

CHAPTER 29 - The Senses

Chapter Reading Guide

Sensory Reception

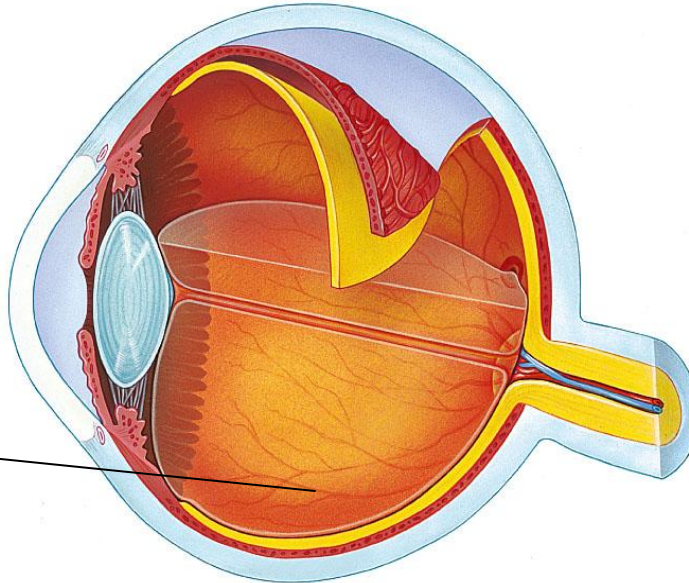
1. Define sensory transduction, a receptor potential, and sensory adaptation. Illustrate each with examples.

2. **List** and then describe the five general categories of sensory receptors found in animals. **Note examples of each.**

Vision

3. Describe and compare the three main types of photoreceptors found in animals.

4. Label the structures and then describe the parts of the human eye and their functions.



vitreous humor
a jelly-like substance which fills the space behind the lens of the eye; it maintains the shape of the eye

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5. Explain the causes and symptoms of hyperopia, myopia, presbyopia, and astigmatism.

6. Compare the structures, functions, distributions, and densities of rods and cones.

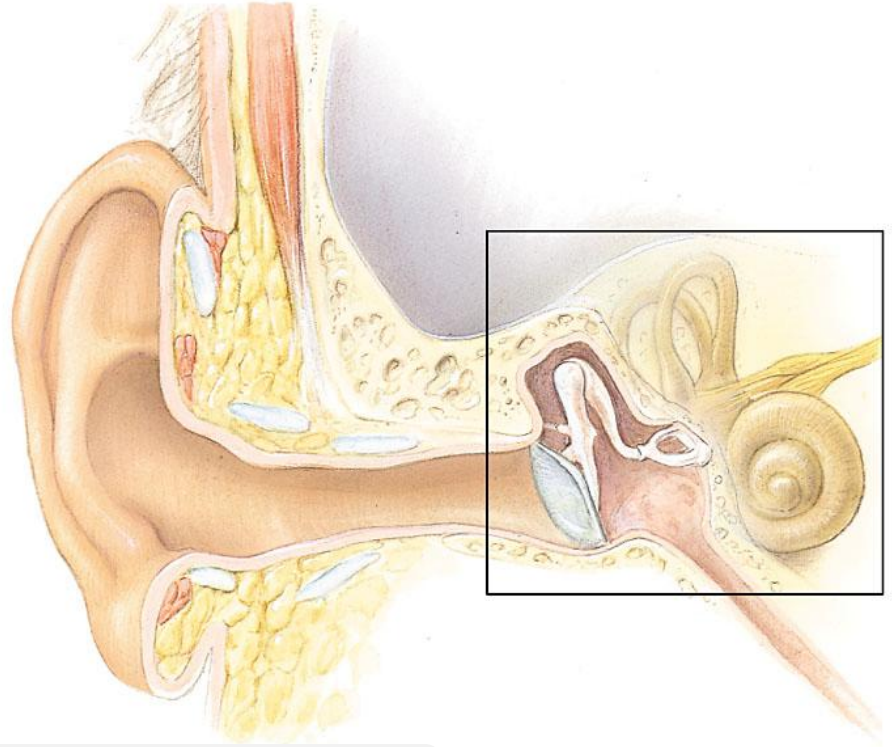
Characteristics	Rods	Cones
Draw the structure		
Explain the function		
State the distribution		6 million cone cells found distributed throughout the human retina in close proximity to the neurons of the nervous system
Compare the densities of each photoreceptor	greater density @ outer edges of retina and absent from the fovea	

Hearing and Balance

7. Label Figure 29.9A. Trace the route of sound waves through the ear and **LIST IN ORDER** the structures of the ear involved in hearing. Describe the possible causes of hearing loss.

Route of sound waves

pressure waves are collected in the pinna and auditory canal of the outer ear



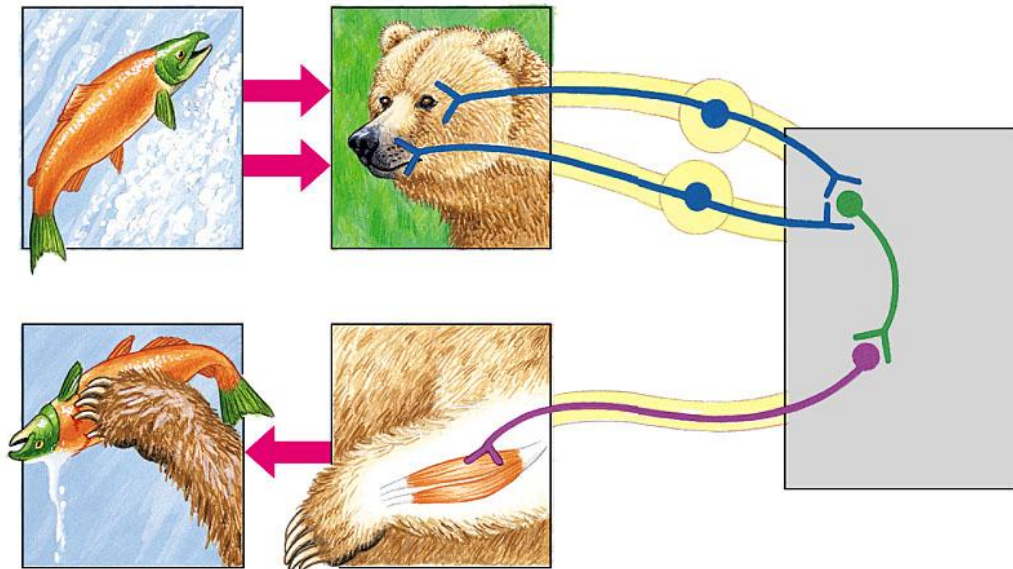
Causes of hearing loss

8. Explain how the body position and movement are sensed in the inner ear. Explain what causes motion sickness and what can be done to prevent it.

Taste and Smell

9. Explain how odor and taste receptors help contribute to the senses of smell and taste. Create a drawing to accompany your description.

10. Completely label Figure 29.13. Explain the role of the central nervous system in sensory perception in the space provided below.



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