AP PSYCHOLOGY

UNIT 3

Sensation and Perception

6–8% AP EXAM WEIGHTING

~11–12 CLASS PERIODS
Remember to go to AP Classroom to assign students the online Personal Progress Check for this unit.

Whether assigned as homework or completed in class, the Personal Progress Check provides each student with immediate feedback related to this unit’s topics and skills.

**Personal Progress Check 3**

- **Multiple-choice:** ~20 questions
- **Free-response:** 1 question
  - Concept Application
Sensation and Perception

Developing Understanding

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.

Building Course Skills

Unit 3 builds on the biological foundation of psychology established in the previous unit. This progress toward understanding the brain, sensory organs, and central nervous system highlights the physiological processes involved in an individual’s perception of their surroundings. Students should be able to describe examples of anatomical structures, physiological processes, and psychological concepts related to sensation and perception.

Understanding the effects of sensation and perception on behavior and mental processes builds on what students learned in Unit 1 about psychological theories and perspectives, particularly their strengths and weaknesses. Students will also increase their understanding of scientific investigation, furthering their understanding of the physiological process of energy transduction as it relates to chemical senses.

Preparing for the AP Exam

Much like Unit 2, the content of this unit requires students to make connections between physiology and psychology. For example, students may be asked to relate a person’s receipt of information in their environment with their perception of that information. Students tend to provide an inadequate amount of detail to demonstrate understanding in response to questions related to anatomy. For example, an inadequate response about the role of the cerebellum would be, “It helps you move.” This is not enough information, because the parietal lobe also aids in movement. The response, “It helps you coordinate your movement,” indicates deeper knowledge.

In some cases, when a familiar word appears in a free-response question, students tend to give a definition of the word as their response when more is needed to earn the point.
## UNIT 3: Sensation and Perception

### UNIT AT A GLANCE

<table>
<thead>
<tr>
<th>Topic</th>
<th>Suggested Skill</th>
<th>Class Periods</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Principles of Sensation</td>
<td>1.A Define and/or apply concepts.</td>
<td>~11–12 CLASSES</td>
</tr>
<tr>
<td>3.3 Visual Anatomy</td>
<td>1.A Define and/or apply concepts.</td>
<td></td>
</tr>
<tr>
<td>3.5 Auditory Sensation and Perception</td>
<td>1.B Explain behavior in authentic context.</td>
<td></td>
</tr>
<tr>
<td>3.6 Chemical Senses</td>
<td>3 Analyze psychological research studies.</td>
<td></td>
</tr>
<tr>
<td>3.7 Body Senses</td>
<td>1.A Define and/or apply concepts.</td>
<td></td>
</tr>
</tbody>
</table>

Go to [AP Classroom](https://apclassroom.collegeboard.org) to assign the Personal Progress Check for Unit 3. Review the results in class to identify and address any student misunderstandings.
## SAMPLE INSTRUCTIONAL ACTIVITIES

The sample activities on this page are optional and are offered to provide possible ways to incorporate various instructional approaches into the classroom. Teachers do not need to use these activities or instructional approaches and are free to alter or edit them. The examples below were developed in partnership with teachers from the AP community to share ways that they approach teaching some of the topics in this unit. Please refer to the Instructional Approaches section beginning on p. 151 for more examples of activities and strategies.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Topic</th>
<th>Sample Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.1</td>
<td><strong>Think-Pair-Share</strong>&lt;br&gt;Ask students, &quot;If you had to give up one of your senses, which one would you be willing to live without?&quot; Have them explain their answer. Then ask, &quot;If you could only keep one of your senses, which one would you choose?&quot; Have them explain their answer.</td>
</tr>
<tr>
<td>2</td>
<td>3.3</td>
<td><strong>Misconception Check</strong>&lt;br&gt;Have students draw and label a diagram of the eye, noting the functions of the labeled structures. Emphasis should be placed on the rods and cones. Students can do a blind-spot test and a test for visual acuity.</td>
</tr>
<tr>
<td>3</td>
<td>3.6</td>
<td><strong>Graph and Switch</strong>&lt;br&gt;Give each pair of students 10 jellybeans. Have each partner take a turn tasting five jellybeans with eyes closed and nose plugged. Have the other partner record whether or not the subject correctly identified the flavor in each of the five trials. Collect the class data and graph the results on the board to be analyzed. Without the olfactory sense and sight, most individuals cannot accurately identify flavors. Have students explain how this relates to sensory interaction.</td>
</tr>
</tbody>
</table>

### Unit Planning Notes

*Use the space below to plan your approach to the unit.*
TOPIC 3.1
Principles of Sensation

LEARNING TARGET
3.A
Describe general principles of organizing and integrating sensation to promote stable awareness of the external world.

EXAMPLES
3.A.1
Gestalt principles
3.A.2
Depth perception
3.A.3
Top-down processing
3.A.4
Bottom-up processing

3.B
Discuss basic principles of sensory transduction, including absolute threshold, difference threshold, signal detection, and sensory adaptation.

3.C
Identify the research contributions of major historical figures in sensation and perception.

3.C.1
Contributions of Gustav Fechner
3.C.2
Contributions of David Hubel
3.C.3
Contributions of Ernst Weber
3.C.4
Contributions of Torsten Wiesel
TOPIC 3.2
Principles of Perception

LEARNING TARGET

3.D
Discuss how experience and culture can influence perceptual processes.

3.E
Discuss the role of attention in behavior.

EXAMPLES

3.D.1
Perceptual set

3.D.2
Context effects

3.D.3
Schema

Topic Planning Notes

Use the space below to plan your approach to the topic.
TOPIC 3.3
Visual Anatomy

LEARNING TARGET

3.F
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.

EXAMPLES

3.F.1
Vision process

3.F.2
Concepts related to visual perception

3.F.3
Theories of color vision

3.G
Explain common sensory conditions.

3.G.1
Visual and hearing impairments

3.G.2
Synesthesia

Topic Planning Notes
Use the space below to plan your approach to the topic.
TOPIC 3.4
Visual Perception

LEARNING TARGET
3.H
Explain the role of top-down processing in producing vulnerability to illusion.

Topic Planning Notes
Use the space below to plan your approach to the topic.
TOPIC 3.5
Auditory Sensation and Perception

LEARNING TARGET
3.1 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.

EXAMPLES
3.1.1 Hearing process

Topic Planning Notes
Use the space below to plan your approach to the topic.
TOPIC 3.6
Chemical Senses

LEARNING TARGET

3.J
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.

EXAMPLES

3.J.1
Taste

3.J.2
Smell

Topic Planning Notes

Use the space below to plan your approach to the topic.
TOPIC 3.7
Body Senses

LEARNING TARGET

3.K
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.

EXAMPLES

3.K.1
Body sense: touch

3.K.2
Body sense: pain

3.K.3
Body sense: vestibular

3.K.4
Body sense: kinesthesia

Topic Planning Notes

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