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STUDY NOTES

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SCIENCE

CHAPTER: 9 Soil

Today's Topic: Properties of Soil

Properties of soil:

The soil in one location can be very different from the soil in another location because soils develop under a variety of conditions. In order to understand soil and how one soil differs from another, geologists look at certain properties of soil.

Colour:

The colour of soil can tell a lot about its qualities. Most soils appear in shades of black, brown, red, grey and white.

Generally speaking, darker soils are considered more nutrient rich because the darker colour often indicates that a large amount of decomposed organic matter, or humus, is present in the soil. Grey colour often indicates clayey soil with poor drainage, while red soils indicate that the soil is very poor in nutrients.

Texture:

Another important property of soil is its texture. Some soils have more large particles and fewer small particles and feel gritty, while other soils have an equal abundance of small particles with few large particles and feel

smooth. Some other soils have an equal balance between small and large particles and are the best kind of soils for plants to grow in.

Moisture content:

Some moisture is always present in soil although the amount may differ depending on the season and location. It is the moisture in the soil that plant roots take up. In the absence of any moisture in the soil, most plants would die.

The presence of moisture in the soil can be tested simply by heating a small amount of soil in a test tube. On heating the soil, tiny droplets of water can be seen condensing near the mouth of the test tube. Water present in the soil sample is released as vapour on heating the soil sample.

Structure:

The structure of the soil is also an important property. Porous soil allows easy percolation of water but soil that is too tightly packed will not allow water to pass through easily. For example, sandy soils are porous while clayey soils are compact and become hard when dry.

Water absorption:

Water absorption by soil is important for growing any crop because it is from soil that plants get water through their roots. If the soil is too porous, water drains away easily and not much is held within. Such soil dries up quickly and needs frequent watering. The presence of organic matter, such as humus, help to hold more water.

Loamy soil: a fertile soil made of clay and sand containing humus.

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