EaD Comprehensive Lesson Plans

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BASIC 8

WEEKLY LESSON PLAN – WEEK 10

<table>
<tr><td>Strand:</td><td colspan="2">Humans and the Environment</td><td>Sub-Strand:</td><td colspan="2">Understanding the Environment</td></tr>
<tr><td>Content Standard:</td><td colspan="5">B8.5.5.1 Demonstrate understanding of the differences among soils, plant roots, stems, leaves, flowers, and fruits of plants in the different environments</td></tr>
<tr><td>Indicator (s)</td><td colspan="3">B8.5.5.1.1 Discuss physical properties of soils

B8.5.5.1.2 Analyze the physical properties of soils and demonstrate their importance for crop production.</td><td colspan="2">Performance Indicator: learners can identify the physical properties of the various types of Soil.</td></tr>
<tr><td>Week Ending</td><td colspan="5">01-09-2023</td></tr>
<tr><td>Class</td><td>B.S.8</td><td>Class Size:</td><td></td><td>Duration:</td><td></td></tr>
<tr><td>Subject</td><td colspan="5">Science</td></tr>
<tr><td>Reference</td><td colspan="5">Science Curriculum, Teachers Resource Pack, Learners Resource Pack.</td></tr>
<tr><td>Teaching / Learning Resources</td><td colspan="2">Poster, sample of Soil, Pictures, Video.</td><td>Core Competencies:</td><td colspan="2">• Digital Literacy
• Critical Thinking and Problem Solving
• Communication and Collaboration.</td></tr>
<tr><td>DAY/DATE</td><td>PHASE 1 : STARTER</td><td colspan="3">PHASE 2: MAIN</td><td>PHASE 3: REFLECTION</td></tr>
<tr><td>MONDAY</td><td>Present samples of the various types of Soil to the class for Learners to observe.</td><td colspan="3">1. Learners brainstorm to comment on their observations.
2. Discuss with Learners on the types of Soil.
3. Assist Learners to identify the physical properties of the various types of Soil.
4. Conduct an experiment to demonstrate how different soil types retain water to support the root system of crops.

Properties of Soils
<table><tr><th>Property/behavior</th><th>Sand</th><th>Silt</th><th>Clay</th></tr><tr><td>Water-holding capacity</td><td>Low</td><td>Medium to high</td><td>High</td></tr></table></td><td>Through questions and answers, conclude the lesson.

Exercise;
1. State 3 types of Soil.
2. Write 2 physical properties of Soil.</td></tr>
</table>

Aeration	Good	Medium	Poor
Drainage rate	High	Slow to medium	Very slow
Soil organic matter level	Low	Medium to high	High to medium
Decomposition of organic matter	Rapid	Medium	Slow
Warm-up in spring	Rapid	Moderate	Slow
Compactability	Low	Medium	High
Susceptibility to wind erosion	Moderate (High if fine sand)	High	Low
Susceptibility to water erosion	Low (unless fine sand)	High	Low if aggregated, otherwise high
Shrink/Swell Potential	Very Low	Low	Moderate to very high
Sealing of ponds, dams, and landfills	Poor	Poor	Good
Suitability for tillage after rain	Good	Medium	Poor
Pollutant leaching potential	High	Medium	Low (unless cracked)

		Ability to store plant nutrients	Poor	Medium to High	High	
		Resistance to pH change	Low	Medium	High	
THURSDAY	Review Learners knowledge on the previous lesson.	1. Discuss with Learners on the importance of the physical properties of Soil. 2. Assist Learners to identify the suitability of the physical properties of Soil for crop production. 3. Learners brainstorm to explain the importance of the physical properties of Soil. **Importance of the physical properties of the soil** o The physical properties of the soil are very important for agricultural production and the sustainable use of soil. o The amount and rate of water, oxygen, and nutrient absorption by plants depend on the ability of the roots to absorb the soil solution as well as the ability of the soil to supply it to the roots. o Some soil properties, such as low hydraulic conductivity, can limit the free supply of water and oxygen to the roots and affect negatively to the agricultural yield.				Learners in small groups to discuss and relate soil physical properties to the chemical properties and crop yield. **Exercise;** Explain 4 importance of the physical properties of Soil.
FRIDAY	With the use of a Chart, explain briefly the meaning of Soil Structure.	1. Assist learners to explain 5 types of Soil Structure 2. Discuss with Learners about the meaning and methods of Soil Conservation. 3. Learners brainstorm to identify the importance of Soil Conservation. **Soil Structure Definition** Soil structure can be defined as the way individual particles of sand, silt, and clay are assembled together. Single particles when assembled appear as larger particles. These are called aggregates. Humus is a major deciding factor to know about the structure of soil because it causes the soil to become more porous and allows water and air to penetrate deep underground. **Types of Soil Structure** • Very fine or very thin				Show Learners a video of how Soil is formed. Ask Learners questions about the video they watched, and answer Learners questions.

		• Fine or thin • Medium • Coarse or thick • Very coarse or very thick. **What is Soil Conservation?** Soil conservation is the process of prevention of loss of the topmost layer of the soil from erosion or prevention of reduced fertility caused by over usage, acidification, salinization, or other chemical soil contamination. By conserving soil we can preserve the fertility of the soil. Few methods of conserve them are: • Terrace Farming • Soil Conservation Farming • Use of Green Manures • Salinity Management **Formation of Soil** The formation of soil is a complex natural process. The uppermost layer of the earth crust is made up of soil. Soil contains minerals, organic matter and living organisms. The formation of soil takes place by breaking of rocks by physical and chemical agents. There are three agents of soil formation which are as following : • **Mechanical Processes:** The formation of soil when happens due to any of the mechanical forces, then these are called mechanical Processes. For example wind and rain. • **Chemical Processes:** Chemical processes are those Processes in which rocks break due to chemical reactions. • **Biological Processes:** Biological processes are those processes in which any biological change results in the formation of soil. For example the lichens present on the rocks a certain chemical which results in the formation of soil.	

Name of Teacher: ***School:*** ***District:***