research on the complex nature of the brain, particularly the areas of memory processes and intelligence and the influence of mental processes on behavior. Understanding how this information is gathered and processed gives insight into how we make sense of and perceive the world. Some cognitive psychologists attempt to answer the how and why cognitive processes fail despite (or because of) the complexity of our biological structures. Other psychologists study intelligence and the reasons for individual differences. This cognitive perspective offers one way to understand how our thinking impacts our behavior, which can in turn provide insight into psychological disorders and their treatment.

#### Essential Questions:

- What roles do memory and thinking play in our behaviors?
- What is intelligence and how can we study it to understand it?

#### Unit Outline and Learning Targets

##### 5.1 Introduction to Memory- Skill: Define and/or apply concepts.

- Compare and contrast various cognitive processes.
- Describe and differentiate psychological and physiological systems of memory.
- Identify the contributions of key researchers in cognitive psychology.

##### 5.2 Encoding- Skill: Explaining behavior in authentic context.

- Outline the principles that underlie construction and encoding of memories.

##### 5.3 Storing- Skill: Explaining behavior in authentic context.

- Outline the principles that underlie effective storage of memories.

##### 5.4 Retrieving- Skill: Explain behavior in authentic context.

- Describe strategies for retrieving memories.

##### 5.5 Forgetting and Memory Distortion- Skill: Explain behavior in authentic context.

- Describe strategies for memory improvement and typical memory errors

##### 5.6 Biological Bases for Memory- Skill: Define and/or apply concepts

- Describe and differentiate psychological and physiological systems of short-and long-term memory.

##### 5.7 Introduction to Thinking and Problem Solving- Skill: Define and /or apply concepts.

- Identify problem solving strategies as well as factors that influence their effectiveness.
- List the characteristics of creative thought and creative thinkers.

##### 5.8 Biases and Errors in Thinking- Skill: Explain behavior in authentic context.

- Identify problem-solving strategies as well as factors that create bias and errors in thinking.

##### 5.9 Introduction to Intelligence- Skill: Apply theories and perspectives in authentic contexts.

- Define intelligence and list characteristics of how psychologists measure intelligence.
- Discuss how culture influences the definition of intelligence.
- Compare and contrast historic and contemporary theories of intelligence.
- Identify the contributions of key researchers in intelligence research and testing.

##### 5.10 Psychometric Principles and Intelligence Testing- Skill: Analyze psychological research studies.

- Explain how psychologists design tests, including standardization strategies and other techniques to establish reliability and validity.
- Interpret the meaning of scores in terms of the normal curve.
- Describe relevant labels related to intelligence testing.

##### 5.11 Components of Language and Language Acquisition- Skill: Apply theories and perspectives in authentic contexts.

- Synthesize how biological, cognitive, and cultural factors converge to facilitate acquisition, development, and use of language.
- Debate the appropriate testing practices, particularly in relation to culture-fair test uses.

**Vocabulary to Master:** (you should be able to define each of these terms by test day)

**Module 31:**

- Memory
- Encoding
- Storage
- Retrieval
- Parallel Processing
- Sensory memory
- Short-term memory
- Long-term memory
- Working memory
- Explicit memory
- Effortful processing
- Automatic processing
- Implicit memory
- Iconic memory
- Echoic memory
- Chunking
- Mnemonics
- Maintenance rehearsal
- Spacing effect
- Testing effect
- Shallow processing
- Deep Processing
- Episodic Memories
- Semantic Memories
- Procedural Memories

**Module 32**

- Hippocampus
- Flashbulb memory
- Long-term potentiation
- Recall
- Recognition
- Priming
- Mood-congruent memory
- State-dependent memory
- Serial position effect

**Module 33**

- Anterograde amnesia
- Retrograde Amnesia
- Practice interference
- Retroactive interference
- Repression
- Misinformation effect
- Source amnesia
- Deja vu

**Module 34:**

- Cognition
- Concept
- Prototype
- Creativity
- Convergent thinking
- Divergent thinking

**Module 35:**

- Algorithm
- Heuristic
- Insight
- Confirmation bias
- Mental set
- Intuition
- Representativeness heuristic
- Availability heuristic
- Overconfidence
- Belief perseverance
- Framing

**Module 36:**

Linguistic Determinism  
 Linguistic Relativity  
 Morpheme  
 Phoneme  
 One-word stage  
 Two-word stage  
 Telegraphic speech

**Module 60**

- Intelligence
- Intelligence test
- General intelligence
- Factor Analysis
- Savant syndrome
- Emotional intelligence

**Module 61**

Mental Age  
 Stanford-Binet  
 Intelligence Quotient (IQ)  
 Achievement Tests  
 Aptitude Tests  
 Weschsler Adult Intelligence Scale  
 Binet-Simon Intelligence Scale  
 Standardization  
 Normal Curve  
 Reliability
 

- Split-half Reliability
- Test-Retest Reliability

 Validity
 

- Content Validity
- Predictive validity

**Module 62**

Crystallized Intelligence  
 Fluid Intelligence  
 Emotional Intelligence (EQ)  
 Flynn Effect  
 Savant Syndrome

**Key People to Know:** (you should recognize these names and be able to list their contributions to psychology by test day)

Noam Chomsky  
 Hermann Ebbinghaus  
 Wolfgang Kohler  
 Elizabeth Loftus  
 George A. Miller

Alfred Binet  
 Francis Galton  
 Howard Gardner  
 Charles Spearman  
 Robert Sternberg

Lewis Terman  
 David Weschler