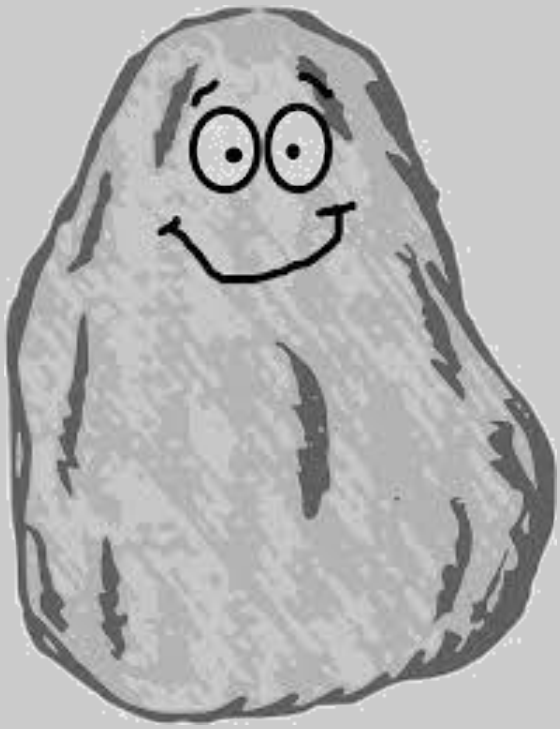
Rocks & Minerals

Study Guide

Name_____



Introduction to Rocks & Minerals

- Rocks have been on Earth for over four billion years.
- Rocks are made up of minerals.
- There are three types of rocks: igneous, sedimentary, and metamorphic
- Minerals are natural, solid substances
- Geology is the study of Earth's history and structure.
- A geologist is someone who studies the Earth and its materials.
- Properties are observations, such as color, shape, size, texture, and mass.

Igneous Rocks

- Oldest type of rock.
- "Igneous" is Greek for "fire"
- Formed when magma cools and turns into a solid rock.
- Made up of two or more minerals.
- Does not contain fossils.
- Light or dark colored
- Does not react with acid.
- Two types: extrusive and intrusive.
- **Example**: Pumice

Sedimentary Rocks

- Made up of sediment.
- Tiny rock pieces can become pebbles, gravel, sand, or clay.
- Sediment settles at the bottom of streams, lakes, rivers, and oceans.
- **Lithification**: the transformation of sediment into a rock or stone.
- Classified by texture and composition.
- Contain fossils.
- Variety of color.
- React with acid.
- **Example**: Limestone

Metamorphic Rocks

- Form over millions of years when a rock is exposed to pressure and very high temperature.
- A chemical change turns one rock into another rock.
- It takes millions of years for a rock to change.
- Made up of two or more minerals.
- Contain fossils.
- React with acid.
- Contain only one mineral.
- Classified by texture and composition.
- Light or dark colored.
- **Example**: Marble

Weathering & Erosion

- Erosion is a key part of the rock cycle.
- Erosion is the result of weathering.
- **Weathering:** the effect of water, temperature, and wind on the landscape.
- Rocks that are sensitive to acid will dissolve when acid rain falls.
- **Denudation**: when a rock splits apart as a result of water that has frozen and melted.
- **Chemical Weathering**: when the minerals in a rock are chemically changed as a result of sunlight, air, and water (acid rain).
- **Physical Weathering**: when a rock's appearance is changed as a result of plants growing through cracks, water freezing in the cracks, and materials constantly hitting the rock.

Minerals

- Found in nature (water, dirt, rocks).
- Inorganic (nonliving).
- Building blocks of rocks.
- Most important component is oxygen.
- Minerals are identified by: color, luster, streak, hardness, and gravity.
- German mineralogist, Friedrich Mohs, developed Mohs Scale of Hardness in 1822.
- The scale measures the hardness of minerals from 1-10
- 1 = softest; 10 = hardest

The Scientific Method

- Method of procedure used by scientists.
- There are six steps in the scientific method

Step	Description
1	Ask a question/ Make an observation
2	Gather information
3	Create a hypothesis
4	Make predictions
5	Perform tests and/ or experiments
6	State your findings/ conclusions