

Soil Layers in a bottle



- Soil (best if it is natural, not store bought, and dug from various depths)
- small shovel
- Funnel (optional)
- sand
- gravel or small pebbles
- a clear bottle or jar with a lid
- water



1. Put a scoop of soil into your jar and set the next few scoops aside.
2. Put one scoop of sand in the jar.
3. Add some small pebbles.
4. Add enough water to cover everything. Tightly screw on the lid and gently shake to mix up the contents.
5. Set the jar in a safe place where it will not get bumped or moved and allow it to sit for a full day (24 hours).
6. The next day, take a look at the soil in your jar. Can you see any layers in the jar? Have the pebbles fallen to the bottom? Are there things floating on top of the water?

What Happened?

Adding water and shaking the bottle mixed the soil and rock inside. However, over time, the different weights of the soil began to settle into layers. The densest bits fell to the bottom, the lighter weight to the top. You probably noticed most of the soil from the ground (rather than the sand and gravel) was closer to the top. You may have also noticed some plant material floating on the surface. Do you see any colour changes in your soil layer? Those are indicators of various minerals, clay, and sand. If you were to drain all of the water out through the bottom of the jar, this is similar to how the layers of soil in the earth look.