

Rocks Rock

1. Be a Rock Hound!

Start a rock collection. Go exploration hike to see how many different kinds of rocks and minerals you can find. Before you go, consider what equipment you might need. Take safety Precautions! And don't collect any samples from an area where collecting stones is prohibited. If removing a rock will make an impact on the environment, don't take it home! Instead, photograph or observe the stone where you found it, so others will get to see it later.

2. Geo Hunt

Search for clues in your community or in a place you visit that shows one or more of the following:

- Where a glacier had been
- Where a volcano had erupted
- Where erosion had happened
- Where water once covered the area
- Where the earth has shifted

Discuss, describe, or show others what you have found.

3. What Type Is It?

Each rock you collect will fall into one of three major categories: igneous, sedimentary, or metamorphic. Which types are yours? Use books, web sites, or maps to help you figure out which types of rocks you've gathered.

4. Soil Sense

Discover what makes up soil. Collect two soil samples, each sample from a very different spot. Spread each soil sample out on a light-colored sheet of paper, and use your senses.

- **Look:** Are the grains large and easy to see? Medium? Or small? Are there any stones in the soil? Is the overall color of the soil light, medium, or dark?
- **Smell:** What does it smell like? Wet some of the soil and rub it between your fingers and smell it again.
- **Touch:** What does it feel like? Sandy soil feels rocky or pebbly. Clay soil feels sticky. A loamy soil feels gritty.

5. "Geo" Careers

Can you imagine yourself working with dinosaur bones? How about with precious stones? Or have you ever pictured yourself being an expert on volcanoes, the ocean floor, or far away planets? Believe it or not, all of these careers have backgrounds based in geology (the study of rocks). To learn more about possible geology-related career choices, complete the match-up activity below. Pick one career that you'd like to learn more about.

| | |
|-----------------------|--------------------|
| Career Choice: | Definition: |
|-----------------------|--------------------|

| | |
|---|---|
| 1. ____ Lapidarist | a. Studies where water is found on earth and the effects of water on or below the surface. |
| 2. ____ Hydrologist | b. Studies and creates maps for other bodies in the solar system. |
| 3. ____ Geological oceanographer | c. Cuts, polishes, and engraves precious stones. |
| 4. ____ Paleontologist | d. Studies how to extract natural resources such as gold, coal, diamonds, and oil from the earth. |
| 5. ____ Astrogeologist | e. Investigates the shape and the material of the sea floor and the history of the sea sediment and rocks. |
| 6. ____ Seismologist | f. Studies fossils (forms of life from the past) |
| 7. ____ Vulcanologist | g. Studies earthquakes |
| 8. ____ Mining engineer | h. Studies Volcanoes |

6. Wipe Out Erosion!

Erosion is the wearing away of rocks and soil by air, wind, and water. Hook up with a group that is trying to fight the effects of erosion in your area. Some activities to look into could be:

- **Planting dune grass to help keep the sand along the shore from being blown out to sea. Small, wooden fences can also be used to create artificial sand dunes. These methods keep the beach where it should be – on the beach!**
- **Maintaining trails, which could include helping to build terraces or steps along steep paths. Terraces and steps make it harder for rainwater to wash straight down a hill, so less soil is removed when it rains.**
- **Helping to build a walkway over marshy wetland areas.**

7. Around the Globe

Volcanic eruptions, geysers, earthquakes, and tsunamis (tidal waves) have had tremendous impact on people around the world. Pick one of these phenomena, and find out a place where it affected people and what those effects were.

8. The View From Above

Find photographs of the earth taken from a high altitude. Photos that were taken from a plane or satellite would be best. Use these photos to locate:

- **Major oceans**
- **Land areas**

- **Mountain ranges**
- **Fault lines**
- **Volcanoes**
- **Farmland**
- **Rivers, lakes, and other inland waterways**
- **Other features of interest**

9. Fossil Fun!

Fossils can be formed in different ways. A fossil may be the image (impression) that an object leaves in stone, which becomes the “mold” for that object. Make your own “fossil” by pressing a leaf, rock, skeleton, bone, or dead insect into some soft plaster of Paris and allowing it to harden. Look carefully to see the details made in the impression when the item is removed. If you can, go on a fossil hunt.

10. Weathered or Not...

To discover firsthand the effects of weather on the land, do one of the following:

- **Go for a walk in your neighborhood and look for chips, cracks, and rough areas in a sidewalk. Think about how these might have happened. How has nature helped cause these changes in the sidewalk?**
- **Discover what happens when water gets into cracks and spaces in rocks and then freezes. Fill a small plastic container with water, put the top on it, and then freeze it. What happens to the container? What does this mean for areas where there is water that freezes?**
- **Acid rain affects different types of stone in different ways. Visit a cemetery and notice the different types of stone used to make the headstones. Or walk around your neighborhood and check out buildings made from different types of stone. Notice how the lettering, statues, carvings, and/or corners are worn away. What conclusions can you draw from your observations?**

Safety First

1. Safe at Home

Conduct a safety check of your home with your family. Do you have the proper number of smoke detectors? Are they all working? Are all electrical wires safe and out of the way/ correct any hazards that might be dangerous for an infant, a toddler, someone who has a disability, or an elderly person. Then list the following information and post it in a handy spot: phone numbers for the fire department, police, poison control center, doctor, and an ambulance.

2. Safe at Any Age

Do an informal survey to find out the most common types of injuries for people your age. Are they from bicycle falls, sports, or just plain carelessness? Write a 30 second or 60 second public safety announcement about how to help prevent these injuries and see if it can be aired at your school.

3. Sports Safety

Create a large cardboard cutout of a person wearing a variety of protective gear and equipment for a particular sport or activity. If you created an in-line skater, for example, include kneepads, elbow pads, wrist pads, and a helmet. Use this figure to teach sports safety to your troop, group, or family.

4. Create a car safety poster, videotape, or some other form of media. Include information about the importance of using a seat belt every time people ride in a car, the proper way for infants and toddlers to be buckled into car safety seats, and why children should not ride in the front seat of a car equipped with airbags.

5. Fall Safe

Help prevent one of the most common causes of injuries and deaths in the United States: falls. Point out where falls can happen easily, such as in bathrooms or on stairs, and show how they can be prevented.

6. Look Out!

Take a “hazard identification hike” along a bike path, foot trail, horse trail, compass course, or similar place. As you go along:

- a. **Identify places where you could get hurt or that could cause you trouble.**
- b. **Set up some way to warn others of the hazards, or work to remove them.**

7. Out and About in Public

The 4th of July – and holiday celebrations like it – can be loads of fun. But don’t forget about safety. Choose an upcoming holiday or event, such as a parade, a trip to the state fair, or a local carnival. Talk to the adult you are going with and make a safety plan. What should you do if you get separated? What are the hazards you might prepare for ahead of time, such as: doing activities on water, being in unfamiliar places, being around strangers, having no clean drinking water or shade, being in a sudden storm, traveling in cars or other vehicles, being in crowded places, or being out in the dark.

8. It’s Not Just a Ride

Learn the basics of bike safety and develop a bike safety checklist. Include topics such as protective gear, how to see if your bike is in proper working order, and rules for riding on the road. Talk to a local bike shop employee, police officer, or other resource person for help.

9. Show the Way

With your troop, friends or family; plan a way to help younger children learn about safety. Include topics like crossing the street, safety in the kitchen, and getting help in an emergency. You can use the “Safety Sense” Brownie Girl Scout Try-It to help you plan.

10. Fire Safety

Knowing what to do in case of a fire saves lives. Plan, talk about, and practice fire escape routes from your home, troop meeting place, or school. Learn what to do by checking out the information in your Junior Girl Scout Handbook, going online to find resources about fire safety, or talking with a firefighter.