Study suggestions for this chapter: In the textbook at the end of the chapter, the sections entitled 1) Highlighting the Concepts, 2) Recognizing Key Terms, and 3) Reviewing the Concepts are all good for you to gauge your comprehension and focus your study efforts.

Study Questions

1. What are the 6 classes of sensory receptors? Name and describe the specific kinds of sensory receptors in each of the class.
2. What are the general senses? What are the special senses?
3. What is the difference between somatic, visceral, and referred pain?
4. Describe the 3 tunics of the eye. What specialized structures are found in each? What are their functions?
5. Describe the accommodation mechanism and how light is focused on the retina.
6. Why is the design of the retina “not intelligent”? In other words, describe the path of light as it enters the eye to stimulate the retina. Describe the layers of the retina and function of each. Describe the path the action potentials take on their way to the brain.
7. Describe the makeup of the “visual pigments” of the eye. How does light affect their activity?
8. Describe how sound in the environment travels and is transmitted through the outer ear and into the middle ear. Your response should include the following terms: eardrum, stapes, external auditory canal, incus, middle ear, malleus, round window.
9. Describe the function and significance of the Eustachian tube.
10. Describe the function of the cochlea. Your answer should include the following terms: basilar membrane, tympanic canal, oval window, Organ of Corti, round window, hair cells, tectorial membrane, vestibular canal. How do sounds with different levels of loudness and pitch affect the cochlea?
11. Describe the function of the semicircular canals. Your answer should include the following terms: crista ampullaris, ampulla, cupula, hair cells, rotational acceleration.
12. Describe the function of the utricle and saccule. Your answer should include the following terms: linear acceleration, otoliths, otolithic organ, hair cells, gravity.
13. Describe the function of olfactory (smell) receptors. Where are the olfactory receptors located? How do they detect odors?
14. Describe the function of taste receptors (buds). What are papillae? What parts of the mouth contain taste buds? What are the 5 general tastes?