

Pretest 3rd form – Sense organs and the nervous system

B Answers

1. 1: Motor neurone 2: Relay neurone / connector neurone 3: Sensory neurone
A: Muscle / gland / effector B: Sense organ / receptor

c) This neurone goes to the brain

d) You aren't able to perceive a stimulus from receptors connected to 3, but you are able to use your muscle connected to 1.
- a) Stimulus → receptor → sensory neurone (dendrite, cell body, axon) → relay neurone (in the spinal cord) → motor neurone → muscle → movement of the arm

b) Stimulus → receptor → sensory neurone (dendrite, cell body, axon) → relay neurone (in the spinal cord) → relay neurone (in the brain) → motor neurone → mouth → 'shouting'
3. Sensory neurone, because the cell body is at the beginning, which is not true for a sensory neurone.
4. Top to bottom, the (first part of the) synapses are found at the bottom.
5. Substances are released (also between neurones via synapses).
- a) + b) A stimulus is something you can perceive with your receptors (in your sense organs). For example, light, sound, molecules in your food are stimuli. You can read something what you see or do something after you've seen something, or heard something, or you can choose to eat more or stop eating after tasting something.

c) A stimulus is perceived by a receptor and this receptor creates an impulse and sends it away via a sensory neurone. Most stimuli (when they are strong enough) are followed by an impulse.
- a) During daytime, your cones make sure you see colour and because they are found in your fovea they make sure you see everything in focus.

b) At night, there is not enough light for your cones to work. Your rods can perceive a little bit of light and make sure you can still manage to find your way.