

Name: \_\_\_\_\_

## Physiology: Sensory Receptors

Directions: Write in and circle best answer on this sheet.

**Adaptation of Receptors** See page 241 of the OER Text and answer the following questions.

Define a rapidly adapting or **phasic receptor**:

Give two examples in the body that we tested in lab:

1)

2)

Define a slowly adapting or **tonic receptor**:

Give two examples in the body: [Hint: blood pressure and body position are constantly assessed]

1)

2)

a) The *general* receptors that detect touch in the skin are \_\_\_\_\_-receptors.

b) In lab, which stimulus took longer to ignore: One coin or four coins? \_\_\_\_\_.

c) Briefly explain why: \_\_\_\_\_.

d) What kind of receptors are these in terms of *adaptation*? \_\_\_\_\_.

d) The *specific* type of receptors for cutaneous light touch (vibration) \_\_\_\_\_.

e) The *specific* type of receptors for cutaneous pressure are \_\_\_\_\_.

**Reflexes** Use information from Ch 11, page 292 to 293 of our OER Text.

a) Define a Reflex: \_\_\_\_\_.

b) In the pupillary reflex:

The \_\_\_\_\_ muscle closes down (**constricts**) the pupil. This is controlled by \_\_\_\_\_.

The \_\_\_\_\_ muscle pulls the pupil open (**dilates**) the pupil. This is controlled by \_\_\_\_\_.

c) What are the **2** types of **spinal reflexes** discussed in lab? List an example of each.

## Multiple Choice Questions

1. Which of the following components or examples belong to a polysynaptic spinal reflex?  
 1. thalamus   2. inferior colliculi   3. patellar reflex   4. interneurons   5. withdrawal reflex  
 a) 1 only   b) 4 and 2   c) 3 only   d) 2, 5 and 4   e) 5 and 4
  
2. In lab, when watching to catch the reaction time ruler, what was the **receptor** in this loop?  
 a) skeletal muscle   b) sensory neurons   c) photoreceptors   d) proprioceptor   e) the brain
  
3. In terms of **adaptation**, baroreceptors that detect blood pressure \_\_\_\_\_.  
 a) detect pressure   b) are tonic   c) are phasic   d) are fast to adapt   e) mechanoreceptors
  
4. What type of sensory receptors will respond to changes in pressure, distention, or movement?  
 a) mechanoreceptors   b) thermoreceptors   c) chemoreceptors   d) photoreceptors
  
5. **Chemical** senses include \_\_\_\_\_.  
 a) olfaction   b) receptors for pH   c) gustation   d) oxygen levels in blood   e) all of these
  
6. When would you expect that your pupils would be **smallest**?  
 a) Watching a movie in a dimly lit room.  
 b) Reading a book in a moderately lit room.  
 c) Sitting on the beach on a very sunny day.  
 d) Navigating through a dark forest at night.  
 e) Suddenly seeing someone you like.
  
7. The sensory receptors in skin specialized to detect information about changes in **temperature** are:  
 a) Nociceptors  
 b) Hair follicle receptors  
 c) Meissner's corpuscles  
 d) Pacinian corpuscles  
 e) Free nerve endings
  
8. Receptors that help maintain, body position, equilibrium, and posture are:  
 a) nociceptors   b) mechanoreceptors   c) free nerve endings   d) proprioceptors
  
9. All sensory signals except \_\_\_\_\_ travel to the \_\_\_\_\_ in the brain before the cerebral cortex.  
 a) vision; thalamus  
 b) olfaction; thalamus  
 c) vision; cranial nerves  
 d) olfaction; cranial nerves
  
10. What does the term **threshold stimulus** mean for sensory receptors?  
 a) The specific type of energy needed to activate a particular sensory receptor.  
 b) The duration of stimulus that triggers all sensory receptors.  
 c) The type of sensory receptor activated by a sensory experience.  
 d) The minimum strength of the stimulus required to trigger a response.