

The Nervous System

Q1 One of the functions of the nervous system is to allow us to react to changes in our surroundings.

- What do we call the **changes** in the environment to which we respond?
- What do we call the **cells** that detect these changes in the environment?
- Suggest some advantages of being able to **detect** and **respond** to changes in the environment.

Q2 You need to know about five sense organs — **nose, tongue, ears, eyes, and skin.**

- Match** these sense organs to the following senses (some organs have more than one sense):

balance hearing sight smell taste temperature touch

- The senses work because each sense organ contains cells that are able to detect certain stimuli. For example, the sense of balance arises from the appropriate sense organ being able to detect the position of the body. Match the senses in part **a)** to the following stimuli (some stimuli may produce more than one sense):

chemicals light position sound pressure temperature change

- Draw up a table** with the headings shown on the right. Put your answers to parts **a)** and **b)** together to complete your table. It should show **which stimuli** are detected in each sense organ, and the **sense** produced as a result.

Sense organ	Stimulus	Sense

Q3 The receptor cells in sense organs are able to convert or transduce the energy from a stimulus into electrical impulses.

- How** are **electrical impulses** transmitted around the body?
- Describe** the difference between **Motor** and **Sensory** Neurons.

Q4 Look at the diagram on the right:

- Identify** the parts of the nervous system labeled **X**, **Y**, and **Z**.
- What is the **collective** name given to the parts represented by **X** and **Y**?
- Give **two** roles played by the part labeled **X** in the nervous system.

