

### Activity 1 – sheet 1 of 1

### Programme Questions

#### The Eye

1. How is the lens of your eye different from a camera lens?

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2. The image on your retina is upside down. How do we see things the right way up?

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3. What shape is the lens when focusing light from a nearby object?

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4. How does the iris protect your eye?

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5. Why can you not see the part of an image that falls on the blind spot?

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#### The Nervous System

1. What is the central nervous system?

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2. Can you list the events in a reflex arc?

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3. What is a nerve impulse made of?

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#### Plant Tropisms

1. What is the difference between tropism and movement?

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2. Why do you not have to plant seeds the right way up?

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**Activity 2** – sheet 1 of 1**Speedy Reflexes**

Ben was helping in the kitchen. He picked up a metal spoon and without thinking dropped it. The spoon was hot but Ben had dropped it without thinking.

1. Find out from your teacher what to do with the following words and definitions.

Words	Definitions
Receptor	A nerve cell that transmits a nerve impulse from a relay nerve cell to an effector, eg a muscle.
Stimulus	Information from the environment, eg light, sound, heat, chemicals, texture, pressure.
Sensory Nerve	The action that an organism makes after receiving a stimulus, eg a movement, secreting saliva.
Effector	An organ that responds to a stimulus. Usually a muscle, eg salivary gland.
Motor Nerve	A nerve cell that transmits a nerve impulse from a receptor to the central nervous system.
Relay Nerve	A nerve cell in the central nervous system that transmits a nerve impulse from a sensory nerve cell to a motor nerve cell.
Response	Cells or organs that can detect a stimulus and pass information to a sensory nerve, eg light receptors in the retina of the eye, chemoreceptors in the nose and on the tongue.

2. What are reflexes for?
3. Which reflex actions can you control consciously, and which cannot be controlled?
4. If we can control a reflex, what should we add to the diagram of the reflex arc?
5. Are we born with reflexes, or are they learned?
6. Which parts of the reflex arc are in the central nervous system and which are part of the peripheral nervous system?

**Activity 3** – sheet 1 of 2**The Eye**

- Label the eye diagram using the names of each part.
- Match the descriptions to each part of the diagram.

Name	Description
ciliary muscles	the most sensitive part of the retina
choroid	muscles that change the thickness of the lens
cornea	a black layer with lots of blood vessels
vitreous humour	made of stiff jelly and can change shape to focus light
conjunctiva	transparent protective layer at the front of the eye moistened by tears
retina	clear part that lets light into the eye
aqueous humour	contains light sensitive rod and cone cells
fovea	transparent jelly that supports the back part of the eye
lens	carries nerve impulses to the brain
iris	opening in the iris through which light passes
suspensory ligaments	tough, white protective layer
blind spot	watery liquid filling the front part of the eye
pupil	fibres supporting the lens
optic nerve	controls the amount of light entering the eye
sclera	part of the retina where the optic nerve enters the eye; there are no light sensitive cells here

**Activity 3** – sheet 2 of 2

## The Eye

