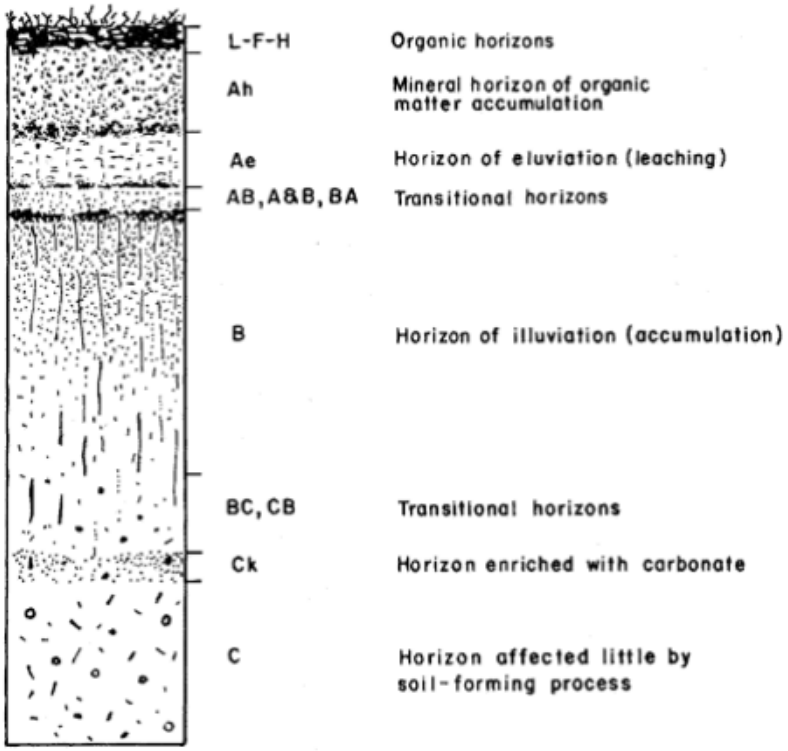
OPEN LAB:
DIY SOIL PROFILE

Have you ever dug into the ground and noticed a change in the colour or texture of the soil? Was it only one change, or were there lots of obvious layers?

Soil is built in two different directions:

- top-down, as decomposed organic material is added to the surface
- bottom-up, as parent material (ie. rock) is broken down underneath the soil

In between the surface and the solid layer beneath (aka bedrock), soil can be broken into horizons. These horizons are specific layers in the soil that have different properties than the ones directly above and below it. Each soil has at least one horizon, and the more mature the soil is, the more defined the horizons are.



A simplified soil profile showing the designations used in Canada: L, F, and H, A, B and C horizons. Any given soil may have some or all of the seven horizons at varying depths. British Columbia Ministry of Environment (2015). Soil and Soil Processes.

A cross-section of these horizons is known as a soil profile. These profiles allow scientists to classify soils and understand the relationships between a specific classification of soils and their environment. In Canada, the soil classification system is based on the properties and arrangement of horizons, which are products of the soil forming environment.

Soil profiles are more obvious in undisturbed environments. Getting a full soil profile in your yard is tricky (and maybe not ideal), but by using any household materials or craft supplies you can create a soil profile of your own - no digging required!

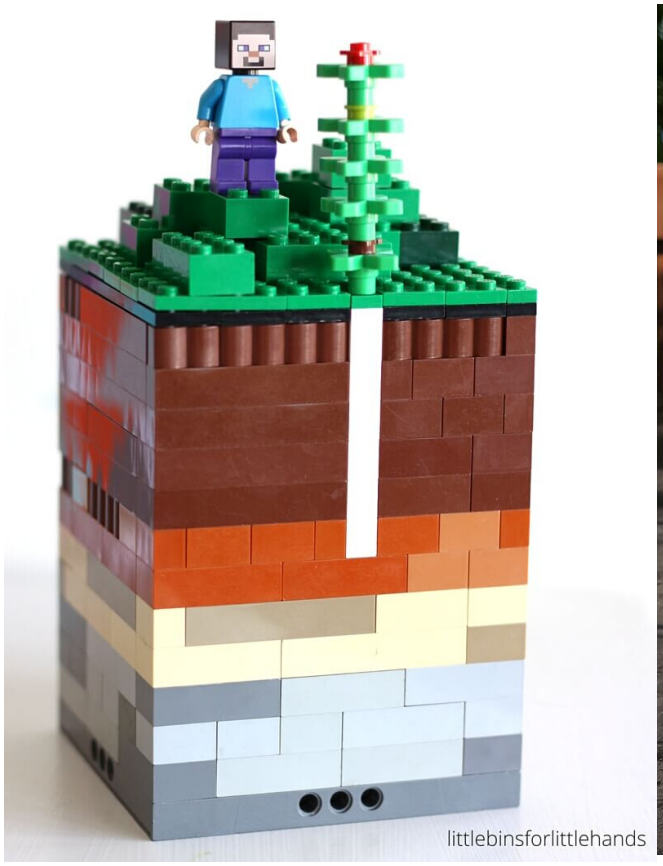


Photo from "Lego Soil Layers Activity" by Little Bins Little Hands

Once you've built your soil profile, share it with us using the hashtag #ONEnvirothon and ask yourself these questions:

1. Where was your soil found?
2. What is the parent material that your soil came from?
3. What grow out of your soil?