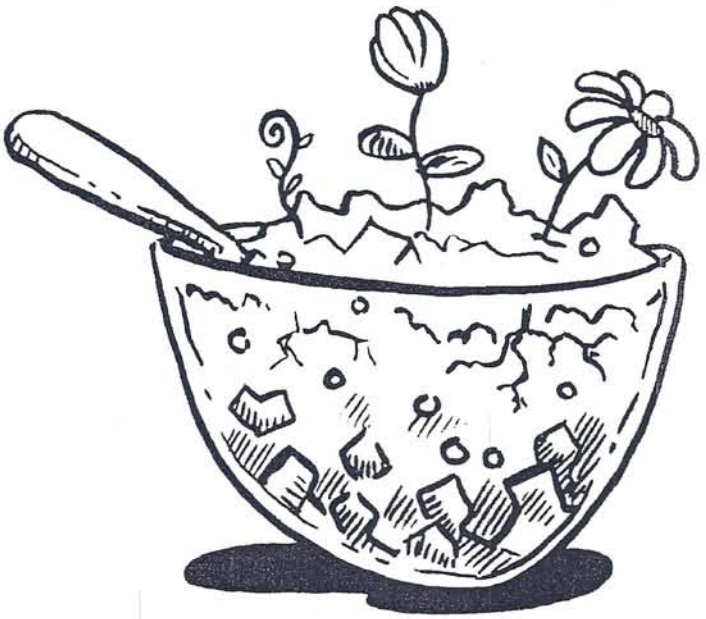
SOIL PROFILE

Ag in the Classroom
www.idahoaitc.org



MATERIALS

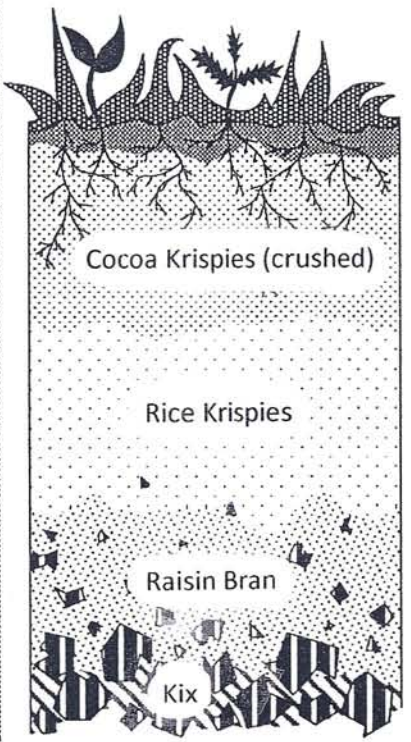
- Clear Plastic cups for each student
- Different types of cereal
  Kix
  Raisin Bran
  Rice Krispies
  Cocoa Krispies (crushed)
- Milk
- Spoons
- Zippered plastic bags

DIRECTIONS

This activity is great when studying soil types and horizons.

1. Have students wash their hands. They will be eating their creation.
2. Place cereals on a table.
3. Ask students to construct a soil profile complete with parent material, subsoil and topsoil.
4. Students may want to crush the cereal to create their soil. Simply place the cereal in a bag and they can crush it using their hands. Student might also mix cereals to get the colors and textures they want.
5. Have students present their profile to the class. Now pour milk, acting as water, over their "soil". Students can now see how pore space is taken up by the milk and how percolation occurs.
6. Pass out the spoons and enjoy.

Soil Profile Example:



Credit: *Utah Ag in the Classroom*

Soil

Books:

A Handful of Dirt by Raymond Bial
Soil by Chris Oxlade
Soil by Melissa Stewart

Particle Parade

1. Discuss the makeup of soil and the differences between clay, sand and soil particles.
2. To allow students a visual view of the different particles sizes and how water moves through each, perform the following demonstration.
3. Ask six students to stand at the front of the room. These students will represent the mineral particles in soil. Ask another student to represent water.
4. Have the six students to hold their arms straight out and touch fingertips with the other students. They now represent sand particles. Have them put their arms down and have the student representing water flow between them. Since sand particles are large it is easy for the water to move freely between the particles.
5. Now have the six students place their hands on their hips with elbows sticking out. They should move in so they are touching the elbows of the other students. They now represent silt particles. Have them put their arms down and have the student representing water flow between them. Silt particles are smaller than the sand particles so it is more difficult for the water to flow through them.
6. Last, have the six students hold their arms at their sides and move in so they are touching shoulders with the other students. They now represent clay particles. Ask the student representing water to try and move through the particles. Since clay particles are so close together it is very difficult for the water to move through them.
7. Have the students summarize the sizes of soil particles and the impact they have on water movement. How may this effect crop production?

Adapted from Project WET