

Rock Hound Kids



Quarry

The Place for Kids
who love Rocks!

Newsletter



Pebbles

Volume 4 • March 2007



Careers in Geology

I'm sure many of you out there want to be a geologist when you grow up. But, how much do you really know about geologists? For a geologist, the whole Earth is an laboratory full of opportunities to observe the Earth processes in action. In February 1992, money magazine ranked "geologist" second overall out of 100 best occupations and was in the top nine for "jobs that satisfy." Many geologists work for the federal or state government, many are also self-employed.

Geology can be a very rewarding career. In fact in 1991 about 85,000 geologists were working in the United States alone, according to the AGI geoscientific employment and hiring survey. Geologists often specialize in one of many areas. Here is a list of some of the areas, and a description of what they do.



Geologists by themselves study the physical nature, materials, products, processes and history of the Earth.

Mineralogists study mineral composition, formation, and properties.

Soil scientists study soils and their properties to determine how to sustain agricultural productivity and detect and remediate contaminated soils.

Sedimentologists study sedimentary rocks and the processes of sediment formation, distribution, nature, and alteration of sediments. Oil, gas, coal, and many mineral deposits occur in such sediments.

Volcanologists investigate volcanoes and volcanic phenomena to predict eruptions and understand these natural hazards.

Seismologists study the location and force of earthquakes and analyze the behavior of earthquake waves to interpret the structure of the Earth.

Hydrogeologists study the occurrence, abundance, distribution and quality of ground waters and related geologic aspects of surface waters. A hydrogeologist is concerned with water from the moment of precipitation until it evaporates, or joins the ocean.



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Read the rest on the other page. >

Careers in geology continued...

Glacial geologists study the movement and physical properties of glaciers and ice sheets.

Marine geologists investigate the ocean-floor and continent boundaries, they also study ocean basins and continental shelves.

Stratigraphers investigate the time and space relationships of rocks, especially the mineral and fossil content of layered rocks.



Structural geologists analyze Earth's forces by studying fracturing, folding, and deformation that has occurred in the Earth's crust.

Engineering geologists apply geological data, techniques, and principles to study rock, soil surficial materials, and ground water. They also investigate geologic factors that affect structures like bridges, buildings, and dams.

Environmental geologists work to solve problems with pollution, waste disposal, urban development, and hazards such as flooding and erosion. They also study the interaction between the different spheres and human activities.

Economic geologists explore for and develop metallic and nonmetallic resources, as well as geologic materials that have profitable uses.

Petroleum geologists are involved in exploration for and production of oil and gas resources.

Planetary geologists study the moon and other planets to understand the evolution of the solar system.

Paleontologists study fossils to understand past life forms and their changes through time and to reconstruct past environments.

Paleoecologists study the function and distribution of ancient organisms and their relationships to their environment.

Petrologists determine the origin and natural history of rocks by analyzing mineral composition and grain relationships.

Geochronologists use the rates of decay of certain radioactive elements in rocks to determine their age and thus help reconstruct the geologic history of the Earth.

Geochemists use physical and inorganic chemistry to investigate the nature and distribution of major and minor elements in ground water and Earth materials.

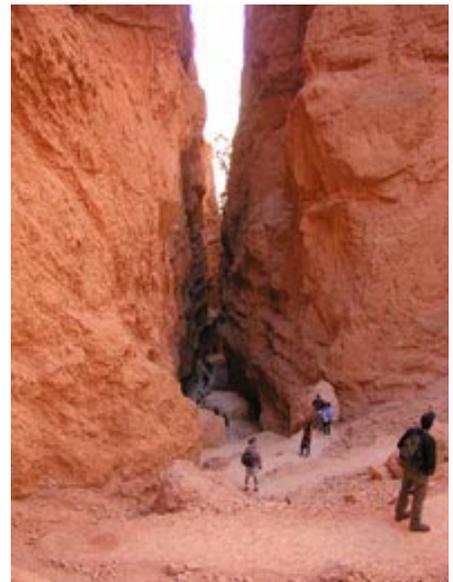
Geophysicists decipher the Earth's magnetic, electric and gravitational fields. They also apply the principles of physics to studies of the Earth's interior.

Geomorphologists study the effects of Earth's processes and investigate the nature, origin, and development of present landforms and their relationship to underlying structures.

Geodynamacists study plate tectonics, specifically the hows and whys of plate motions and deformations.

While this might be a little over whelming, all you really need to consider is "what's your favorite thing about geology." I, for one, like learning about minerals and such, so I might look into finding out more about mineralogy. I'm sure that rock hounds will be able to choose what you like best too, though it'll probably be hard because everything about geology is so cool!

This article was written by Jessy Chekal



Rock of the Month

Ice & Snow



Chemical Composition: H₂O

Hardness: 1.5

I know what you're thinking, "Jessy, have you lost your marbles, ice and snow aren't minerals!". Though, I don't think I had all my marbles to begin with, I'm quite sure that ice is a mineral. Mineralogists define a mineral as having a natural inorganic origin, an organized structure, and an homogenous chemical composition. Natural ice and snow fit all these rules, they form naturally and inorganically, it has a hexagonal structure, and the homogenous formula of H₂O. One of the reasons many people think that ice isn't a mineral is because it melts at room temperature. But, did you know that native mercury will also liquify at room temperature?

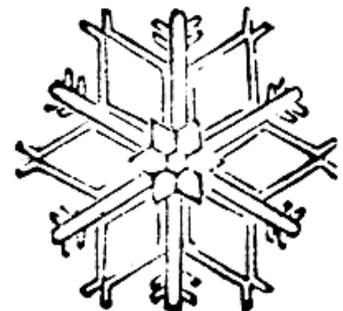


Lake Vostok is a very large lake, 14,000 km in area and up to 670 m deep, but isn't very well known. That may be because of it's location, beneath 2 miles of ice from the Antarctic ice cap! Glaciologists say that elements of the ice hosting this frigid body of water may have gathered for around 1 million years. Proving that ice can accumulate and then persist for long periods of time. There is still a lot of other oddities about ice, too. For instance, you can actually take pictures of single snowflakes. In fact, an amateur scientist named Wilson Bentley took amazing photographs of thousands of snowflakes.

Ice is a colorless mineral, though sometimes ice seems white due to air bubble inclusions, and snow is white due to multiple reflections of light. Formed when water freezes, ice is used for many things. From keeping things cool to stopping a bump from swelling, ice does it all. Usually found in most places where winter is cold, you probably have some ice in your freezer right now. Also, ice can be found year round in Antarctica, the north pole, south pole, and most tall mountains that contain glaciers.

Did you know???

The Antarctic ice cap has **29 million cubic kilometres of ice**. This is 90% of all the ice on the planet and between 60 and 70 % of all of the world's fresh water. Only about 0.4 percent of Antarctica is not covered by ice.



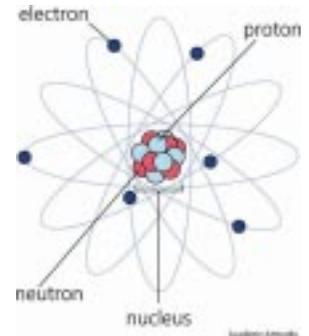


Ask Jessy

QUESTIONS ABOUT GEOLOGY

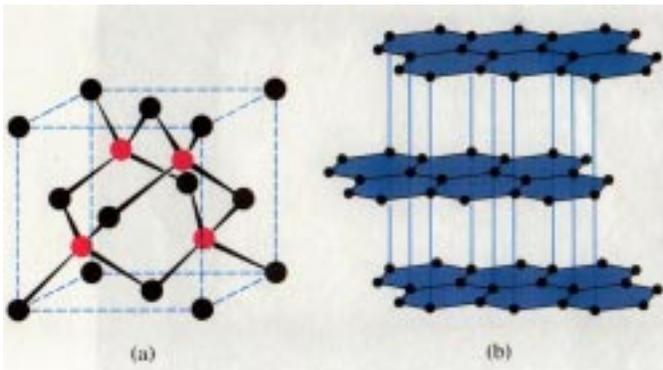
Send your questions about geology, rocks, minerals and collecting to Jessy and she'll pick one or two questions a month to answer for you!

Email Jessy Questions at Jessy@Rockhoundkids.com



Weston from Michigan asks "Why is it that minerals have different shapes and hardnesses?"

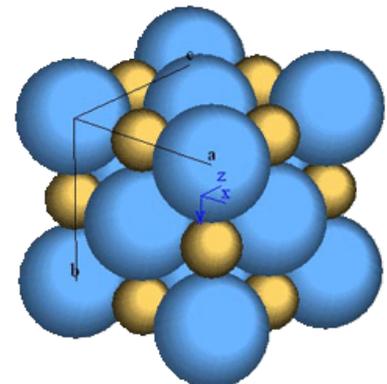
Hey, I was just studying this in my earth science text book! You see, Weston, it has to do with their atomic structures. All minerals are made of atoms arranged in regular patterns. The arrangement of these atoms and the electric bonds between them determines a lot about the mineral, like shape and hardness. Lets take halite as an example. Halite is composed of sodium ions and chloride ions (an ion is an atom that is either positively or negatively charged). Every positively charged sodium ion is bonded to a negatively charged chloride ion, and vice versa. This results in a pattern, which is repeated throughout the mineral. Because of this orderly arrangement, halite forms crystals that are cubic in shape.



While this explains how crystals get their shape, their hardness depends on the arrangement of it's ions and the electric forces between them. A good example of this definition is found in the element carbon. In one arrangement, carbon forms diamond, which is the hardest natural mineral. But in another arrangement, carbon forms graphite, which is used as lead in pencils and is very soft. In graphite, the carbon ions are arranged in sheets, while in diamonds the ions are arranged in a tetrahedral network.

So, I hope that I have answered your questions, if not please tell me and I'll see what I can do.

Email Jessy Questions at
Jessy@Rockhoundkids.com



What I'm learning in school.

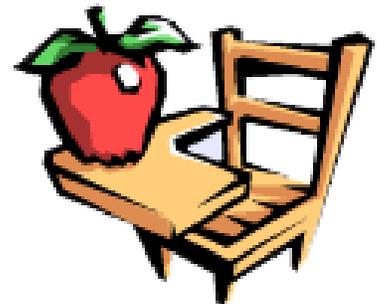


My summary about rocks.

By Eliza Bellamy

These past few weeks in science we have been learning about rocks. There are three different types of rocks sedimentary, metamorphic, and igneous. Sedimentary rocks are rocks that form underwater. Metamorphic rocks are rocks that form underground. When volcanoes erupt causing the magma to rise above earth's surface. Igneous rocks are formed when the lava cools. I also learned that a rocks melting temperature is 1,800 degrees Fahrenheit.

A person who studies rocks is called a geologist. We have talked about the Plate Tectonic theory also. The Plate tectonic theory is that the crust of the Earth is made up of moving plates and that there used to be one big continent called Pangaea. Some ways rocks and minerals are different are that minerals usually have a shape and rocks have no definite shape and minerals usually have one color and for rocks the color is not the same. Now that is my summary about rocks.



If you have an article that you'd like to submit, please send it in and I'll be sure to add it to the newsletter.

Articles@Rockhoundkids.com

Cool Web Links



www.geology.com

This is a site that has a lot of info. From geology maps for all 50 states to satellite images they have it all. You could spend hours looking through all the stuff on this site, that is if your head doesn't explode from all the information first!

jove.geol.niu.edu/deptnews/careers/careers.html

Wondered what makes a Geologist? Well, you can find the answer here along with a lot of other information about careers in Geology. There is also info about what wages are and links to other websites with good information.

www.agiweb.org/index.html

The American Geological Institute was founded in 1948. AGI is a federation of 44 geoscientific associations, and their website is very well done. There is a lot of information on the Geosciences and some other neat things too.

www.mineral.galleries.com

A cool site with lots of nice pictures and information on a bunch of different minerals. Amethyst Galleries is the first online rock shop ever, and has a lot of interesting minerals on their site. Most of the specimens are for sale that range for under ten dollars to over a thousand dollars.

www.fabreminerals.com

Looking for beautiful and rare specimens, then here's the place to find them. All of the minerals have nice pictures with descriptions and place of origin, though if you're thinking of buying any of the specimen you're going to need some deep pockets.

If there are any websites you feel should be mentioned send them into

SubmitALink@Rockhoundkids.com

HappyScribecopyBooks.com

Brings to you

Rocks & minerals



Happy Scribe
COPYBOOKS



Jessy Chekal wrote this handwriting book of great rock and mineral sayings for all rock crazy kids! Here are a few examples.

*The diamond is the hardest mineral.
The main source of silver is galena.
Some minerals are flourescent and glow.*

To find out more about it [Click Here](#)

Check out my brand new Blog!!! www.rockhoundkids.wordpress.com