

Horizontal Soil Profile

Simple definition

What is a Soil Profile?

There are different types of soil, each with its own set of characteristics. Dig down deep into any soil, and you'll see that it is made of layers, or horizons (O, A, E, B, C, R).

Put the horizons together, and they form a soil profile. Like a biography, each profile tells a story about the life of a soil. Most soils have three major horizons (A, B, C) and some have an organic horizon (O).

The horizons are:

O – (humus or organic) Mostly organic matter such as decomposing leaves. The O horizon is thin in some soils, thick in others, and not present at all in others.

A - (topsoil) Mostly minerals from parent material with organic matter incorporated. A good material for plants and other organisms to live.

E – (eluviated) Leached of clay, minerals, and organic matter, leaving a concentration of sand and silt particles of quartz or other resistant materials – missing in some soils but often found in older soils and forest soils.

B – (subsoil) Rich in minerals that leached (moved down) from the A or E horizons and accumulated here.

C – (parent material) The deposit at Earth's surface from which the soil developed.

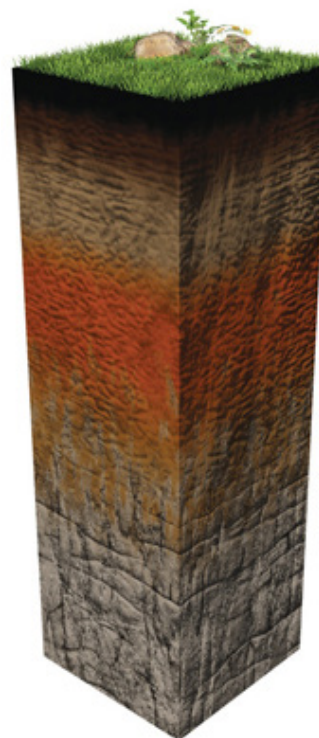
R – (bedrock) A mass of rock such as granite, basalt, quartzite, limestone or sandstone that forms the parent material for some soils – if the bedrock is close enough to the surface to weather. This is not soil and is located under the C horizon.

Create a soil profile in the classroom:

- Pebble floor mats
- Coloured material

Students lay out floor mats and coloured material on the horizontally on the floor to make a soil profile. Add grass twigs and leaves on the surface as well as have roots going into topsoil.

Reference: soils4kids.org/about



O (humus or organic)
A (topsoil)

E (eluviated horizon)

B (subsoil)

C (parent material)

R (bedrock)

