

Resources

Check the children's section at your local library for information on geology. If you have access to the Internet, try using various search engines to look for the information you need.

A field trip to a museum can provide an excellent hands-on experience with rocks and minerals in your local community.

Mohs Hardness Scale

Hardness is identified numerically by comparison to standard minerals on the *Mohs Scale*, from 1 (softest) to 10 (hardest):

- | | |
|-------------|---------------|
| 1. Talc | 6. Orthoclase |
| 2. Gypsum | 7. Quartz |
| 3. Calcite | 8. Topaz |
| 4. Fluorite | 9. Corundum |
| 5. Apatite | 10. Diamond |

A mineral of a given hardness will scratch a mineral of a lower number. With a systematic approach, you can use minerals of known hardness to determine the relative hardness of any other mineral. There are a few handy objects that also fit in this scale. A fingernail is 2.5, a penny is 3, a knife blade is 5.5, glass is 5.5, and a steel file is 6.5.

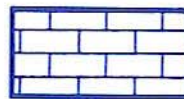
Three Kinds of Rocks!

Sedimentary Rocks

For thousands, even millions of years, little pieces of our Earth have been eroded—broken down and worn away by wind and water. These little bits of earth are washed downstream, where they settle to the bottom of the rivers, lakes, and oceans. Layer after layer of eroded earth is deposited on top of each. These layers are pressed down more and more through time, until the bottom layers slowly turn into rock.



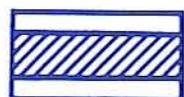
Sandstone



Limestone



Shale



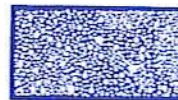
Gypsum



Granite



Basalt



Pumice



Obsidian

Igneous Rocks

Igneous rocks are called fire rocks and are formed either underground or above ground. Underground, they are formed when the melted rock, called magma, deep within the earth becomes trapped in small pockets. As these pockets of magma cool slowly underground, the magma becomes igneous rocks.

Igneous rocks are also formed when volcanoes erupt, causing the magma to rise above the earth's surface. When magma appears above the earth, it is called lava. Igneous rocks are formed as the lava cools above ground.

Metamorphic Rocks

Metamorphic rocks are rocks that have "morphed" into another kind of rock.

These rocks were once igneous or sedimentary rocks. How do sedimentary and igneous rocks change? The rocks are under tons and tons of pressure, which fosters heat build-up, and this causes them to soften and change.



Marble



Schist



Gneiss



Slate

Items Made From Rocks and Minerals!

Some everyday items that are made from or consist of rocks or minerals include jewelry, table salt, chalk, pencil lead, coins, wire, cans, safety pins, scissors, chewing gum wrappers, roads, and glass. There are many, many others.

Crystal Garden

- 6 tablespoons of water
- 1 tablespoon of ammonia
- 6 tablespoons of laundry bluing
- 6 teaspoons of salt
- 6 pieces of charcoal—the kind used for outdoor cooking

Mix the water, ammonia, bluing, and salt in a bowl. Put the charcoal in a pie pan. Pour the liquid over the pieces of charcoal. Put the pie pan in a warm place where the water will evaporate quickly. When the water has evaporated, a "garden" of crystals will have grown!