**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)  Transduction  Absolute Threshold  Signal Detection Theory  Sensory Adaptation  Difference Threshold  Weber’s Law  **3.2 Principles of Perception**  Subliminal  Perceptual Set  Inattention Blindness  Change Blindness  **3.3 Visual Anatomy-**  Cornea  Pupil  Iris  Lens  Retina  Fovea  Rods  Cones  Optic Nerve  Blind Spot  Feature detectors  Young-Helmholtz Trichromatic Theory  Color Blindness  Opponent-process Theory  Afterimage effect  **3.4 Visual Perception**  Gestalt  Figure Ground  Depth Perception  Visual Cliff  Binocular Cues  Retinal Disparity  Convergence  Monocular Cues  Phi Phenomenon  Perceptual Constancy  Color Constancy | **3.5 Auditory Sensation and Perception-**  Frequency  Pitch  Middle Ear  Cochlea  Inner Ear  Place Theory  Frequency Theory (Volley Principle)  Sensorineural Hearing Loss  Conduction Hearing Loss  Cochlear Implant  **3.6 Chemical Senses**  Gustation (taste)  Olfaction (smell)  **3.7 Body Senses**  Gate Control Theory  Kinesthetic Sense  Vestibular Sense  **Other Terms-**  Synaesthesia | |  | | --- | | **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** | |