THIRD TERM
WEEKLY LESSON NOTES
WEEK 10

Week Ending: 01-09-2023	**DAY:**	**Subject:** Science	
Duration: 100mins		**Strand:** Humans & The Environment	
Class: B8	**Class Size:**	**Sub Strand:** Properties Of Soils	
Content Standard: B8.5.5.1 Demonstrate understanding of the differences among soils, plant roots, stems, leaves, flowers, and fruits of plants in the different environments.	**Indicator:** B8.5.5.1.1 Discuss physical properties of soils.	**Lesson:** 1 of 2	
Performance Indicator: Learners can discuss physical properties of soils.		**Core Competencies:** DL 5.3: CI 6.8: DL 5.1: CI 6.6:	
References: Science Curriculum Pg. 80			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners to review their understanding in the previous lesson. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Discuss with learners on the different soil types: sandy, loamy, and clay soils. Explain their characteristics, particle sizes, and how they differ in terms of water retention and drainage. Discuss how each soil type supports the root system of plants and how water retention affects plant growth. Divide the class into groups and provide each group with garden trowels or small shovels. Take a field trip to the school garden or a designated area in the community to collect soil samples. Instruct learners to collect samples of sandy, loamy, and clay soils separately. Distribute clear plastic cups, seeds, markers, and handouts with observation sheets. Instruct each group to fill three cups with equal amounts of each soil type. Label the cups accordingly. Have learners plant a seed in each cup and water them with the same amount of water using a graduated cylinder. Ask learners to record their initial observations on the handout, noting the appearance of each soil type and the water added. Place the cups near a window or under a grow light and let the seeds germinate over the next few days.	Pictures and charts

	Bring the cups back to the classroom. Have learners measure the height of the seedlings in each cup using a ruler. Discuss and record the findings on the whiteboard. Lead a discussion based on the observation results: - How did each soil type retain water differently? - How did water retention affect the growth of the seedlings? - Which soil type seemed to support the root system the best? <u>Assessment</u> Ask learners to research and write a short essay on the benefits and challenges of each soil type for specific types of crops or plants.	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	

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Class: B8	**Class Size:**	**Sub Strand:** Properties Of Soils

Content Standard: B8.5.5.1 Demonstrate understanding of the differences among soils, plant roots, stems, leaves, flowers, and fruits of plants in the different environments	**Indicator:** B8.5.5.1.2 Analyze the physical properties of soils and soil water content and demonstrate their importance in crop production.	**Lesson:** 1 of 2

Performance Indicator: Learners can discuss physical properties of soils.	**Core Competencies:** DL 5.3: CI 6.8: DL 5.1: CI 6.6:
References: Science Curriculum Pg. 80	

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners to review their understanding in the previous lesson. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Display samples of each soil type and discuss their physical properties: • Sandy: coarse texture, large particle size, good drainage but low nutrient content. • Loamy: balanced texture, medium particle size, and moderate water retention, rich in nutrients. • Clay: fine texture, small particle size, high water retention but can become compacted. Allow learners to touch and feel the texture of each soil type. Present the potted plants grown in different soils to the learners. Ask learners to observe and describe the growth of the plants in each pot – height, leaf size, overall health, etc. Discuss how the physical properties of the soil could influence these observations. Discuss the concept of osmosis and explain how plants absorb water and nutrients from the soil. • Fill two cups with water and add a few drops of food coloring to each cup, making the water visibly colored. • Place celery stalks (or alternative plant) in each cup, ensuring the leaves are still exposed. • Over time (this may extend beyond the duration of the lesson), the colored water will travel up the celery stalk, demonstrating osmosis. • If available, use a microscope to show a close-up of the plant cells absorbing water (this will be more visible in the case of translucent leaves or thin plant tissues).	Pictures and charts

	Engage learners in a discussion about their observations: Which soil type seemed best for plant growth? Why? • How do the physical properties of soil impact water retention and nutrient availability? • How does osmosis help plants absorb the necessary water and nutrients? <u>Project work</u> Ask learners to experiment at home by placing a plant in a cup of colored water and observing any changes in the plant over a week. They should document their observations and write a short report on their findings.	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	