

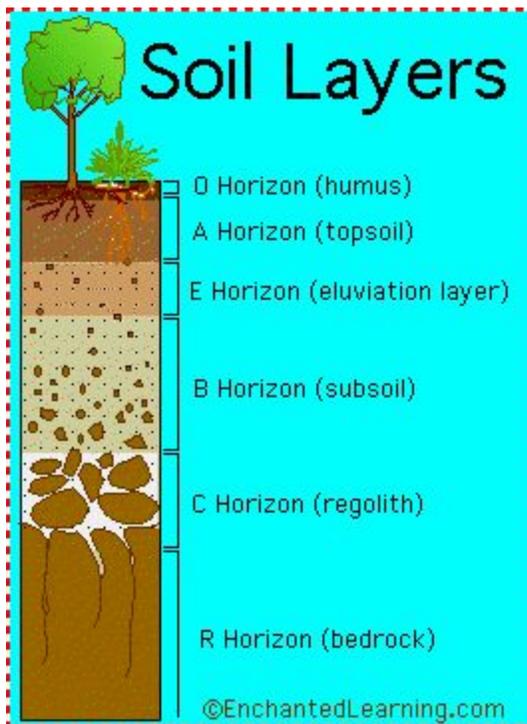
Name: \_\_\_\_\_

## Soil Profile: The Layers of Soil

Soil takes a long time to form. It may take hundreds to thousands of year for one inch of soil to form. As soil forms, different layers result. A layer of soil differing from the layers above and below it is called **horizon**.

### 6 Horizons

Soils typically have six horizons. From the top down, they are Horizon O, A, E, B, C and R. Each horizon has certain characteristics.



**O Horizon** - The top, organic layer of soil, made up mostly of leaf litter and humus (decomposed organic matter).

\* **A Horizon** - The layer called **topsoil**; it is found below the O horizon and above the E horizon. Seeds germinate and plant roots grow in this dark-colored layer. It is made up of humus (decomposed organic matter) mixed with mineral particles.

**E Horizon** - This eluviation (leaching) layer is light in color; this layer is beneath the A Horizon and above the B Horizon. It is made up mostly of sand and silt, having lost most of its minerals and clay as water drips through the soil (in the process of eluviation).

\* **B Horizon** - Also called the **subsoil** - this layer is beneath the E Horizon and above the C Horizon. It contains clay and mineral deposits (like iron, aluminum oxides, and calcium carbonate) that it receives from layers above it when mineralized water drips from the soil above.

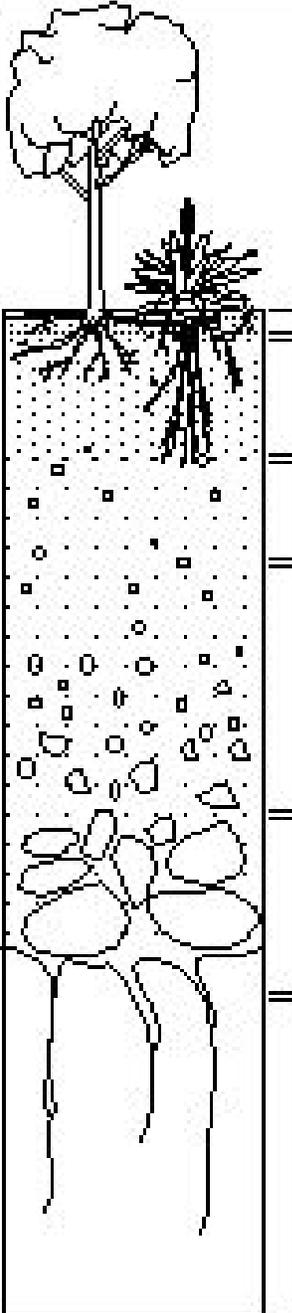
**C Horizon** - Also called regolith: the layer beneath the B Horizon and above the R Horizon. It consists of slightly **broken-up bedrock**. Plant roots do not penetrate into this layer; very little organic material is found in this layer.

**R Horizon** - The unweathered rock (**bedrock**) layer that is beneath all the other layers. Bedrock is made up of igneous, sedimentary, or metamorphic rock

**Although there are six layers, we will concentrate on layers A, B, C and Bedrock.**

Please fill in the name of the horizon and a brief description of the material contained in that horizon.

# Soil Layers



The diagram shows a vertical cross-section of soil. At the top, a tree with a large, rounded canopy and a smaller tree stump with a dense network of roots are shown. Below the surface, the soil is divided into several distinct layers, each separated by a horizontal line. The layers are represented by different patterns: a dotted pattern for the top layer, a pattern of small squares for the second layer, a pattern of small circles for the third layer, a pattern of larger, irregular shapes for the fourth layer, and a pattern of vertical lines for the fifth layer. To the right of the diagram, there are six horizontal lines for labeling the horizons.

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