Rocks, Minerals, and Gemstones

Rocks, Minerals, and Gemstones Patch

Explore the differences between rocks and minerals, and how rocks and gems are formed while you earn your Rocks, Minerals, and Gemstones patch!
Daisies and Brownies complete 3 activities. Juniors to Ambassadors complete 4.

Live Virtual Program: Have you ever cracked open a rock to find the inside covered in crystals? How is this possible? Join us to speak with a geologist about how these geodes form, as well as learn more about gemstones and other special rocks and minerals that can be found all over Alaska. There will be time for all of your rock-related questions too! You can register for this event at our website.

Crystalline Candy: Crystals are minerals or stones whose ions or atoms are arranged in a regular, predictable pattern. Sugar is one substance that is crystalline. Observe how crystals form by making your own rock candy! (https://www.sciencebuddies.org/stem-activities/rock-candy)

What's Your Stone?: Each month of the year has a special birthstone. Some of them even have two! Birthstones are all gemstones that are mined from the ground as minerals or rocks, then polished until they shine. You might even know some of them already, like the diamond or ruby. Figure out what your birthstone is and do some research to figure out where that stone is mined. (*Use this chart.)* Then ask your friends and family what theirs is! What is the most common birthstone of the people you know?

Layer it up! Sedimentary rocks are formed in areas that have lots of slow-moving water, like creek, ocean, and lake beds. When sediment (soil, sand, pebbles or even fossils) or other natural materials are carried from one place to another in the water, they will sink and settle when they reach a section where the water moves slowly enough. This forms a layer. The weight of the water will flatten that layer and then another will be added on top of it. Practice making your own sedimentary rocks out of glue and materials you can find in a natural place like your backyard or a nearby park. (LINK)

Rockin' and Rollin' Through the Cycle: Did you know that rocks are made and "unmade" in a cycle? Follow this link to learn more about this fascinating process! (https://www.dkfindout.com/us/earth/rock-cycle/)

Dig up Some More Information: Geologists work both out in the field studying rocks and formations *and* inside as researchers, discovering history and researching. Visit your local library to do some research. Find a book on rocks, minerals, or gemstones that interests you. Share with a family or friend at least 3 facts that you thought were amazing!

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Order your patches online here:
cognitoforms.com/Girlscoutsalaska/GSAKPatchOrderForm

Feeling the Pressure: Some gemstones, like rubies and sapphires, are only formed under high heat and pressure, deep inside Earth's crust. They start as collections of unrefined minerals, but melt and form together before they're discovered and polished into what we see in jewelry. Reflect on a time when you showed perseverance and grit by enduring through a difficult time. What valuable lessons or skills did you learn from that experience that make you the gemstone you are today?

It's All in the Details: When geologists find a mystery rock, they use all sorts of details to help them deduce (draw a logical conclusion) what family that rock might belong to. Characteristics such as color, crystal formation, visible patterns (layers or small grains of other rock), and even smell are important in identifying them! Go on a hike or explore a local natural area (a park or backyard can work) and go rock-hounding like a geologist. Bring a journal and practice your observational skills by describing the rocks in as many words as you can. (Some examples are: hard/soft, color, light/heavy, and more!)

Rocks vs Minerals: The term "rock" is used very generally, but to scientists it means something very specific. What are the differences between a rock and a mineral? What are the similarities? To help you organize your thoughts, make a list, a T-chart, or a Venn diagram as you learn about them.

Younger girls *(Rocks:* https://www.youtube.com/watch?v=Y6PkstnkeQY
Minerals: https://www.youtube.com/watch?v=xbkEITV7sok*)*
Older girls (*Rocks and Minerals:* https://www.youtube.com/watch?v=MBbZnuV5RdI

Rock Types: Start your own rock collection! Egg cartons are the perfect way to keep different rocks separate from each other in your collection. It will also keep fragile rocks protected if your collection gets bumped along the way. Watch this video to learn about the 3 types of rocks and see if you can identify which types of rocks YOU have. (https://www.youtube.com/watch?v=ty2Za-O9h6w)

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