Week 1: Science - Control and Coordination

Subject: Science | Grade: 10 | Generated: 7/23/2025

Ø=ÜÚ Lesson Overview Subject: Science Grade: 10 Week: 1 Curriculur
Objectives To understand the concept of control and coordination in living organisms.To differentiate between nervous and hormonal control mechanisms in animals.To explain the structure and functions of the human nervous system (brain, spinal cord, nerves).To describe reflex action and reflex arc with suitable examples.To identify different types of movements in plants and explain plant hormones.To understand the role of hormones in animals and t
Daily Lesson Breakdown Monday - Introduction to Control and Coordination; Reflex Action and Reflex Arc Ø<ß¯ Objectives: To define control and coordination.To un and response.To explain reflex action and describe the path of a ref
minutes): **Engage (5 min):** Start with a quick activity: Ask students to clap their hands once. Then ask them to immediately withdraw their hand if they accidentally touch something hot, like a 'diya' (oil lamp) during Diwali or a hot 'tawa' (griddle). Discuss the difference in these actions.**Explore (15 min):** Brainstorm stimuli and responses in daily life (e.g., seeing a traffic light change, hearing an 'aarti' bell). Introduce the concept of reflex action (e.g., knee jerk, blinking).**Explain (15 min):** Discuss the components of a reflex arc (receptor, sensory neuron, relay neuron, motor neuron, effector) using a simple diagram. Explain how messages are conveyed via nerve impulses.**Elaborate (5 min):** Connect to common Indian scenarios: pulling hand away from a thorny 'gulab' (rose) bush, blinking when dust gets into eyes
Materials: Whiteboard/BlackboardMarkers/ChalkNCERT Science Textbook (Chapter 7, Page 119-121)Diagram of Reflex Arc Ø=ÜÝ Homework: Read NCERT Science
Sections 7.1, 7.2, 7.2.1, 7.2.2, 7.2.3. Answer NCERT In-Text Questions (Page 122, Q1, Q2) related to reflex action. Ø=ÜÖ NCERT Reference: Chapter 7: Control and Coor 7.2.1, 7.2.2, 7.2.3 Ø=ÜË Teaching Notes: Emphasize the involuntary a
as a survival mechanism. Use local examples to make it relatable. Tuesday - Human Nervous System - Brain: Structure and Functions Ø<ß¯ Objectives: To identify
brain (forebrain, midbrain, hindbrain).To describe the main functions associated with each part of the brain.To explain how the brain is protected. Ø<ßª Activities (40 m
review of reflex action and the need for a more complex system for voluntary actions.**Explore (15 min):** Introduce the Human Brain as the main coordinating centre. Use a simple diagram of the brain (forebrain, midbrain, hindbrain). Discuss the functions of each major part (e.g., Forebrain for thinking, memory, voluntary actions like solving a 'Sudoku' puzzle or learning a classical 'Kathak' dance step; Cerebellum for balance during cycling or walking on an uneven 'kutcha' road).**Explain (15 min):** Discuss the protection of the brain (cranium, cerebrospinal fluid). Explain the role of different lobes (frontal, parietal, temporal, occipital) briefly.**Elaborate (5 min):** Conduct a short 'Guess the Action' game where students guess the brain part involved in actions like 'singing a Bollywood song', 'smelling a fragrant 'mogra' flower', or 'solving a m
Whiteboard/BlackboardMarkers/ChalkNCERT Science Textbook (Chapter 7, Page 122-124)Chart/Diagram of Human Brain Ø=ÜÝ Homework: Draw a well-l
brain. Research common neurological conditions and their impact on daily life (e.g., stroke, Alzheimer's – general awareness, not detailed study). Ø=ÜÖ NCERT R and Coordination, Sections 7.3, 7.3.1 Ø=ÜË Teaching Notes: Stress th
the brain. Keep the functions concise for this grade level. Wednesday - Human Nervous System - Spinal Cord, Nerves, and How Nervous Tissue Causes Action Ø<ß¯ Ob
structure and function of the spinal cord.To classify different types of nerves.To explain the mechanism by which nervous tissue causes action (nerve impulse, synapse, muscle contraction). Ø<ßª Activities (40 minutes): **Recap (5 min):** Briefly review the bra
complex voluntary actions.**Explore (15 min):** Introduce the Spinal Cord as the centre for reflex actions and a relay pathway. Explain the different types of nerves (cranial, spinal, autonomic). Discuss sensory vs. motor nerves.**Explain (15 min):** Discuss how nervous tissue causes action (nerve impulse to muscle contraction). Briefly touch upon the synapse. Relate it to simple actions like 'picking up a cricket ball' or 'writing a letter in Hindi'.**Elaborate (5 min):** Group activity: 'Role-play a Nerve Pathway'. Assign students roles (receptor, sensory neuron, brain, spinal cord, motor neuron, muscle) and have them act out a simple action like 'seeing a friend and waving hello' or 'hearing the school bell and packing bag'. Ø=Üæ Materials:
Whiteboard/BlackboardMarkers/ChalkNCERT Science Textbook (Chapter 7, Page 124-125)Diagram of Spinal Cord and Nerve endings Ø=ÜÝ Homework: A