

COMPARING ROCKS AND SOIL IN SPAIN:



Overview & Purpose

Students have just learned about the culture and traditions of Spain. They are now getting ready to become cultivators of the land by discovering how rocks and soil are closely related. Their job today is to study the soil as a Geologist would. They will learn that Earth's natural resources are important to Spain. They will observe, describe and sort rocks and soil by size, texture and color.

Education Standards

Science

1.7(A) observe, compare, describe, and sort components of soil by size, texture, and color

2.7(A) observe, describe, and compare rocks by size, texture, and color

Materials Needed

- 1 rock (per partner)
- 1 hand lens (per partner)
- Safety glasses or goggles
- small pebbles
- types of soil: sand, silt, clay
- 3 bottles of water/caps included
- Rock and Soil Comparison Sheet
- Particle Size Demonstration Sheet (whole group)
- Vocabulary Cards
- Paper plates
- funnel/spoon
- [All About Soil Video](#)

Vocabulary

Soil- made over a long period of time with weathered rocks and decayed plants and animals

Humus- remains of dead plants and animals

Silt- made of a material the size between sand and soil

Sandy Soil- made of larger, gritty particles that don't stick together well

Clay Soil- made of smaller particles that are tightly packed together

Student Objectives

1. Students will demonstrate the ability to identify, sort, and describe the different types of soil
2. Students will be able to compare/contrast 4 different types of soil
3. Students will learn the relationship between soil and rocks
4. Students will create a soil demonstration to explore the size of particles

Activity

Prior to the lesson, prepare 8-12 paper plates with one of each on it: sandy, silt, and clay soils, pebbles and a rock along with 2 hand lens. (prepare 1-2 plates per table of 4-5 students)

1. Teacher will tell students that they will be acting like a “Geologist”- and will be studying samples of soil today.
2. Ask students to share, with their “elbow partner,” where soil comes from. Discuss how soil comes from rocks and how it takes thousands of years to form, thus making them non-renewable natural resources.
3. Ask students to wear their safety glasses/goggles. Pass out the sample plates that contain: sand, silt, clay soil, pebbles and a rock. Have students explore their rocks/soil samples using a hand lens. Students will record their observations on the Rock and Soil Comparison Sheet. Allow students 10 minutes to complete this task. Students will have the Vocabulary Cards nearby as a resource. (Students will not be exploring with humus, until the next lesson).
4. Next, gather soil samples and collect papers. Have students predict which soil would settle faster in a bottle of water? Do a class demonstration using the Particle Size Demonstration sheet with the class. Follow the directions on the sheet. You will need 3 bottles of water (cap included), pebbles, the different kinds of soil and a funnel with a spoon.
5. After the whole class demonstration, discuss which soils settled the fastest/slowest. End the lesson with this video. [All About Soil Video](#)
6. It’s a great video to watch in its entirety, but to end the lesson only watch from 3:00 minutes to 5:35 minutes. Recall the types of soil and have students quickly share 2 characteristics of each.

