**Cognitive Psychology**

**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. 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.

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| **Essential Questions:** |
| * What roles do memory and thinking play in our behaviors?
* What is intelligence and how can we study it to understand it?
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| **Unit Outline and Learning Targets** |
| **5.1 Introduction to Memory-** *Skill: Define and/or apply concepts.*1. Compare and contrast various cognitive processes.
2. Describe and differentiate psychological and physiological systems of memory.
3. Identify the contributions of key researchers in cognitive psychology.

**5.2 Encoding-** *Skill: Explaining behavior in authentic context.*1. Outline the principles that underlie construction and encoding of memories.

**5.3 Storing-** *Skill: Explaining behavior in authentic context.*1. Outline the principles that underlie effective storage of memories.

**5.4 Retrieving-** *Skill: Explain behavior in authentic context.*1. Describe strategies for retrieving memories.

**5.5 Forgetting and Memory Distortion-** *Skill: Explain behavior in authentic context.*1. Describe strategies for memory improvement and typical memory errors

**5.6 Biological Bases for Memory-** *Skill: Define and/or apply concepts*1. 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.*1. Identify problem solving strategies as well as factors that influence their effectiveness.
2. List the characteristics of creative thought and creative thinkers.

**5.8 Biases and Errors in Thinking-** *Skill: Explain behavior in authentic context.*1. 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.*1. Define intelligence and list characteristics of how psychologists measure intelligence.
2. Discuss how culture influences the definition of intelligence.
3. Compare and contrast historic and contemporary theories of intelligence.
4. Identify the contributions of key researchers in intelligence research and testing.

**5.10 Psychometric Principles and Intelligence Testing-** *Skill: Analyze psychological research studies.*1. Explain how psychologists design tests, including standardization strategies and other techniques to establish reliability and validity.
2. Interpret the meaning of scores in terms of the normal curve.
3. Describe relevant labels related to intelligence testing.
4. Debate the appropriate testing practices, particularly in relation to culture-fair test uses.

**5.11 Components of Language and Language Acquisition-** *Skill: Apply theories and perspectives in authentic contexts.*1. Synthesize how biological, cognitive, and cultural factors converge to facilitate acquisition, development, and use of language.
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| **Vocabulary to Master:** (you should be able to define each of these terms by test day)  |
| **5.1 Introduction to Memory** Automatic vs. Effortful ProcessingSelective vs. Divided AttentionDeep vs. Shallow ProcessingParallel/Dual ProcessingInformation Processing ModelEncodingStorageRetrieval**5.2 Encoding**Sensory MemoryIconic MemoryEchoic MemoryShort-term MemoryWorking MemoryRote Rehearsal**5.3 Storing**Long-Term MemoryExplicit Memories (Declarative)Episodic MemoriesSemantic MemoriesImplicit Memories (Nondeclarative)Prospective MemoryProcedural MemoriesEmotional MemoriesPrimingChunkingMaintenance RehearsalElaborative Rehearsal**5.4 Retrieving**Recognition RecallState-Dependent MemoriesMood-Dependent MemoriesTip-of-the-Tongue**5.5 Forgetting and Memory Distortion**Serial Position EffectPrimacy EffectRecency EffectInterferenceRetroactive InterferenceProactive InterferenceMisinformation EffectSource AmnesiaFlashbulb MemoriesEidetic Memory | **5.6 Biological Basis for Memory**Long-Term PotentiationHippocampus, Amygdala, Cerebellum AmnesiaRetrograde AmnesiaAnterograde AmnesiaForgetting Curve**5.7 Introduction to Thinking and Problem Solving**SchemaPrototypeMetacognitionAlgorithmHeuristics CreativityConvergent ThinkingDivergent Thinking**5.8 Biases and Errors in Thinking** Representativeness HeuristicAvailability HeuristicFunctional FixednessMental SetAnchoring EffectConfirmation BiasOverconfidenceBelief Perseverance Belief Bias**Key people to know**Noam ChomskyHermann EbbinghausWolfgang KohlerElizabeth LoftusGeorge A. MillerAlfred BinetFrancis GaltonHoward GardnerCharles SpearmanRobert SternbergLewis TermanDavid Wechsler | **5.9 Introduction to Intelligence**IntelligencePsychometric PsychologistsAchievement TestsAptitude TestsGeneral IntelligenceFactor AnalysisStanford-Binet Intelligence TestIntelligence Quotient (IQ)Mental AgeWechsler Intelligence Scale (adult and children)Crystallized vs. Fluid IntelligenceTriarchic Theory of IntelligenceMultiple IntelligencesEmotional Intelligence (EQ)**5.10 Psychometric Principles and Intelligence Testing** StandardizationReliability Split-half Reliability Test-Retest Reliability**Validity** Construct Validity Content Validity Concurrent Validity Predictive Validity***Assessing the Range***Stereotype ThreatDown SyndromeFlynn EffectGiftedIntellectual DisabilitySavant Syndrome**5.11 Components of Language and Language Acquisition** MorphemePhonemeGrammar Semantics SyntaxHolophrastic SpeechTelegraphic SpeechUniversal Inborn GrammarCritical PeriodLinguistic Determinism |