A1 · Homeostasis, neurons and the reflex arc · Worked examples and practice

Name: _____ Date: _____

Worked examples

Read these first. There is one for each kind of question in this lesson.

Example 1 · Trace a reflex arc

A cook touches a hot pan and the hand pulls away. Trace the reflex arc.

1. Find the stimulus and the receptor: heat, detected by a receptor in the skin.
2. Follow the sensory neuron to the spinal cord.
3. An interneuron in the spinal cord passes the nerve impulse on.
4. A motor neuron carries it to the effector.
5. The effector is an arm muscle. It contracts.

Answer: Receptor, sensory neuron, interneuron, motor neuron, effector (arm muscle).

Example 2 · Name a part of a neuron from its job

Which part of a neuron carries nerve impulses away from the cell body?

1. Dendrites carry nerve impulses toward the cell body.
2. The axon carries them away.

Answer: The axon.

Practice

Questions 1 to 4 are easy. Questions 5 to 8 are medium. Questions 9 and 10 are harder.

EASY

1. State what homeostasis is.

EASY

2. Name the part of a neuron that carries nerve impulses toward the cell body.

EASY

3. Name the cells that make the myelin sheath.

EASY

4. Name the kind of neuron found only in the brain and spinal cord.

MEDIUM

5. Explain what a node of Ranvier is and why it matters.

MEDIUM

6. Compare a sensory neuron with a motor neuron. Give the direction each one carries nerve impulses.

MEDIUM

7. Explain the difference between a neuron and a nerve.

MEDIUM

8. Dust touches your eye and you blink. Name the stimulus, the effector and the response.

HARDER

9. A disease destroys the myelin sheath of motor neurons. Predict the effect on movement. Explain.

HARDER

10. A person steps on a sharp stone. The foot lifts before the person feels pain. Explain why the foot moves first.