

14 The nervous system – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	Write it 3 times (English)		
coordinate	_____	_____	_____
nervous system	_____	_____	_____
electrical impulses	_____	_____	_____
neurones	_____	_____	_____
central nervous system	_____	_____	_____
brain	_____	_____	_____
spinal cord	_____	_____	_____
peripheral nervous system	_____	_____	_____
impulse	_____	_____	_____
reflex	_____	_____	_____
response	_____	_____	_____
stimulus	_____	_____	_____
receptor	_____	_____	_____
effector	_____	_____	_____

Recall

Your body must react to changes and **coordinate** its parts. The **nervous system** does this with fast **electrical impulses** along **neurones**.

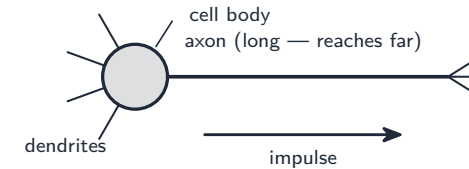
New ideas

Read these first, then do the Practice.

■ 1 Parts of the nervous system

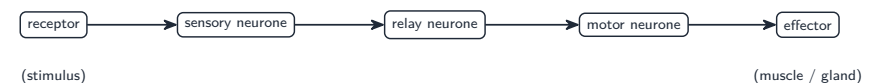
- the **central nervous system** (CNS) – the **brain** and **spinal cord** ;
- the **peripheral nervous system** – all the nerves outside the CNS.

A neurone carries an **impulse** along a long fibre:



■ 2 The reflex arc

A **reflex** is a fast, automatic **response** to a **stimulus**. It follows a fixed path:



receptor → sensory → relay → motor neurone → **effector** (a muscle or gland).

Watch out: a **reflex** is fast and automatic because the impulse takes a fixed short path (the reflex arc) and does **not** wait for the brain to decide. The order is **receptor** → **sensory** → **relay** → **motor** → **effector**.

Practice

Try these in order.

14.1 What are the two parts of the central nervous system?

14.2 What carries impulses around the body? [1]

14.3 What is a *reflex action*? [1]

14.4 Put the reflex arc in order: motor neurone, receptor, effector, sensory neurone, relay neurone. [2]

14.5 Give one example of an effector. [1]

14.6 Challenge. Explain why a reflex action, like pulling your hand off a hot object, is faster than a thought-out movement. [2]