Topic: Irritability (Response to Stimuli)

This unit explores irritability the ability of living organisms to detect and respond to changes in their internal and external environments. It highlights irritability as a defining characteristic of life, showing how both plants and animals sense stimuli and adjust their behaviour or physiology to survive.

Key areas of focus include:

- **Definition of Irritability** – understanding irritability as sensitivity and responsiveness to stimuli such as light, sound, touch, temperature, and chemicals.
- **Irritability in Animals**
    - **Sense Organs** – structure and function of the eye, ear, skin, tongue, and nose.
    - **Nervous System** – the role of receptors, nerves, the spinal cord, and the brain in detecting and processing stimuli.
    - **Reflex Actions** – simple, automatic responses that protect the body.
    - **Coordination** – how the nervous and endocrine systems work together to produce appropriate responses.
- **Irritability in Plants**
    - **Tropisms** – directional growth responses such as phototropism, geotropism, hydrotropism, and thigmotropism.
    - **Nastic Movements** – non-directional responses like the opening and closing of flowers or leaves.
    - **Plant Hormones** – the role of auxins and other growth regulators in plant responses.
- **Importance of Irritability** – survival value of detecting danger, finding food, reproducing, and adapting to environmental changes.

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By the end of this topic, students should be able to:

- Define irritability and explain its importance as a life process.
- Describe how animals detect and respond to stimuli through sense organs and the nervous system.
- Explain reflex actions and their protective role.
- Identify plant responses to stimuli and the role of hormones in regulating them.
- Appreciate irritability as a unifying feature of living organisms that ensures survival and adaptation.

This topic links structure to function, showing how organisms from the simplest plants to complex animals are equipped with systems that allow them to sense and respond to the world around them.

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