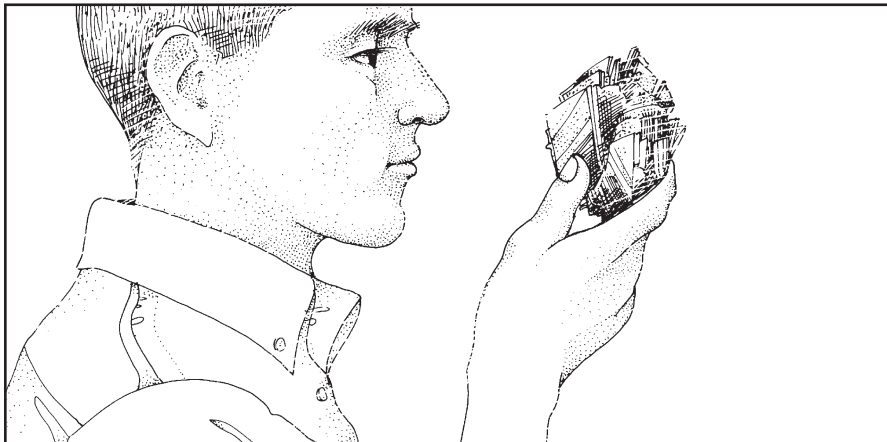


THE LIFE OF A ROCK

POINT OF INQUIRY

How do rocks change over time?



CONCEPT

Knowledge of early geologic processes is important in understanding how mineral resources are formed.

LEARNING OUTCOME
The student will learn the origins of rocks and their uses.

CURRICULUM FOCUS:
Science, Language Arts

SKILLS/PROCESSES:
create, write, describe, identify, classify

KEY VOCABULARY:
igneous, metamorphic, sedimentary, intrusive, extrusive, clastic, nonclastic, organic, foliated, nonfoliated

MATERIALS:
A rock for each student, one they have brought or that the teacher has provided; rock identification field guides (optional)

Background

Basically, rocks are created in three different ways. Rocks that come from hot magma or volcanoes are called igneous. Igneous rocks can be subdivided into intrusive (formed underground) and extrusive (formed at the surface).

Rocks formed from the layering of sediments or by simple evaporation are called sedimentary. Sedimentary rocks that are made of pieces of other rocks are called clastic. Those that are uniform in composition are called nonclastic. Some sedimentary rocks are formed by the action of living things. These are organic sedimentary rocks. Fossils are found in some sedimentary rocks.

Metamorphic rocks have undergone change because of tremendous amounts of pressure and temperature changes over time. Some show bands or layers of different minerals. These are called foliated metamorphic rocks. Those without bands are nonfoliated.

Preparation

Obtain rock samples, choosing rocks that can be easily classified, or have students bring rocks in several days before doing this activity. Review the chart of common rocks and their classification from the teacher background section.

Learning Activity

Ask the students the following questions to assess their knowledge or to stimulate interest in the activity:

How are rocks and mineral resources formed? Have you wondered how rocks change over time?

1. Discuss with students the three different types of rocks and how they form. Discuss subtypes (intrusive, etc.) with older students.