

Cognitive Psychology



Developing Understanding

ESSENTIAL QUESTIONS

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

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 how and why cognitive processes fail despite (or because of) the complexity of our biological structures. Teachers can offer students opportunities to provide their own explanations for these phenomena. 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.

Building Course Skills

1.A 1.B 1.C 3


Cognition, which covers both memory processes and individual differences in intelligence, plays a major role in the field of psychology today. Building on the anatomical structures and biological processes learned in Units 2 and 3, this unit emphasizes the memory processes of encoding, storing, and retrieving information from the brain. Students are moving beyond definitional understanding of psychological concepts and perspectives and are now reasoning systematically.

Students should be able to connect the in-depth presentation of the cognitive perspective to other psychological perspectives introduced in Units 1 and 2. They will also continue their analysis and interpretation of quantitative data in relation to cognitive research, building understanding of why particular research methods are used for specific types of data collection.


Preparing for the AP Exam

Students tend to have difficulty articulating ideas about thinking and problem solving. They will often state an accurate idea about cognition but fail to expand on the idea enough to earn full credit for the answer. Students should be able to demonstrate knowledge of the similarities and differences in short-term and procedural memory and the factors that affect each to achieve success on the AP Exam. Students should also be able to explain how the elements of memory contribute to a person's behavior. The ability to demonstrate an understanding of how information is encoded, stored, and retrieved in memory is also crucial. Students should be able to describe the acquisition of language, the factors that facilitate it, and its use in communicating ideas. Additionally, they may have to answer questions about normal curves as well as about positive and negative correlation.

UNIT AT A GLANCE

Topic	Suggested Skill	Class Periods
5.1 Introduction to Memory	1.A Define and/or apply concepts.	~17–18 CLASS PERIODS
5.2 Encoding	1.B Explain behavior in authentic context.	
5.3 Storing	1.B Explain behavior in authentic context.	
5.4 Retrieving	1.B Explain behavior in authentic context.	
5.5 Forgetting and Memory Distortion	1.B Explain behavior in authentic context.	
5.6 Biological Bases of Memory	1.A Define and/or apply concepts.	
5.7 Introduction to Thinking and Problem Solving	1.A Define and/or apply concepts.	
5.8 Biases and Errors in Thinking	1.B Explain behavior in authentic context.	
5.9 Introduction to Intelligence	1.C Apply theories and perspectives in authentic contexts.	
5.10 Psychometric Principles and Intelligence Testing	3 Analyze psychological research studies.	
5.11 Components of Language and Language Acquisition	1.C Apply theories and perspectives in authentic contexts.	
 Go to AP Classroom to assign the Personal Progress Check for Unit 5. Review the results in class to identify and address any student misunderstandings.		

SUGGESTED SKILL

 *Concept Understanding*

1.A

Define and/or apply concepts.



AVAILABLE RESOURCE

- Classroom Resource > [Cognition and Language](#)

TOPIC 5.1

Introduction to Memory

LEARNING TARGET

5.A

Compare and contrast various cognitive processes.

5.B

Describe and differentiate psychological and physiological systems of memory.

EXAMPLES

5.A.1

Effortful versus automatic processing

5.A.2

Deep versus shallow processing

5.A.3

Selective versus divided attention

5.A.4

Metacognition

5.B.1

Short-term memory

5.B.2

Implicit memory (procedural)

5.B.3

Long-term memory

5.B.4

Sensory memory (echoic, iconic)

5.B.5

Prospective memory

5.B.6

Explicit memory (semantic, episodic)

5.B.7

Physiological systems

continued on next page

LEARNING TARGET

5.C

Identify the contributions of key researchers in cognitive psychology.

EXAMPLES

5.C.1

Contributions of Noam Chomsky

5.C.2

Contributions of Hermann Ebbinghaus

5.C.3

Contributions of Wolfgang Köhler

5.C.4

Contributions of Elizabeth Loftus

5.C.5


Contributions of George A. Miller



Topic Planning Notes

Use the space below to plan your approach to the topic.

SUGGESTED SKILL

 *Concept Understanding*

1.B

Explain behavior in authentic context.

TOPIC 5.2

Encoding

LEARNING TARGET

5.D

Outline the principles that underlie construction and encoding of memories.



Topic Planning Notes

Use the space below to plan your approach to the topic.

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TOPIC 5.3

Storing

SUGGESTED SKILL

 *Concept Understanding*

1.B

Explain behavior in authentic context.

LEARNING TARGET

5.E


Outline the principles that underlie effective storage of memories.



Topic Planning Notes

Use the space below to plan your approach to the topic.

SUGGESTED SKILL

 *Concept Understanding*

1.B

Explain behavior in authentic context.

TOPIC 5.4

Retrieving

LEARNING TARGET

5.F

Describe strategies for retrieving memories.



Topic Planning Notes

Use the space below to plan your approach to the topic.

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TOPIC 5.5


Forgetting and Memory Distortion

LEARNING TARGET

5.G

Describe strategies for memory improvement and typical memory errors.

SUGGESTED SKILL

 *Concept Understanding*

1.B

Explain behavior in authentic context.



AVAILABLE RESOURCE


- Classroom Resource > [Cognition and Language](#)



Topic Planning Notes

Use the space below to plan your approach to the topic.

SUGGESTED SKILL

 *Concept Understanding*

1.A

Define and/or apply concepts.



AVAILABLE RESOURCE

- Classroom Resource > [Cognition and Language](#)

TOPIC 5.6

Biological Bases for Memory

LEARNING TARGET

5.H

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



Topic Planning Notes

Use the space below to plan your approach to the topic.

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TOPIC 5.7

Introduction to Thinking and Problem Solving

SUGGESTED SKILL

 *Concept Understanding*

1.A

Define and/or apply concepts.

LEARNING TARGET

5.I

Identify problem-solving strategies as well as factors that influence their effectiveness.

5.J


List the characteristics of creative thought and creative thinkers.



Topic Planning Notes

Use the space below to plan your approach to the topic.

SUGGESTED SKILL

 *Concept Understanding*

1.B

Explain behavior in authentic context.

TOPIC 5.8

Biases and Errors in Thinking

LEARNING TARGET

5.K

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



Topic Planning Notes

Use the space below to plan your approach to the topic.

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TOPIC 5.9

Introduction to Intelligence

SUGGESTED SKILL

 *Concept Understanding*

1.C

Apply theories and perspectives in authentic contexts.

LEARNING TARGET**5.L**

Define intelligence and list characteristics of how psychologists measure intelligence.

5.M

Discuss how culture influences the definition of intelligence.

5.N

Compare and contrast historic and contemporary theories of intelligence.

EXAMPLES**5.L.1**

Abstract versus verbal measures

5.L.2

Speed of processing

5.L.3

Fluid intelligence

5.L.4

Crystallized intelligence

5.L.5

Flynn effect

5.L.6

Stereotype threat

5.L.7

Savant syndrome

5.N.1

Charles Spearman, intelligence theorist

5.N.2

Howard Gardner, intelligence theorist

5.N.3

Robert Sternberg, intelligence theorist

continued on next page

LEARNING TARGET

5.0

Identify the contributions of key researchers in intelligence research and testing.

EXAMPLES

5.0.1

Contributions of Alfred Binet, key researcher in intelligence

5.0.2

Contributions of Francis Galton, key researcher in intelligence

5.0.3

Contributions of Howard Gardner, key researcher in intelligence

5.0.4

Contributions of Charles Spearman, key researcher in intelligence

5.0.5

Contributions of Robert Sternberg, key researcher in intelligence

5.0.6

Contributions of Lewis Terman, key researcher in intelligence

5.0.7

Contributions of David Wechsler, key researcher in intelligence



Topic Planning Notes

Use the space below to plan your approach to the topic.

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TOPIC 5.10

Psychometric Principles and Intelligence Testing

SUGGESTED SKILL

 *Scientific Investigation*

3

Analyze psychological research studies.

LEARNING TARGET

5.P

Explain how psychologists design tests, including standardization strategies and other techniques to establish reliability and validity.

5.Q

Interpret the meaning of scores in terms of the normal curve.

5.R

Describe relevant labels related to intelligence testing.

EXAMPLES

5.R.1

Gifted

5.R.2


Intellectual disability



Topic Planning Notes

Use the space below to plan your approach to the topic.

SUGGESTED SKILL

 *Concept Understanding*

1.C

Apply theories and perspectives in authentic contexts.



AVAILABLE RESOURCE

- Classroom Resource > [Cognition and Language](#)

TOPIC 5.11

Components of Language and Language Acquisition

LEARNING TARGET

5.S

Synthesize how biological, cognitive, and cultural factors converge to facilitate acquisition, development, and use of language.

5.T

Debate the appropriate testing practices, particularly in relation to culture-fair test uses.



Topic Planning Notes

Use the space below to plan your approach to the topic.
