

How Much Soil is There?

Duration: Variable

Group Size: Small to large class

Setting: Classroom

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Goal:

Students will:

- Be provided an opportunity to understand the amount of soil that is really accessible to us here on Earth.

Materials Needed:

- An apple for each student and one for demonstration
- Knife for you to do the cutting
- Plastic knives for the students to cut their apple

Process:

1. Pretend that this apple is the planet Earth, round, beautiful, and full of good things. Notice its skin, hugging and protecting the surface. Water covers approximately 75% of the surface.
2. Now cut the apple into quarters and set aside three quarters (75%).
3. The three quarters (75%) you just removed represents how much of the earth is covered with water- oceans, lakes, rivers, streams. What is left (25%) represents the dry land.
4. 50% of that dry land is desert, polar, or mountainous regions where it is too hot, too cold or too high to be productive.
5. Cut that dry land quarter in half and set aside one piece.
6. When 50% is removed, this is what is left. (12.5% of the original)
7. Of that 12.5%, 40% is severely limited by terrain, fertility or excessive rainfall. It is too rocky, steep, shallow, poor or wet to support food production.
8. Cut that 40% portion away.
9. You are left approximately 10% of the apple.
10. Peel the skin from the tiny remaining sliver.
11. This remaining 10% -this small fragment of the land area represents the soil we depend on for the world's food supply. This fragment competes with all other needs- housing, cities, schools, hospitals, shopping centers, land fills, etc., etc. Sometimes; it doesn't win.

Variations:

- Other fruits or vegetables

References:

- http://soil.gsfc.nasa.gov/app_soil/hmsoil.htm