

Investigating Rock Types

Learning Activity

Grade Level K-12

Materials

- Sedimentary rock samples preferably of several different types: such as sandstone, shale, limestone, conglomerate, etc.
- Hand lens or stereoscopic microscope
- Index cards (at least 1 per person)



connecting earth, science, and people

American Geosciences Institute



Source: AAPG.

Adapted with permission from "Investigating Earth Systems," AGI.

Activity

In any science, it is important to accurately and understandably describe your observations for others. Whether for advancing research or informing the public, communicating your work is critical.

For geologists, this comes down to describing rocks' colors, patterns, shapes and other features. These features may reveal evidence about the past, clues to their suitability for a construction project, or signs of valuable natural resources hidden within them.

For example, when you travel around your community, observe the various buildings and other structures. How many are made from rocks or materials that come from rocks?

Procedure

1. Your teacher will give you a rock sample, hand lens, and index card. Observe the rock closely, first just with your eyes and then with the hand lens. Also observe the rock's shape and texture. Avoid describing the size and shape, as these characteristics depend mainly on how the rock was broken down into its current appearance. Write your name and your observations on the index card.

2. All the rock samples will be collected and placed in a long line. Trade your card with a classmate and locate their rock from the line of rocks and bring it back to your table. Check with the owner to make sure that you have identified it correctly.

3. In your group, discuss how hard or easy it was to find the rock. What information would make it easier to find? Look over your observations to see whether you included features such as color, size and arrangement of crystals or grains, fractures or breaks in the rock, layering, or relative hardness. Add any new details to your card.

4. The rocks will be collected and put into a long line again. This time, you will be given someone else's card and will need to find that person's rock. When you find the rock, check with the owner to make sure that you have identified it correctly.

5. Take the new rock and card back to your seat, and use them to answer these questions:

- What could the owner have done to make finding the rock easier?
- Can you make any more observations about this rock that are not included on the index card?

6. The types of rock samples you have been observing are called sedimentary rocks. Are there any features that all of these rocks share that suggest they should be categorized in one group?

Extension: Go online and research how each type of sedimentary rock was formed. Identify in each rock evidence about its past.

NGSS Connections

- Science & Engineering Practices-Obtaining, evaluating and communicating information
- Disciplinary Core Ideas-Earth materials and systems
- Crosscutting Concepts-Patterns