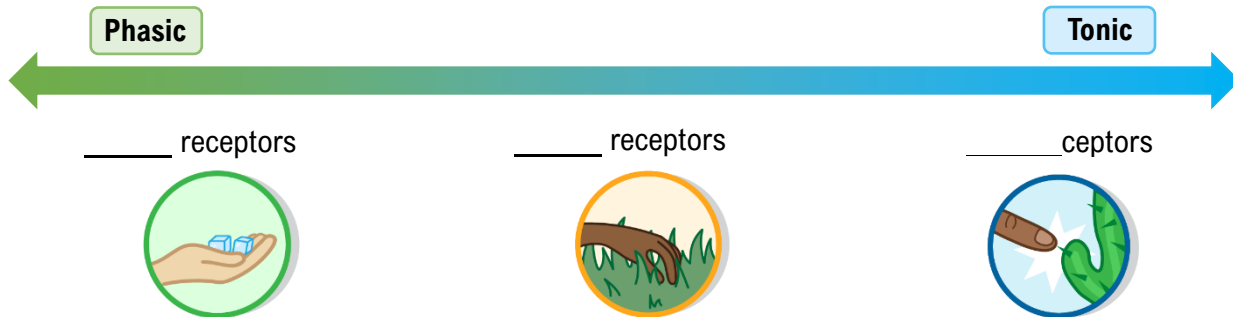


TOPIC: ADAPTATION OF SENSORY RECEPTORS

- **Adaptation:** Reduction of receptor sensitivity in the presence of a constant stimulus.
- Two types of adaptation:
 - **Phasic Receptors** (Fast-Adapting): Report _____ in environment.
 - **Tonic Receptors** (Slow-Adapting): Provide _____ response.
- You can think of adaptation as a continuum:



EXAMPLE: Which of the following is an example of a tonic receptor?

- a) A receptor that adapts quickly to the sound of a ticking clock.
- b) A receptor in the tongue that responds to the initial taste of flavorful food but adapts quickly to the taste.
- c) A receptor in the skin that maintains its firing rate after you receive a paper cut.
- d) A receptor in the eye that detects rapid changes in light intensity.

PRACTICE: Which of the following is TRUE regarding phasic receptors?

- a) Phasic receptors respond to sustained stimuli and maintain their firing rate.
- b) Phasic receptors respond with a burst of action potentials when a stimulus is first applied and quickly adapt to the stimulus.
- c) Phasic receptors adapt slowly to changes in stimulus intensity.
- d) Phasic receptors exhibit continuous, constant firing in response to a stimulus.

PRACTICE: Thermoreceptors tend to be phasic receptors because they:

- a) Take a long time to respond to a temperature change.
- b) Produce a generator potential.
- c) Produce a receptor potential.
- d) Alert us to changes in temperature but are less active when temperature is constant.