

Mineral Scavenger Hunt

Objective

The student will learn about the many uses of minerals in their daily lives.

Curriculum Focus

Science
Social Studies

Materials

- Copies of "Mineral Resources - Properties and Uses"
- Samples of objects made with minerals

Key Vocabulary

Sample materials made with minerals (brick, paint, coins, nails, ink, salt, toothpaste)



Introduction

There are many items in our environment that have identifiable mineral resources. For example: the foundation of the house or school, the walls, the plumbing, windows and all sorts of furnishings; all have mineral resources in them.

Product

Bricks
Aircraft
Fertilizers
X-ray equipment
Appliances
Computers
Brass musical instruments
Telephone
Light bulb

Mineral

Clay
Bauxite (aluminum ore)
Phosphates
Lead
Chromite (chromium ore)
Galena, copper, quartz
Copper ore/zinc ore (alloy)
Mica/feldspar
Wolframite(tungsten ore), quartz



Procedure

Pass out copies of "Mineral Resources - Properties and Uses." Ask the students the following questions to assess their knowledge of the topic and to stimulate interest in the activity:

What mineral resources are used in creating glass? What are nails made from?



1. Tell the students that they will explore some things that come from minerals. Ask, “why do we need minerals?” List their responses on the board. Emphasize that mining products are all around us. Many parts of our house and school come from minerals.
2. Tell the students we mine things that we cannot grow. Have the students observe the household objects and talk about various minerals found in them.
3. Have groups of students go on a scavenger hunt of the school to find at least 10 products that are made from mineral resources in a mineral scavenger hunt. Have groups record the items they find as they complete their hunt.



Discussion

When groups return to the classroom, share student scavenger hunt lists, determining the most common minerals students found.



To Know and Do More

For younger students, classify the substances in the chart of the following page as metals or nonmetals.

Assign students a mineral to research, reporting on where it is mined, its useful properties and how it is used. They should share their research, perhaps in the form of PowerPoint presentations.



Mineral Resources: Properties and Uses

Gold	Soft, heavy, easily shaped, good conductor of electricity and heat, won't corrode. Used for heat shields, jewelry, electrical connectors, decoration.
Limestone	Abundant, easily quarried and crushed, durable. Used for cement, mortar, building stone.
Clay	Soft, easily ground and shaped. Used for pottery, china, bricks.
Iron	Hard, strong, can be melted and shaped, abundant. Used for steel girders, nails, tools, magnets.
Silica from quartz	Abundant, can be separated to provide silicon. Used for glass, computers, lubricants, water repellents.
Phosphates	Contains phosphorus needed by all plants and animals. Used in fertilizers, animal feed.
Aluminum	Strong and lightweight, easily shaped. Used for beverage containers, aircraft.
Lead	Heavy, soft, not easily corroded. Used for batteries, radioactive shields, bullets.
Copper	Easily shaped, good conductor of heat and electricity, decorative. Used for electrical wiring, tubing, alloy in brass and bronze.
Silver	Good conductor of heat and electricity, highly reflective, easily shaped, decorative. Used for jewelry, mirrors, photographic film, utensils, coins.
Salt	Abundant, kills bacteria, water soluble, necessary in the diet. Used for preservative, flavor enhancer, melting ice.
Gypsum	Soft, abundant. Used in plaster, wall board, statuary (alabaster).
Mercury	Liquid, combines with other metals, conducts electricity, vaporizes. Used for thermometers, mercury vapor lamps, electric switches.
Nickel	Hard, easily shaped, resists corrosion. Used for hardening other metals such as stainless steel and superalloys for rocket engines.

