Geology Scavenger Hunt

Grades: K-5

Estimated Time: 15 minutes in addition to hike time

Standards Met:

- K-2 grade:
  - *Science N.2.A.1* Students know how to make observations and give descriptions using words, numbers, and drawings.
  - *Science N.2.B.2* Students know that, in science, it is helpful to work in a team and share findings with others.
  - *Science E.2.C.1* Students know Earth is composed of different kinds of materials (e.g. rocks, soils, and water).
  - *Science E.2.C.2* Students know rocks come in many sizes and shapes, with various textures and colors.
- 3-5 grade:
  - *Science E.5.B.3* Students know the benefits of working with a team and sharing findings.
  - *Science E.5.C.1* Students know fossils are evidence of past life.
  - *Science E.5.C.4* Students know rock is composed of different combinations of minerals.
  - *Science E.5.C.5* Students know soil varies from place to place and has both biological and mineral components.

Materials Needed:

- Writing utensil for every 1-2 students
- Scavenger hunt cards for every 1-2 students (attached – first page for K-2, second page for 3-5)
- Clipboards or other writing surface (optional)
- Scavenger hunt key (attached)

Objective:
Identify and observe various geological features
Keep students engaged during hike

Procedure:
Lead in by telling students they are about to go on a hike. Include hike length and general hiking rules and expectations (stay on the trail, no running, do not pick or take anything with you, etc.).

Give each student or pair of students a scavenger hunt card, writing utensil, and clipboard if using. Tell them that they are going to see many interesting things on the hike, and are going to keep track of what they see. Go over any items the students may not know or be very familiar with.

During the hike, have students look for items on the card. If they see one, have them point it out to the rest of the group. With each item have each student draw the item in the open space on their scavenger hunt card and lead a discussion about the item. After a student or group of students points something out you might want them to go to the back of the line so everyone has an opportunity to see and potentially point things out first.

Note: *It might help to have a scavenger hunt word, such as " bingo," to differentiate when students are asking you general questions or trying to get your attention versus having found a scavenger hunt item.*

Variation: Have the students work in small groups, each with a chaperone, and have each group find different examples for each item on the scavenger hunt card. This activity can also be done at any point during the hike, rather than at the beginning.

After all the items on the scavenger hunt have been found, or enough time has lapsed, stop and discuss the group's results. What items did they find? What did they look like? Did anyone have different things for the same scavenger hunt item? Why are these things important to the area? What, if anything, did you not see? Why do you think that is?

Sources:
Adapted from *Connecting People & Nature: A Teacher's Guide*. Great Smoky Mountains Institute at Tremont, 1999.

Submitted by Anica Mercado

Make sure students put their papers safely away in a pocket or backpack at the end of the activity.

Suggested Locations:
This activity can be done at any point along any trail. Suggested locations for discussion area:

Pine Creek Trail: 3,6, or 7	**Red Spring Boardwalk:** 1 or 4
Fire Ecology Loop: 3 or 4	**Moenkopi Loop:** 3,6,7,8, or 9

Geology Scavenger Hunt

Black covered rock	**Rock smaller than your pinky finger**	**A red rock**
A rock of two or more colors	**Soil**	**A rock shaped like something else**
A rock bigger than your hand	**A smooth rock**	**A smile**

Geology Scavenger Hunt

Desert Varnish	**Layers of rocks**	**Erosion**	**A Red Rock**
A rock of two or more colors	**Conglomerate**	**Fossil**	**Concretions**
Deposition	**An interestingly shaped rock**	**Indian marbles**	**A smile**

Scavenger Hunt Key

Black covered rock/Desert varnish: A black or reddish brown covering of rocks composed of iron oxide, manganese oxide, and windblown clay that is deposited through a combination of physical, chemical, and biological processes over thousands of years. Native American petroglyphs are often carved into the varnish.

Layers of rock: Examples of sedimentary rock.

Erosion: The wearing away of rock by the action of water, wind, and ice.

A Red Rock: The colors of the mountains that gave Red Rock Canyon NCA its name are the result of the iron and other minerals in the rocks oxidizing, or rusting.

Conglomerate: A sedimentary rock made up of smaller rocks and pebbles cemented together.

Fossil: A piece, impression, or trace of an organism of past geological ages that has been preserved.

Concretions: Iron oxide or rust accumulated on rocks (looks like red spots or bumps).

Deposition: The laying down of any rock-forming material primarily by wind or water.

Indian marbles: Concretions that, after thousands of years of weathering, have broken free. They are smooth, stone balls that are iron nodes.