

# **THIS ROCK IS YOUR ROCK, THIS ROCK IS MY ROCK**

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**Level: Grades 4 - 6**

**Estimated time Required: 30 - 40 minutes**

## **Anticipated Learning Outcomes**

- Students will develop good observational skills.
- Students will learn that rocks are made up of one or more minerals.

## **Background**

Rocks are made up of one or more minerals. The individual minerals that compose rocks have specific identifying properties such as hardness, crystal shape, reaction with hydrochloric acid, and the color of the powdered mineral when scratched on a streak plate. Some properties are more useful than others to identify the mineral, depending on the mineral. The shape (not size, though) of a mineral crystal is commonly helpful in identifying the mineral. Colors of some minerals are useful for identifying the minerals, but in other minerals color is very misleading. Many minerals can have different colors. For example, the mineral quartz comes in white, pink, purple, and grey colors.

The types and relative proportion of minerals that occur together in a rock tell scientists the story of how that rock was formed. Rocks are named based on how they formed, and by the types, amounts and sizes of minerals in the rocks. One of the most important skills a geologist needs when studying a rock is the ability to observe and describe what he or she sees.

## **Materials**

- Enough different rocks or minerals similar in size and shape for each student to have one. Rock and minerals samples can often be acquired through geology departments, state geological surveys, and local mineral and gem clubs.
- hand lenses
- pencil and paper

## **Procedures**

1. Give each student or pair of students a rock or mineral sample. Give the students 10 or 15 minutes to look at the samples, with hand lenses, if available. Have students describe their sample, noting the colors, weight, size, and/or shape. Before beginning, the teacher could model the procedure by holding up one large sample, and writing on the chalkboard observations about the sample.
2. Samples are then collected and put into a pile at the front of the room.
3. Students exchange their original sample description with another student or group for the detective phase. Using the rock or mineral descriptions, the students will then try to find the sample. (5 minutes)
4. The teacher then checks to see if each detective group has the correct sample for their description sheet.
5. Detective groups should then expand the original description sheets with their own observations of the sample. (5 - 10 minutes)
6. (Optional) Have the students repeat steps 2 - 4, and see if the expanded descriptions and additional observations have made this process easier.
7. (Alternative) Instead of passing the samples around, the teacher may want to hold up the samples and have students offer descriptive terms that can be written on the blackboard. Students could then be handed samples to identify based on the written descriptions on the blackboard.

## **Additional Activities**

- The students can discuss the advantages of having more than one student add their observations to the rock descriptions.
- Students can create a booklet of the samples and their descriptions for display in the school library.