

## S5 Soil

Soil is the loose upper layer of the Earth's surface where plants grow. Soil consists of organic material (decayed plants and animals) and broken rocks and minerals. Soil is formed over a long period of time. It can take up to 1,000 years for an inch of soil to form. Factors that assist the formation of soil include living organisms (plants, animals, bacteria), topography (the slope of the surface where soil forms), climate and parent materials (disintegrating minerals and rocks).

Although it is common to view soil as just dirt, it plays a vital role in supporting life on Earth.

- Plants need soil to grow – it gives them nutrients and helps them to anchor their roots.
- Many living organisms use soil as a place to live.
- Nutrient cycles – soil plays an important role in carbon and nitrogen cycles.
- Water is cleaned and filtered through soil.
- Gases such as carbon dioxide are released into the atmosphere due to soil

Soil is made up of many layers. These layers are often called horizons. Depending on the type of soil there may be several layers. There are three main horizons (called A, B, and C) which are present in all soil.

- Organic - The organic layer (also called the humus layer) is a thick layer of plant remains such as leaves and twigs.

- Topsoil (surface soil) - Topsoil is considered the "A" horizon. It is a thin layer (5 to 10 inches thick) composed of organic matter and minerals. This layer is the primary layer where plants and organisms live.
- Subsoil - Subsoil is considered the "B" horizon. This layer is made primarily of clay, iron, and organic matter which accumulated through a process called illuviation.
- Parent material - The parent material layer is considered the "C" horizon. This layer is called the parent material because the upper layers developed from this layer. It is made up mostly of large rocks.
- Bedrock - The bottom layer is several feet below the surface. The bedrock is made up of a large solid mass of rock.

## SOIL LAYERS

