Unit 5: Cognitive Psychology

Content Area: **Social Studies**
Course(s): **AP Psychology**
Time Period: **January**
Length: **10 Blocks**
Status: **Published**

Memory, Thinking, and Language

Students will examine the complex nature of how memory, intelligence, and other mental processes impact human behavior.

Enduring Understandings

- There are multiple steps in the thinking process
- Thoughts have a procedure by which they are organized
- Problem solving occurs step-by-step and humans must recognize the barriers faced
- The development of human language is intricate
- Both language and thought have a great impact on behavior

Essential Questions

1. How do humans encode, store, and retrieve information from memory?
2. How can humans enhance memory encoding, storage, and retrieval?
3. How do humans think?
4. In what ways is thinking flawed or constrained?
5. How can people avoid falling for these errors in thinking?
6. How do humans acquire language?
7. How do humans use language to communicate ideas?
8. How is language flawed or constrained?
9. How can people avoid falling for these errors in using language?

Content

Topics will include:

- The cognitive and physiological processes that make up memory
- Forgetting and typical memory errors
- The biological basis of short- and long-term memory
- Creative thinking and problem-solving strategies
- Biases and errors in thinking
- Defining and measuring intelligence

- The processes of learning and using language

Vocabulary

Intelligence, mental age, I.Q., validity, reliability, emotional intelligence, Savant Syndrome, aptitude test, achievement test, multiple intelligences, cognition, heuristic, algorithm, concept, prototype, insight, confirmation bias, fixation, mental set, functional fixedness, representative heuristic, availability heuristic, overconfidence, framing, intution, belief perserverance, language, phoneme, morpheme, grammar, syntax, semantics, babbling, telegraphic speech, aphasia, Broca's area, Wernicke's area, linguistic determinism

Important People

Howard Gardner, Robert Sternberg, Charles Spearman, Alfred Binet, Lewis Terman, David Weschler, Benjamin Whorf, Noam Chomsky

Student Expectations

I. Memory

AP students in psychology will be able to:

- Describe and differentiate psychological and physiological systems of memory (e.g., short-term memory, procedural memory)
- Outline the principles that underlie effective encoding, storage, and construction of memory
- Describe strategies for memory improvement

II. Cognition

AP students in psychology will be able to:

- Describe the nature of concepts and the role of prototypes in concept formation
- Discuss how we use trial and error, algorithms, heuristics, and insight to solve problems
- Explain how the representativeness and availability heuristics influence our judgments.

III. Language

AP students in psychology will be able to:

- Describe the structure of language (phonemes, morphemes, grammar).
- Identify language developmental stages (babbling, one word, etc.)
- Explain how the nature-nurture debate is illustrated in the theories of language development.
- Discuss Whorf's Language Relativity Hypothesis

IV. Testing and Individual Differences

AP students in psychology will be able to:

- Trace the origins of intelligence testing.
- Describe the nature of intelligence.
- Identify the factors associated with creativity.
- Distinguish between aptitude and achievement tests.
- Describe test standardization.
- Calculate I.Q. and percentiles.
- Distinguish between the reliability and validity of intelligence tests.
- Describe the two extremes of the normal distribution of intelligence.
- Discuss evidence for both genetic and environmental influences on intelligence.

Standards

LA.RI.9-10.2	Determine a central idea of a text and analyze how it is developed and refined by specific details; provide an objective summary of the text.
LA.RI.9-10.8	Describe and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and reasoning.
LA.W.9-10.9	Draw evidence from literary or nonfiction informational texts to support analysis, reflection, and research.
LA.W.9-10.9.B	Apply grades 9–10 Reading standards to nonfiction informational (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning”).
SCI.9-12.C	Cognition
SCI.9-12.C.1	Memory
SCI.9-12.C.1.1	Encoding of memory
SCI.9-12.C.1.1.1	Identify factors that influence encoding
SCI.9-12.C.1.1.2	Characterize the difference between shallow (surface) and deep (elaborate) processing
SCI.9-12.C.1.1.3	Discuss strategies for improving the encoding of memory
SCI.9-12.C.1.2	Storage of memory

SCI.9-12.C.1.2.1	Describe the differences between working memory and long-term memory
SCI.9-12.C.1.2.2	Identify and explain biological processes related to how memory is stored
SCI.9-12.C.1.2.3	Discuss types of memory and memory disorders (e.g., amnesias, dementias)
SCI.9-12.C.1.2.4	Discuss strategies for improving the storage of memories
SCI.9-12.C.1.3	Retrieval of memory
SCI.9-12.C.1.3.1	Analyze the importance of retrieval cues in memory
SCI.9-12.C.1.3.2	Explain the role that interference plays in retrieval
SCI.9-12.C.1.3.3	Discuss the factors influencing how memories are retrieved
SCI.9-12.C.1.3.4	Explain how memories can be malleable
SCI.9-12.C.1.3.5	Discuss strategies for improving the retrieval of memories
SCI.9-12.C.2	Thinking
SCI.9-12.C.2.1	Basic elements comprising thought
SCI.9-12.C.2.1.1	Define cognitive processes involved in understanding information
SCI.9-12.C.2.1.2	Define processes involved in problem solving and decision making
SCI.9-12.C.2.1.3	Discuss non-human problem-solving abilities
SCI.9-12.C.2.2	Obstacles related to thought
SCI.9-12.C.2.2.1	Describe obstacles to problem solving
SCI.9-12.C.2.2.2	Describe obstacles to decision making
SCI.9-12.C.2.2.3	Describe obstacles to making good judgments
SCI.9-12.C.3	Intelligence
SCI.9-12.C.3.1	Perspectives on intelligence
SCI.9-12.C.3.1.1	Discuss intelligence as a general factor
SCI.9-12.C.3.1.2	Discuss alternative conceptualizations of intelligence
SCI.9-12.C.3.1.3	Describe the extremes of intelligence
SCI.9-12.C.3.2	Assessment of intelligence
SCI.9-12.C.3.2.1	Discuss the history of intelligence testing, including historical use and misuse in the context of fairness
SCI.9-12.C.3.2.2	Identify current methods of assessing human abilities
SCI.9-12.C.3.2.3	Identify measures of and data on reliability and validity for intelligence test scores
SCI.9-12.C.3.3	Issues in intelligence
SCI.9-12.C.3.3.1	Discuss issues related to the consequences of intelligence testing
SCI.9-12.C.3.3.2	Discuss the influences of biological, cultural, and environmental factors on intelligence
SCI.9-12.DL.3	Language Development
SCI.9-12.DL.3.1	Structural features of language
SCI.9-12.DL.3.1.1	Describe the structure and function of language
SCI.9-12.DL.3.1.2	Discuss the relationship between language and thought
SCI.9-12.DL.3.2	Theories and developmental stages of language acquisition
SCI.9-12.DL.3.2.1	Explain the process of language acquisition
SCI.9-12.DL.3.2.2	Discuss how acquisition of a second language can affect language development and possibly other cognitive processes

SCI.9-12.DL.3.2.3	Evaluate the theories of language acquisition
SCI.9-12.DL.3.3	Language and the brain
SCI.9-12.DL.3.3.1	Identify the brain structures associated with language
SCI.9-12.DL.3.3.2	Discuss how damage to the brain may affect language