



GEOLOGY MERIT BADGE WORK SHEET (BYU/UVU PowWow)

Scout's Name

Instructor's Name

Scout's Address

City

State

ZIP

Instructions

- 1) The Scout is to review the merit badge book before the first week of the PowWow.
- 2) Bring this worksheet, paper, and pencil or pen each week

Requirement Instructions*

- 1) Requirement 1 will be passed off during the two sessions of PowWow.
- 2) Requirement 2 will be passed off during the two sessions of PowWow.
- 3) Requirement 3 will be passed off during the two sessions of PowWow.
- 4) Requirement 4a will be passed off during the two sessions of PowWow.
- 5) Requirement 5e should be completed as **homework** between the two sessions of PowWow and be ready to be passed off at the second session of PowWow. (Requirements 5c and 5d will be passed off during the two sessions of PowWow.)

*All requirements may be subject to change by the Merit Badge Counselor based on time constraints at the PowWow session. Please listen to all instructions given by the instructor to be aware of any changes.

Requirement 1

Initial

Define geology.

Explain how geologists learn about rock formations.

Explain why the study of the present is important to understanding the past.

Requirement 2

Initial

Pick three resources that can be extracted or mined from Earth for commercial use. Explain how each product is discovered and processed.

1.

Discovered:

Processed:

2.

Discovered:

Processed:

3.

Discovered:

Processed:

Requirement 3

Initial

Review a geologic map of your area.

List the different rock types and the estimated ages of the rocks, and then determine whether the rocks are horizontal, folded, or faulted.

Type:

Estimated Age:

Horizontal, Folded, or Faulted:

How did you determine?

Type:

Estimated Age:

Horizontal, Folded, or Faulted:

How did you determine?

Type:

Estimated Age:

Horizontal, Folded, or Faulted:

How did you determine?

Type:

Estimated Age:

Horizontal, Folded, or Faulted:

How did you determine?

Other:

Requirement 4

Initial

Do the following:

- a) Learn about the career opportunities available in geology.
Pick one that interests you.

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.

Requirement 5

Initial

There are five options to complete for this requirement. You only need to complete ONE of the options listed. We will complete option A in class. Below is *ALL* of option A.

Surface and Sedimentary Processes Option

a. Conduct an experiment approved by your counselor that demonstrates how sediments settle from suspension in water. Explain to your counselor what the exercise shows and why it is important.

b. Using topographical maps provided by your counselor, plot the stream gradients (different elevations divided by distance) for four different stream types (straight, meandering, dendritelike, trellis).

Explain which ones flow fastest.

Explain which ones will carry larger grains of sediment.

c. On a stream diagram, show areas where you will find the following features: cut bank, fill bank, point bar, medial channel bars, and lake delta.

Describe the relative sediment grain size found in each feature.

Cut Bank:

Fill Bank:

Point Bar:

Medial Channel Bars:

Lake Delta:

d. Conduct an experiment approved by your counselor that shows how some sedimentary material carried by water may be too small for you to see without a magnifier.

e. Visit a nearby stream. Find clues that show the direction of water flow, even if the water is missing. Record your observations in a notebook, and sketch those clues you observe. Show your notebook to your counselor.

Explain your observations.

Merit badge work sheets will not be accepted at the Council Office in place of the official Merit Badge Application Card. Those who do not complete all the requirements should take their partially completed merit badge work sheet and their official application card to their local merit badge counselors for completion.