

Mineralogist

Career Files teach about important jobs in science and how science is used in other jobs. Careers with the STEM symbol focus on Science, Technology, Engineering, or Math.



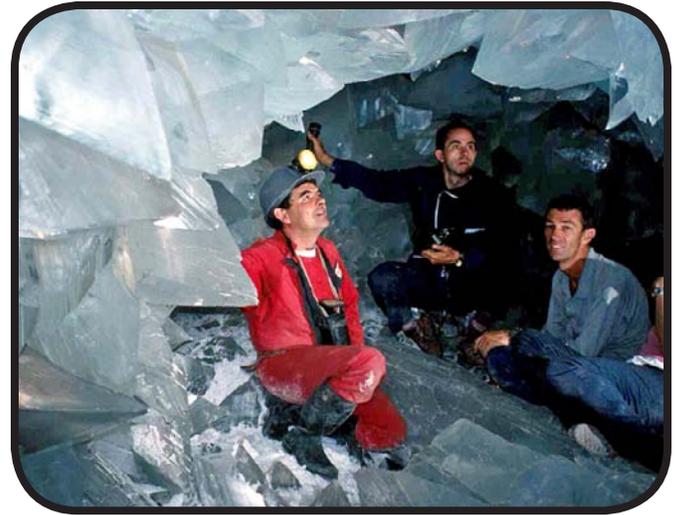
Mineralogists rock!

Did you know that most rocks are made of different kinds

of minerals? Minerals give rocks their color, texture, and hardness. Mineralogists study and classify those minerals. Some mineralogists study just one mineral, but others study many different minerals. They may even focus on minerals found only in certain areas, such as in volcanoes, or minerals found far beneath Earth's crust.



A sample of a mineral called *malachite*



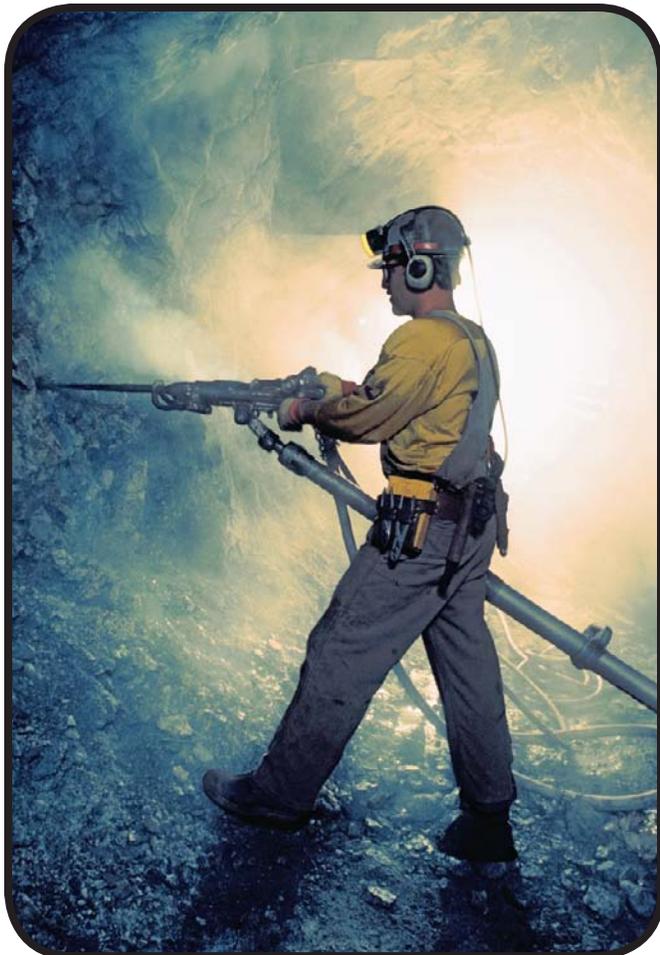
Mineralogists studying a crystal cluster of gypsum prisms in Spain

Mineralogists gather information about minerals in many ways. They collect samples and look at photos. Many mineralogists work in mines, where they can collect samples from different layers of rock. Back at the lab, mineralogists may look at samples under a microscope or run tests to learn more about the chemistry of the rock.

People who would like to be mineralogists go to college to study math and science. Mineralogists usually continue with school after college to learn even more about rocks and minerals.

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Miners really *dig* their jobs. A miner is a person who removes raw materials—such as coal, copper, gold, or iron ore—from the ground. Those materials are then used as fuel or to create products, including precious metals for jewelry and steel for cars and skyscrapers.



A miner using a drill to dig for coal



Miners wear helmets with lights so they can see underground.

In a mine, some miners do the digging while some build the tunnels in which other miners work. Other miners protect workers from the hazards inside a mine. These miners need to make sure there is enough oxygen to breathe in the tunnels deep below the surface of Earth.

Most miners learn by working with experienced miners. Some mining companies offer workers courses on how to run the big machines that tunnel through the earth. Some colleges offer courses on mining methods.

Soil Scientist

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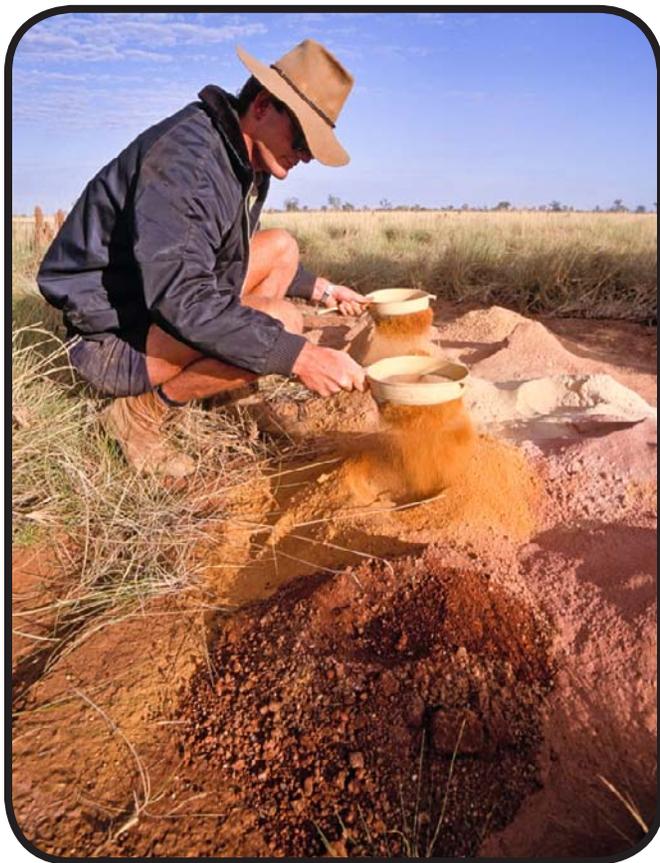


Your parents may have told you not to play in the dirt, but soil scientists get to

play with dirt every day! Dirt, or *soil*, is found on the top layer of Earth's crust. It is made up of many different things—minerals, organic matter, nutrients, air, and water.



Plants grow in the top, nutrient-rich layer of the soil.



A soil scientist using sieves to separate different parts of the soil

Soil scientists, sometimes called *pedologists* (*pedon* means “soil” in ancient Greek), go to different places to collect soil samples. They study these samples in a laboratory to figure out what the soil is made of and how it formed. This research also helps them determine the richness of the soil and the amount of erosion in an area.

Soil scientists go to college and take many science and math classes. Some also get a special certification in pedology.