

A STEM in the Park

Take Home Activity

STEM

in the **PARK**™

Science, Technology, Engineering, and Mathematics

(This is a good breakfast/morning activity!)

Soil Isn't a Dirty Word

Warm up...

When you dig into the ground under the grass in your yard, you'll find soil. What happens if you keep digging? If you dig far enough, will you run out of soil?

How far will you have to dig before you run out? What will you find then?



What You Need...

- A clear plastic cup
- Three to five different types of cereal (Other food or nonfood items may be substituted for the cereals).
- Milk
- Spoon

What To Do...

- Place the cereals on a table
- Construct a soil profile complete with parent material, subsoil, and topsoil (based on information in the background information, topsoils are usually darker and finer, etc.).
- You may want to crush the cereal to create the topsoil. You might also mix the cereals to create the desired colors and textures.

Continued on back

Observe...

Pour milk (acting as water) onto the cereal and see how pore space is taken up by the milk and how percolation occurs. **Eat the creation – enjoy!**

Background Knowledge:

If you dig deep enough, you will hit solid rock. This is called bedrock. Before you get there, you will have to dig through three or four different layers of soil (the profile). The layers are referred to as horizons. The first horizon or layer is usually darker in color and contains most of the organic matter. Organic matter is the layer formed by plants and animals. The first layer of soil is called **topsoil**. The topsoil is where plants take root and grow. For good reason, this is where plants can absorb water, nutrients (minerals), and air (carbon dioxide).

Soil is considered a **nonrenewable resource** because it takes so long to form. Topsoil is the thin line or layer that sustains life.

Between the subsoil and the bedrock is a layer of small rocks that have started to break off the bedrock. This layer is called the **parent material** of the soil. That is because most of what makes up the soil was once part of the rock.

Discuss...

- Where do you think most soil life exists? Why?
- Can a soil profile tell you how well plants might grow in that soil?
- How long does it take to make an inch of soil?
- What factors help to make soil?
- Is soil a renewable resource?
- What kind of chemicals or acid might be in the soil to break down rocks?

Adapted from "Dirt: Secrets in the Soil"

**This activity is brought to you by
WOOD Soil & Water Conservation District**

