

## **Geology Merit Badge program @ Cub Run RECenter**

The Geology Merit Badge is a 4 hour class. Scouts should bring a snack/lunch and be prepared to hike outside to look at rock formations and erosion.

PARENTS – In class, the last requirement we will cover is the identification of 15 minerals. The boys will be working with a buddy. This can be very difficult for the younger scouts, while others might need some gentle guidance to stay on task. Parents may want to join their scouts for the last 30-45 minutes of class to oversee this task.

PREWORK – Scouts should research all parts of #1 prior to the class as well as research #4 a (visiting someone in the career field) or b (career opportunities in geology). We will review this in class.

Scouts should bring to the Geology Merit Badge class:

- Prework
- Blue card, pen and pencil
- Snack/lunch
- Appropriate clothes for a short hike outside
- **SCOUTS SHOULD ARRIVE 10 minutes EARLY. DO NOT BE LATE.**

The Geology Merit Badge outline below contains the requirements that will be covered in class. Scouts will need to do the prework at home. If for some reason a scout cannot complete the work in time, we will sign partial cards. Assignments will be accepted at a later date at which time we will fully sign your blue card. We promise to help in anyway throughout the process.

## **GEOLOGY MERIT BADGE REQUIREMENTS**

\*\* Denotes Prework

1. **\*\*Define geology. Discuss how geologists learn about rock formations. In geology, explain why the study of the present is important to understanding the past.**
2. Pick three resources that can be extracted or mined from Earth for commercial use. Discuss with your counselor how each product is discovered and processed.
3. Review a geologic map of your area with your counselor and discuss the different rock types and estimated ages of rocks represented. Determine whether the rocks are horizontal, folded, or faulted, and explain how you arrived at your conclusion.
4. **\*\*Do ONE of the following:**
  - a. **With your parent's and counselor's approval, visit with a geologist, land use planner, or civil engineer. Discuss this professional's work and the tools required in this line of work. Learn about a project that this person is now working on, and ask to see reports and maps created for this project. Discuss with your counselor what you have learned.**
  - b. **Learn about the career opportunities available in geology. Pick one that interests you and explain how to prepare for such a career. Discuss what courses might be useful for such a career. You may use resources found on the Internet (with your parent's permission), at the library, in books and articles from periodicals, from television programs, and at school.**
5. Complete ONE of the options listed below A, B, C, or D.
  - C. Mineral Resources Option
    1. Define rock. Discuss the three classes of rocks including their origin and characteristics.
    2. Define mineral. Discuss the origin of minerals and their chemical composition and identification properties, including hardness, specific gravity, color, streak, cleavage, luster, and crystal form.
    3. Do ONE of the following:
      - a. Collect 10 different rocks or minerals. Record in a notebook where you obtained (found, bought, traded) each one. Label each specimen, identify its class and origin, determine its chemical composition, and list its physical properties. Share your collection with your counselor.
      - b. With your counselor's assistance, identify 15 different rocks and minerals. List the name of each specimen, tell whether it is a rock or mineral, and give the name of its class (if it is a rock) or list its identifying physical properties (if it is a mineral).

4. List three of the most common road building materials used in your area. Explain how each material is produced and how each is used in road building.
5. Do ONE of the following activities:
  - a. With your parent's and counselor's approval, visit an active mining site, quarry, or sand and gravel pit. Tell your counselor what you learned about the resources extracted from this location and how these resources are used by society.
  - b. With your counselor, choose two examples of rocks and two examples of minerals. Discuss the mining of these materials and describe how each is used by society.
  - c. With your parent's and counselor's approval, visit the office of a civil engineer and learn how geology is used in construction. Discuss what you learned with your counselor.

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