Mighty Minerals

Grade Level: 7 – 8

Purpose: To investigate the physical and chemical characteristics of the minerals in Illinois and their uses.

Suggested Goals: Students will be able to perform basic identification tests to describe the physical and chemical characteristics of minerals. In addition, students will be able to identify important uses for common minerals in Illinois.

Objectives: As a result of this lesson, students will be able to:
1. List the five characteristics of a mineral.
2. Demonstrate the proper procedure for a variety of mineral identification tests (hardness, streak, magnetism, etc.)
3. Identify common minerals based on their appearance and data collected from identification tests.
4. List important uses for common minerals.

Time Required: 2 - 3 class periods for each of the two projects.
Group Size: Individually or teams of 2-3 students. The report should be completed individually.

Background: What is a mineral? Minerals are defined as solid, inorganic substances that occur naturally and have a definite atomic structure and chemical composition. They exhibit several properties that are useful for identification. Color, crystal shape, hardness, and luster are a few of the properties that can be used to determine a mineral's identify. During this lab, students will learn about the five characteristics of a mineral and conduct tests to identify minerals that are found in Illinois.

Materials:
Classroom display of minerals
Access to the ISM Geology Online GeoGallery of mineral photos and information
Safety goggles
Identification guides (such as Golden Guide: Rocks & Minerals)
Copies of the lesson worksheets
- "What is a mineral?" Worksheet
- Mineral ID Guide
- Mineral ID Chart

Optional: Ultraviolet lamp

For each group:
Testing set of 10-12 minerals*
Streak plate
Glass plate