**Unit 3: Sensation and Perception**

**6-8% AP Exam Weighting**

Psychologists study sensation and perception to explain how and why externally gathered sensations and perceptions impact behaviors and mental processes. Using input from several anatomical structures, the sensations we perceive process and interpret information about the environment around us and our place within it. This results in perceptions that influence how we think and behave. In this way, sensation and perception provide a bridge between the biological and cognitive perspectives, offering aspects of both for explaining how we think and behave.

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| **Essential Questions:** |
| * How do we process the information we receive from our environments?
* How does our interpretation of the information we receive from the environment influence our behaviors and mental processes?
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| **Unit Outline and Learning Targets** |
| **3.1 Principles of Sensation-** *Skill: Define and/or apply concepts.*1. Describe general principles of organizing and integrating sensation to promote stable awareness of the external world.
2. Discuss basic principles of sensory transduction, including absolute threshold, difference threshold, signal detection, and sensory adaptation.
3. Identify the research contributions of major historical figures in sensation and perception.

**3.2 Principles of Perception-** *Skill: Explain behavior in authentic context.*1. Discuss how experience and culture can influence perceptual processes.
2. Discuss the role of attention in behavior.

**3.3 Visual Anatomy-** *Skill: Define and/or apply concepts.*1. Describe the vision process, including the specific nature of energy transduction, relevant anatomical structures, and specialized pathways in the brain for each of the senses.
2. Explain common sensory conditions.

**3.4 Visual Perception-** *Skill: Explain behavior in authentic context.*1. Explain the role of top-down processing in producing vulnerability to illusion.

**3.5 Auditory Sensation and Perception-** *Skill: Explain behavior in authentic context.*1. Describe the hearing process, including the specific nature of energy transduction, relevant anatomical structures, and specialized pathways in the brain for each of the senses.

**3.6 Chemical Senses-** *Skill: Analyze psychological research studies.*1. Describe taste and smell processes, including the specific nature of energy transduction, relevant anatomical structures, and specialized pathways in the brain for each of the senses

**3.7 Body Senses-** *Skill: Define and/or apply concepts.*1. Describe sensory processes, including the specific nature of energy transduction, relevant anatomical structures, and specialized pathways in the brain for each of the body senses.
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| **Vocabulary to Master:** (you should be able to define each of these terms by test day)  |
| **3.1 Principles of Sensation** Sensation (Bottom-up processing)Perception (Top-down processing)TransductionAbsolute ThresholdSignal Detection TheorySensory AdaptationDifference ThresholdWeber’s Law**3.2 Principles of Perception**SubliminalPerceptual SetInattention BlindnessChange Blindness**3.3 Visual Anatomy-** CorneaPupilIrisLensRetinaFoveaRodsConesOptic NerveBlind SpotFeature detectorsYoung-Helmholtz Trichromatic TheoryColor BlindnessOpponent-process TheoryAfterimage effect**3.4 Visual Perception** Gestalt Figure GroundDepth PerceptionVisual CliffBinocular CuesRetinal DisparityConvergenceMonocular CuesPhi PhenomenonPerceptual ConstancyColor Constancy | **3.5 Auditory Sensation and Perception-** FrequencyPitchMiddle EarCochleaInner EarPlace TheoryFrequency Theory (Volley Principle)Sensorineural Hearing LossConduction Hearing LossCochlear Implant**3.6 Chemical Senses** Gustation (taste)Olfaction (smell)**3.7 Body Senses** Gate Control TheoryKinesthetic SenseVestibular Sense**Other Terms-**Synaesthesia |

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| **Key People to Know:** (you should recognize these names and be able to list their contributions to psychology by test day) |
| **Gustav Fechner****David Hubel****Ernst Weber****Torsten Wiesel** |

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