

Soils

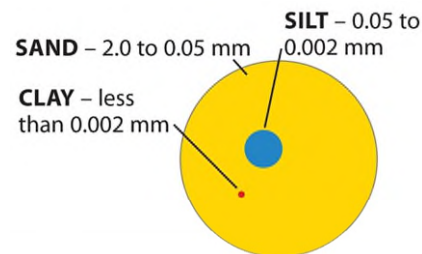
What is soil?

Soil is made up of organic matter, minerals, and living organisms.



How do we describe soils?

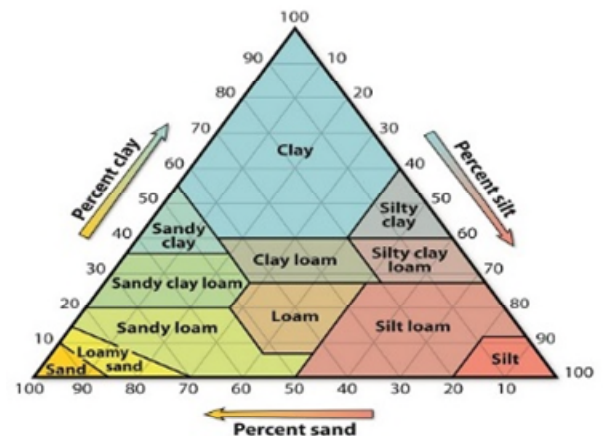
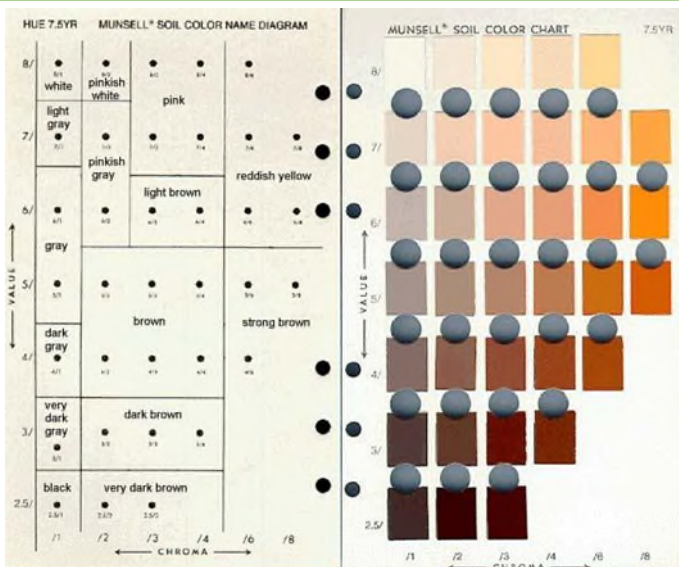
Texture: the composition of the soil in terms of small (clay), medium (silts), and large (sand) size particles.



Both texture and structure are important because they affect how water moves through the soil.

Structure: how particles of soil are grouped and clumped together.

Colour: can range from lightly coloured, to orange, to dark brown or black.

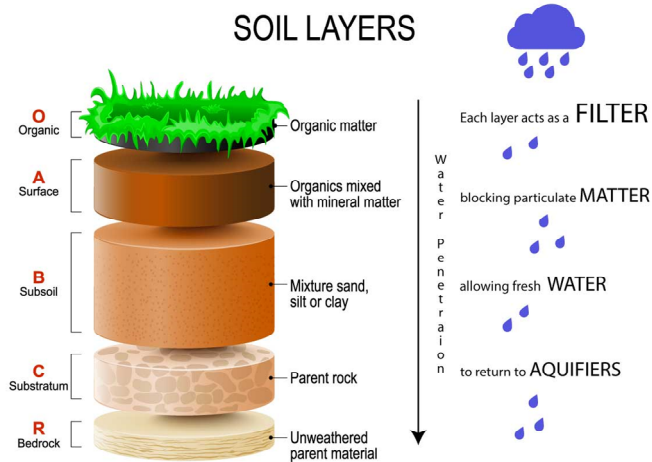


This is the textural triangle. If you know the percent clay (flat line) and percent sand or silt, you can draw lines into the triangle to figure out what textural category the soil belongs to.

Colour tells us what is in a specific soil, because it is influenced by soil mineralogy, and how well water will move through it.

Why is soil important?

1. Acts as a water filter



2. Provides nutrients and a place for plants to grow



3. Provides habitat for billions of organisms

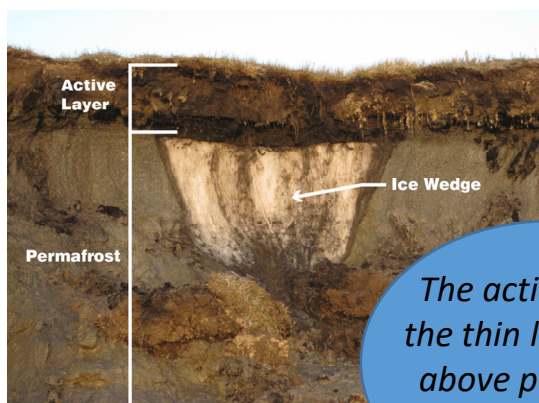


What is unique about tundra soil?

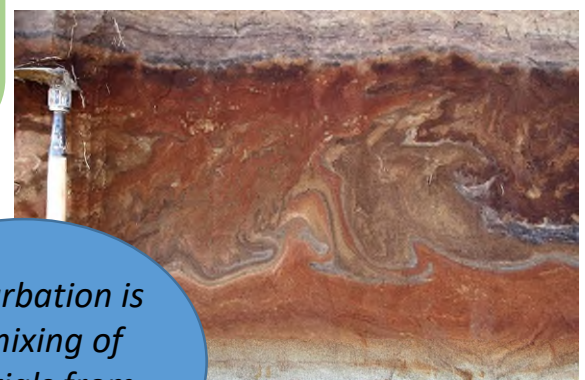
Permafrost is found throughout the arctic and is permanently frozen ground.

Arctic soil is low in nutrients, especially nitrogen, but has large amounts of carbon.

Freezing and thawing in arctic soils creates different types of patterned ground.



The active layer is the thin layer of soil above permafrost that thaws each summer



Cryoturbation is the mixing of materials from various horizons