

Uses of Rocks and Minerals

The Earth's crust is made up of different kinds of rocks. These rocks are a mixture of one or more minerals. In fact, there are over 2,000 different minerals found in the Earth's crust. However, most of the Earth's crust, about 90 percent, is made up of just 20 minerals such as mica, quartz, and feldspar.

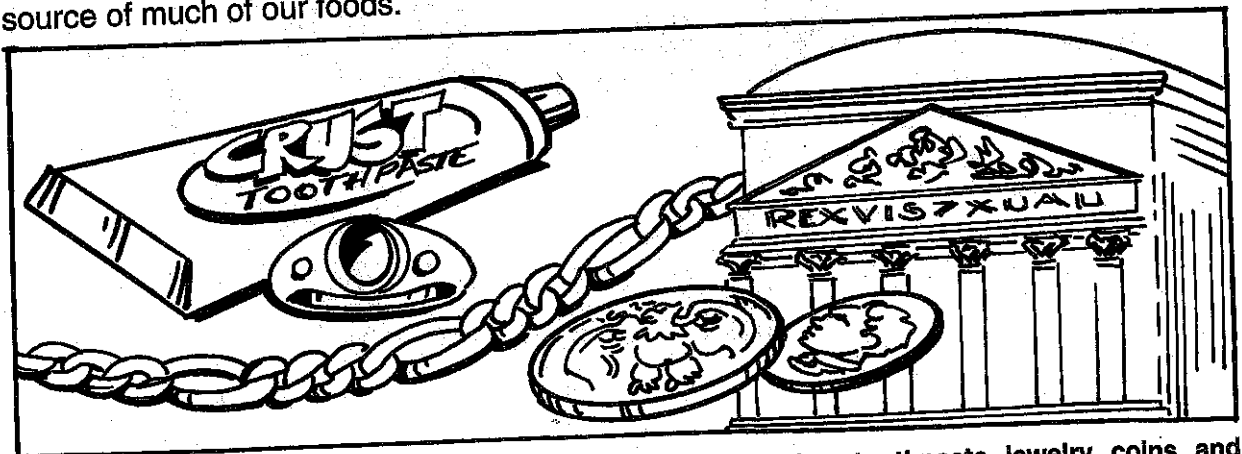
We find some minerals very useful and valuable. You may be using two minerals right now! Graphite is used to make pencil lead, and gypsum is used to make school chalk. Was there fluoride in your toothpaste this morning to help protect your teeth? Fluoride is formed from the mineral fluorite. Do you ever use sodium chloride? That's table salt. The glass in windows is produced from a mineral called silica. Farmers use minerals such as potassium and sodium to fertilize their fields. Fertile fields produce more food for us! So you see, minerals are used every day.

About 100 minerals are very beautiful, and some of them are very rare. You might not recognize them in the ground, but when they have been cut and polished, they become beautiful gemstones such as diamonds, sapphires, rubies, amethysts, and emeralds. You may never find a diamond, but you can find a very pretty and useful mineral—quartz. Just look around in a gravel driveway for the crystals of quartz.

Other minerals may also be used in driveways. Concrete is made up of rocks and minerals. The mineral hematite is a source of iron, and galena is a source of lead. A rock that contains a combination of minerals and metals is called an ore. We separate some very useful metals from ores, including aluminum, nickel, zinc, tin, copper, silver, and gold.

Rocks themselves are useful to us. Granite is used as a building stone and for creating monuments. Marble is used in many of the same ways as granite. Slate has been used for blackboards and for roofing. Coal, of course, is burned for fuel. Sulfur has many uses. It can be used to produce sulfuric acid, which is widely used in industry. Limestone is used to make cement, and when it is mixed with sand and gravel, it becomes concrete.

Finally, rocks have a very important function that we don't think about very often: the formation of soil. Rocks are slowly wearing away all the time. Tiny rock particles mix with decaying organic matter, called humus, to form soils. It can take hundreds of years to form an inch of soil, so it's not a rapid process. We must protect our soils because they are the source of much of our foods.



Rocks and minerals are used to make many products including: toothpaste, jewelry, coins, and building materials.

Name _____ Date _____

For the student:

1. How many kinds of minerals make up the Earth's crust?

2. What is sodium chloride?

3. What are the hardest and second-hardest gems?

4. Hematite is a source of what product?

5. What product is made from graphite?

6. How is concrete produced?
