

SLICES OF SOIL | The Soil Neighborhood

DISCUSSION

After reading The Soil Neighborhood, ask the following questions to have a discussion with students:

Is “dirt” and “soil” the same thing?

These two words are often mistakenly used interchangeably. However, soil and dirt are not the same. Dirt is what is found under your fingernails, while soil is a valuable earth material. Dirt is considered to be unwanted, while soil provides an environment for organisms to live and for plants to grow. Be sure not to give soil a “dirty” name by calling it dirt!

-Why is soil so important for our lives?

ACTIVITY

Read the follow passage:

Our food producing land remains the same and yet the world population continues to grow. Consequently, each person’s food portion becomes smaller and smaller. It is the responsibility of each generation to use the soil wisely. We are going to do an activity that helps us understand how important caring of the Earth’s soil really is!

Materials

- One Large Apple
- Pairing knife to cut the apple
- Cutting board or plate for a surface to cut the apple
- Paper towels or wet wipes
- Small containers of play dough, one for each student
- Plastic knives to cut the playdough- one for each student

NOTE: If you do not want to cut the apple in front of the class, you can show the following YouTube video and students can follow along with their Play Dough.

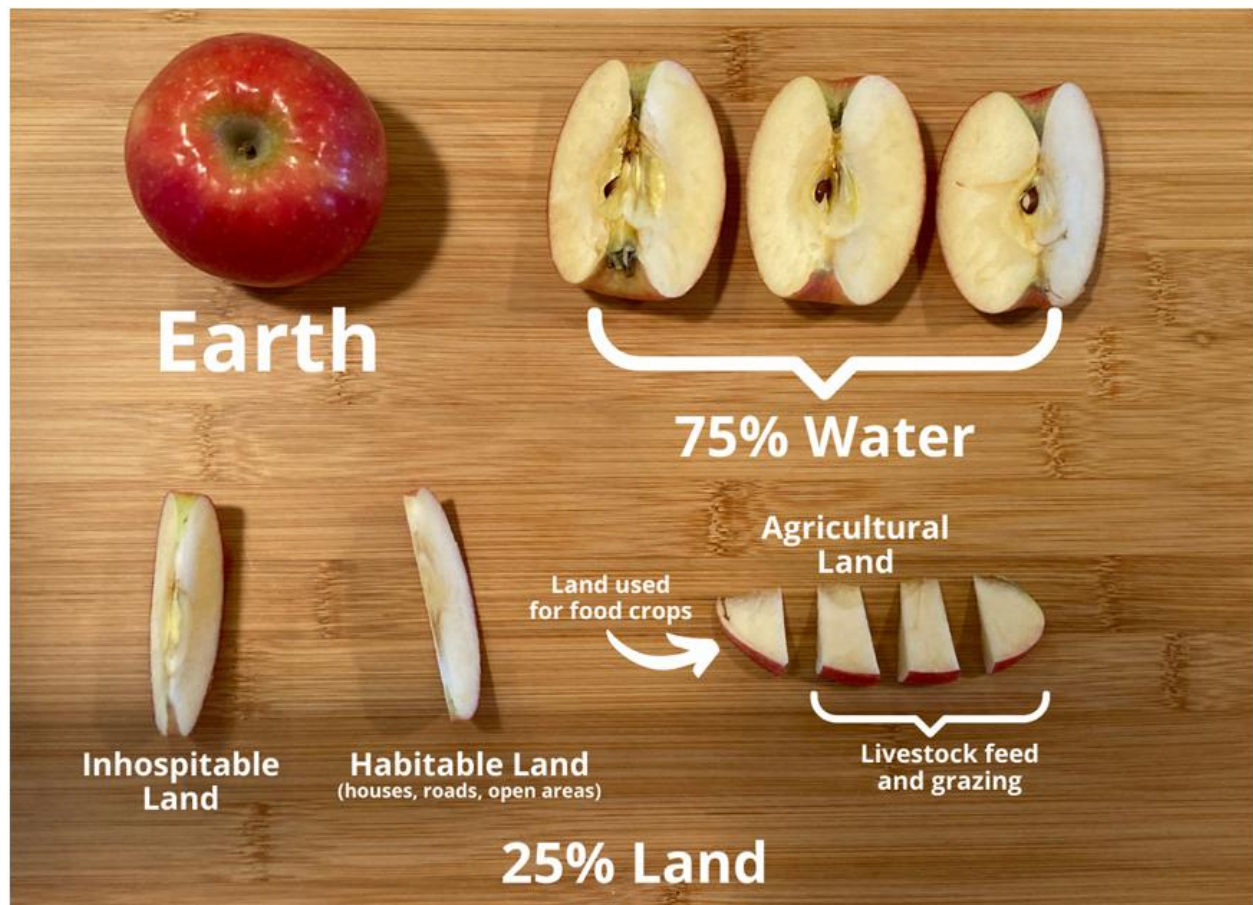
<https://youtu.be/fGTdUNL9moA?si=j79guoosFu1fLZak>



Directions

1. Hold up an apple to the class. This apple will represent the earth. Ask each student to roll their play dough into the shape of an apple.

2. Remove and hold up piece #1 of the apple model, that is, $\frac{3}{4}$ of the top layer of the model. "Nearly three-quarters of the Earth is covered in water." Slice the apple into fourths. Set aside three of the quarters, as they represent water on the Earth's surface. Ask students to use a plastic knife to cut their play dough into four pieces and set three of the pieces aside.
3. Point to the remaining $\frac{1}{4}$ of the apple. "The remaining quarter represents the land area or the area of the earth that is land." Show students the slice of the quartered apple for comparison and ask students to compare the one piece of play dough to the three pieces they set aside.
4. Remove and hold up piece #2 of the apple model. "This section represents inhospitable land including deserts, mountains, and polar regions that are unsuitable for people to live or grow crops." Cut the quarter apple slice into three sections. Set aside one of the sections to represent the inhospitable land. Ask students to cut one piece of their play dough into three sections and set one of the pieces aside to represent inhospitable land.
5. Remove and hold up piece #3 of the apple model. "This section represents habitable land. People live on this land, but crops are not grown here as this land includes nature preserves, public lands, and developed areas like roads, schools, houses, etc. Explain to students that the two pieces of apple and their two pieces of play dough represent habitable land. Set aside another section to represent habitable land where people live but crops are not grown.
6. Remove and hold up piece #4. "A tiny portion of the Earth's surface has the potential to grow crops. This section of the model, this piece of apple, and your small piece of play dough represent arable land." Cut the remaining small piece of apple into four pieces. Explain that three pieces represent land used for livestock to graze or produce forages for livestock feed. Set aside the three pieces, ask students to cut their one piece of play dough into four pieces, and set three aside representing the agricultural land used for livestock.
7. The remaining piece of apple or play dough is $\frac{1}{48}$ th of the Earth used to produce human food. Peel the remaining piece of apple and explain to students that the small piece of apple peel represents the topsoil used to grow all human food.
8. Ask students to roll up all of the pieces of play dough they have cut away and compare the size of the play dough they set aside, which represents land not used for food production, to the small amount that represents the amount of the earth used to produce food.



WRAP UP

Ask the students the following question and have a discussion:

What types of food can be grown in soil?

Were you surprised at the amount of the Earth available for growing all of the food we eat?