K-2 Earth Science

Southern Nevada Regional Professional Development Program

Remarkable Rocks

INTRODUCTION

Throughout history, rocks have provided resources for humans for many years. Early humans used rocks for weapons, shelter and as a method for starting fires. The Egyptians and Aztecs built their pyramids from rock and Native Americans used stones for grinding food. Today we still use rocks for a variety of reasons, for our roads, buildings, and landscaping.

WHERE'S THE SCIENCE?

Rocks make up the greatest part of our planet's solid **earth material**. "Earth materials are solid rocks and soils, water and the gases of the atmosphere (National Science Education Standards, 1996, p134)." Rocks have a variety of properties, such as size, texture and color, by which they can be sorted (E2C2). Scientists who study rocks are called **geologists**. (N2B1)

MATERIALS

- Hand lens (1 per student)
- Small plastic sandwich bags (1 per student)
- Rocks
  (Collect a variety of small rocks from your area.)
- Science notebook (1 per student)
- Black permanent marker (1 per class)

PROCEDURES

Lesson One

1. Call the students to the carpet area and hold up a small plastic sandwich bag with a few rocks for everyone to see. Ask the students to identify what you have in the bag. (Rocks)
2. Explain to the students that today they are going to go outside and collect six small rocks from the playground. Demonstrate for the students, that in order to collect the rock, it must fit in their hand with their fingers clasped (closed fist) around the rock. They should be able to make a fist with the rock inside. **Note:** Remind students not to throw rocks at anyone or thing, as they can cause injury or damage.
3. Pass out a plastic sandwich bag to each student for rock collecting as they line up.
4. Go outside and monitor rock collecting. As students finish collecting their rocks, mark their names on their bags with a permanent black marker, and instruct them to line up. Once everyone has collected six rocks, return to the classroom.
5. Pass out hand lenses and science notebooks. Instruct students to closely observe each of their rocks and record observations, using both sketches and notes. Remind them to record their observations in their science notebooks. **Note:** If your students have not used science notebooks before, you can model how to observe, sketch and record notes before having the students do this.
6. As students work, move from group to group checking their observations and making sure they are recording in their science notebooks.
7. When the students are finished, call them back to the group area with their science notebooks and discuss and chart what they observed. Explain that when they are describing their rocks, they are listing the **properties** of the rocks. (NSS E2C2)
8. Review what the students learned about rocks today; this, too, can be recorded on a large class chart for later reference.

Instruct the students to return to their science notebooks and record what they learned about rocks today. Collect materials and science notebooks.

Lesson Two

1. Review the "Properties of the Rocks" chart from yesterday's lesson.
2. Explain to the students that you have brought in some rocks for them to add to their collection. Send the students back to their seats. Pass out the bags of rocks the students collected yesterday. Then pass out 6 more rocks to each student from the rocks you collected. You should also have student helpers pass out a hand lens to each student with their science notebook.
3. Instruct students to closely observe each of their new rocks with the hand lens and record observations, using both sketches and notes. Remind them to record their observations in their science notebooks.
4. As students work, move from group to group, checking their observations and making sure they are recording in their science notebooks.
5. When the students are finished, call them back to the group area with their science notebooks and discuss and chart what they observed. Add new properties to the "Properties of Rocks" chart. (NSS E2C2)
6. Explain to the students that **geologists** are scientists who study rocks and that one thing that geologists do is sort or classify rocks. Tell them that today they, too, will sort their rocks. Model for the students by sorting a bag of rocks by size and ask the students to identify how you sorted the rocks. Send the students back to their seats and explain that their task is to sort their rocks in several different ways.
7. Move from group to group checking how the students are sorting. After you have checked each group of students, stop

them and instruct them to record one way they sorted their rocks in their science notebook.

8. Call all the students back to the group area with their science notebooks and allow the students to share how they sorted their rocks.

Extension

Tell the students that for homework tonight they need to find a special rock from home that will fit in their closed fist. They should sketch the rock and list at least two properties. Have the students share out their rocks and properties the following day.

Additional Resources

Let's Go Rock Collecting by Roma Gans
Everybody Needs a Rock by Byrd Baylor
http://www.ngsp.com National Geographic School Publishing
Using Rocks ISBN 07922-87320
Rocks ISBN 07922-46527
http://geology.com/ This site contains useful content information and has a selection of wonderful books to help build your content knowledge.

Nevada State Standards

E2C1 Students know the Earth is composed of different kinds of materials (e.g. rocks, soils, and water) E/S
E2C2 Students know rocks come in many sizes and shapes, with various textures and colors. E/S
N2A1 Students know how to make observations and give descriptions using words, numbers and drawings. E/S
N2A2 Students know tools can be used safely to gather data and extend the senses. I/L
N2B2 Students know that, in science, it is helpful to work in a team and share findings with others. E/L
N2B1 Students know science engages men and women of all ages and backgrounds. E/S

Safety Reminder:
Remind students that rocks should never be thrown at anything or anyone, as they can cause damage or injury.