

**Geology:** [https://filestore.scouting.org/filestore/Merit\\_Badge\\_ReqandRes/Geology.pdf](https://filestore.scouting.org/filestore/Merit_Badge_ReqandRes/Geology.pdf)

**General Strategy:**

Most requirements can be prepared by the scout working independently. The scout must communicate and coordinate a specific strategy with the counselor. To complete the requirements, a discussion of each requirement should be submitted to the counselor and/or a meeting may be arranged to discuss each requirement directly.

Requirement 1: define Geology; discuss rock formations; explain studying the present to explain the past. Useful online sources may include Geology.com, usgs.gov, and Google Scholar.

Requirement 2: Discuss the discovery and processing of 3 mined or extracted resources. Useful online sources may include the National Mining Association and the American Geosciences Institute.

Requirement 3: Review a geologic map: discuss rock types, formations, and ages. Excellent online sources include the National Geologic Map Database and the California Geological Survey.

Requirement 4: interview a Geologist (option a) OR research Geology as a career (option b).

For option (a), the Scout needs to identify and contact a career Geologist, such as a Professional Geologist and/or a Ph.D. geologic researcher.

For option (b), useful online sources will include at least a Geology or Earth Sciences department at an accredited university (such as the California State University) AND a professional licensing organization (such as the California Board for Professional Engineers, Land Surveyors, and Geologists).

Requirement 5: complete option (a) OR (b) OR (c) OR (d).

Option a (Surficial and Sedimentary Processes) is more technically difficult and would require thorough counselor guidance during each phase.

Option b (Energy Resources) is less involved, but would still require thorough counselor guidance during phase (4) and (5) especially.

Option c (Mineral Resources) would require the counselor to provide names and/or photographs of rock and mineral specimens for the scout to research.

Option d (Earth History) would require the counselor to provide names and/or photographs of fossil specimens for the scout to research.

## **Research and Completion Strategy**

The Merit Badge book is an excellent source of information and the scout should read it!

More extensive research can begin with a simple Google search (Yahoo and Bing also good).

### Tips for using search engines like Google:

In general, Google scans the entire internet for each keyword regardless of word order. For example, if you ask Google *what is geology*, Google will scan the entire internet for websites that contain the word *what* and/or *is* and/or *Geology*. If you want Google to literally search for the phrase *what is geology*, then you have to literally type into the search bar with quotes "*what is geology*". You can also group keywords with conjunctions. For example, if you literally type *geology AND resources* into the search bar, Google will scan for websites that contain both words *geology* and *resources*. Further, literally typing with quotes "*geology and resources*" will give search results for websites that contains the literal phrase *geology and resources*.

Wikipedia is not a source – it is a search engine similar to Google, except it is an encyclopedia that only searches itself. However, Wikipedia articles will often list the contributing sources that could be searched for on Google.

### Tips for completing and discussing work remotely:

Scouts should not complete work alone, especially for tasks that may require the Buddy System and/or adult supervision. Adult leaders shall adhere to Youth Protection standards.

After completing a requirement, the scout must provide a discussion to the counselor for review and approval. A discussion could be verbal, visual, and/or written. For remote completion of requirements, the discussions could be phone or video conversations, video submissions, PowerPoint presentations, emails, or word documents. The discussion must meet the counselor's satisfaction that the requirements are complete.

When providing a discussion, the scout should summarize what they have done and learned. For written summaries, the discussion should use specific terms and statements that are checked for spelling and grammar. To prove requirement completion, a photographic and/or video log should be provided along with a discussion. To prove research valid, in-text citations and/or listed references should be provided for each source of information (such as a book or website); specific source citation and referencing guidelines can be found through Google. The length and format of any discussion will vary depending on the exact requirements.