

READING NOTES CHAPTER 12: SENSES

Name _____
Period ____ Due date _____

Introduction (p. 444)

All senses, whether we are talking about general senses (touch, hot/cold, pain) or our special senses (sight, sound, smell, taste), work in basically the same way. Sensory _____ are structures that collect information from the environment. Sometimes there is a special membrane to gather that information, but essentially the mechanism to send a message to the brain is the same.

There are 5 types of receptors to register a stimulus. For each, provide a brief description of how they work/what they register:

Chemoreceptors:

Nociceptors:

Thermoreceptors:

Mechanoreceptors:

Proprio –

Baro –

Stretch –

Photoreceptors:

If a receptor belongs to a **peripheral nerve**, that impulse is then carried to the **central nervous system** where it is analyzed and interpreted in the brain. At the same time that a sensation forms, the cerebrum interprets it to seem to come from the receptors being stimulated. This is called _____ because it allows you to track the sensation back to the original source. Because all of the impulses conducted on the sensory fibers are alike, what we interpret from the stimulus depends on which region of the cerebrum receives the impulse. This can serve to explain why many different types of stimulus can be interpreted in the same way. For example heat, cold, or pressure is always the same because the same part of the brain interprets the resulting impulses as _____.

The brain must _____ the sensory input it receives or it would be overwhelmed by everything coming in. Therefore it has the ability to ignore unimportant – or even continuing and unchanging – stimuli. This is called _____ _____. Once this occurs, a sensation will only happen if the strength of the stimulus _____.

General senses (pages 446 – 450)

These types of senses can be divided into 3 groups. For each, describe how they work and list examples of what causes them to respond:

Exteroreceptive:

Touch and pressure –

Temperature –

Pain

Visceroreceptive:

Proprioreceptive:

Be sure to read about synesthesia on page 452!

Special senses (pages 452 – 482)

You will receive handouts for the eye and ear diagrams. Use pages 457 and 458 to label the components of the ear diagram and page 471 for the eye diagram. Then use the indicated pages to describe the nature of the disorder of the eye and ear (in anatomical terms) and how to treat them (if possible):

Sight:

Color-blindness (p. 444)

Hyperopia (p. 477)

Myopia (p. 477)

Amblyopia

Strabismus (p. 470)

Astigmatism (p. 477)

Presbyopia (p. 482)

Hearing:

Prolonged-stimulus deafness

Sensorineural deafness (p. 465)

Tinnitus (p. 482)