

## Reflect

Use your senses. How can we describe rocks?



These rocks have different **SIZES**. One rock is small. One rock is big.



These rocks have different **SHAPES**. One rock is tall and square. One rock is flat.



These rocks have different **COLORS**. Some are dark. Some are light.



These rocks have different **TEXTURES**. One feels smooth. One feels rough.

This person is holding different rocks. (Circle your answers.)



Are the rocks different sizes?  
YES NO

Are the rocks different colors?  
YES NO

Are the rocks different shapes?  
YES NO

## What Do You Think?

How can we describe water?



Some water is blue.



Some water is brown.  
This water is muddy.



Drinking  
water is  
clear.



Water in a pond does  
not move very much.



Water in a river moves.

**Soil** is dirt we can grow plants in.



With a partner, describe the soil in this person's hands.

What color is it?

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What do you think it feels like?

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## Look Out!

We can use rocks, soil, and water for different things.



People use rocks to build walls.



People use soil and water to grow vegetables.

We can build houses with rocks, soil, and water.



These houses are made of stones.



An *igloo* is a house made of snow. *Snow* is frozen water.



These houses are made of brick. To make brick, people use soil and water.









This house is made of a different kind of soil. Houses made like this are called *adobes*.

## Try Now

### Now you try!

Draw a circle around the correct answer to each question. Some questions have two answers.

<p>Which rocks are bigger?</p>	<p>THESE ROCKS</p> 	<p>THESE ROCKS</p> 
<p>Which rock is smooth?</p>	<p>ROCK 1</p> 	<p>ROCK 2</p> 
<p>What do you need to grow tomato plants?</p>	<p>SOIL</p> 	<p>WATER</p> 

## Connecting With Your Child

### How do rocks, water, and soil interact?

Take a field trip with your child to see how these three basic materials interact with and change each other. Look for places in the neighborhood where you can observe eroded soil or weathered rocks or deposition caused by water flowing slowly. (*Erosion* is the movement of soil by natural processes, such as flowing water or blowing wind. *Weathering* is the breaking down of rocks into smaller pieces. *Deposition* is the settling of soil to the bottom of a riverbed or a valley.) A stream or river with adjacent, unforested land is an ideal setting. Sides of highway cuts (a place where soil or rock material is cut out from a mountain or hillside to make a road) also often show serious erosion.

If you cannot physically visit a place, research it using the Internet. You can also wander around the neighborhood after a rain event and see evidence of these processes on a very small scale near storm drains or in yards.

Be sure your child is comfortable identifying rocks, soil, and water outside or around the house. If not, review the points below before you head out to see some interactions. You can investigate each type of interaction separately:

1. **Water and Soil:** Water erodes soil and carries it away down streams and rivers. Over many years, erosion creates canyons and valleys. As an example, look for a canyon or valley with a stream in the bottom.
2. **Water and Rocks:** Water weathers rocks by breaking them down into small grains. Look for smooth river rocks, then look for jagged rocks farther from the streambed. Look for places where a stream flows over solid rock, and discuss how the water has shaped the rock over many years by creating grooves and pockets.
3. **Rocks and Soil:** Explain that soil is composed largely of small particles of weathered rock. The weathering process breaks down the rock into small grains and deposits it along streams and at the mouths of rivers. (Decayed organic matter is also part of soil, but it is usually not the major ingredient.) Look at soil under a magnifying glass and rub it between your fingers to better appreciate the size of the particles.

Here are some questions to discuss with your child:

- How can water move soil and change rocks?
- Can you find bits of rock in this soil?
- If you walked along a river from beginning to end, where would you find the smoothest river rocks? Why?