

Geology Project

Report on local geology

Purpose

Demonstrate your understanding of geologic features and processes.

Overview

The character of a place is determined in large part by its geology. You will report on the geologic setting of your chosen location in enough depth to appreciate not only how the location's geology was shaped, but how the geology shapes the location.

Graded Components

Physical Setting: Describe your location's tectonic context and surface landforms. Explain how its landscape was formed.

Composition and Special Feature: Identify prominent exposed rocks and explain how they were formed. Report in greater depth on a specific geologic feature of your area.

Oral Presentation: Describe the geology of your location to your classmates.

Dates and Deadlines

Aug 27	Project introduced
Sep 3	Locations chosen
Sep 22	Physical setting reports due
Sep 29	Composition and special feature reports due
Oct 6	Oral presentations

Scoring

Physical Setting Report (70 points total)

Describe the area's large-scale features and the processes that made it what it is today.

Tectonic setting (30 points)

Identify the location's tectonic plate and its current tectonic activity. Is it near a plate margin? If so, what kind of margin, what other plates are involved, and what processes are occurring? Is it near a hot spot?

+10	Identifies plate correctly.
+10	Correctly describes location on plate. If near a plate margin, this includes identifying the adjoining plate(s) and current tectonic activity.
+10	Correctly describes hot spot activity. Identifies any nearby hot spots.

Landforms (30 points)

Identify the current land forms (mountains, oceans, glaciers, valleys, deltas, volcanoes, lakes, rivers, basins) of your area. Describe how and when the features were formed. Explain the history of their subsequent alteration and evolution.

+10	Identifies and describes land forms.
+10	Describes how and when features formed.
+10	Explains history of land forms since their formation.

The score for this section of the report is the average of the scores for the landforms of the location. Omitting a prominent landform yields a zero for that feature.

Annotated bibliography (10 points)

This is a record of all the sources from which you obtained the information in your report. It contains:

- standard look-up information, following a consistent, adequate format;
- a brief summary of the topic, contents and creator; and
- how useful the source was for gathering the information needed for the report.

0–5	Sources all from the Internet or incomplete citations.
7	Contains at least one non-Internet source. Contents of all sources are adequately summarized.
8	As previous, plus organization, accessibility, and utility of sources are evaluated.
10	As previous, plus descriptions and evaluations are brief, crisp, and believable.

ESWE

The report must meet the highest standards of Edited Standard Written English (ESWE). Consequently, the score for the written report is adjusted by its ESWE multiplier. See the separate document for description of the ESWE rules and the application of the ESWE multiplier.

Composition and Special Feature Report (60 points total)

This report describes the geology of your location in more depth, both beneath the ground and back in time.

Rock Types (30 points)

Describe the type of surface rock outcrops. Date the geologic formations they represent and explain how and when they were formed.

+10	Dates the formations.
+5	Identifies the type of rocks in each formation.
+10	Describes how each formation was created.
+5	Identifies the geologic period when each formation was created.

Special Feature (20 points)

Report on one specific geologic feature in your location. This can be a mine, a volcano, a lava flow, a canyon, a mountain range or peak, a beach, a prominent river, a basin, a rift zone, a quarry, a meteor crater, a fault, a specific geologic formation, a fossil find, or anything else geologically noteworthy. You should name the feature, explain how and when it formed, and note something important or interesting about it.

+5	Names and describes the feature.
+5	Explains how the feature formed.
+5	Identifies when the feature formed.
+5	Relates an important or interesting characteristic.

Annotated bibliography (10 points)

This is a record of all the sources from which you obtained the information in your report. Citation and reference formats and the grading scale are as for the Physical Setting report.

ESWE

The score for the written report will be adjusted by its ESWE multiplier.

Oral Presentation (20 points)

Identify the tectonic plate, describe the creation of the prominent local land forms, and describe the special feature on which you reported.

Your presentation shall be understandable and factually correct. Speak audibly and with animation, and maintain eye contact with your audience.

0–10	Inaudible, unintelligible, or incomprehensible.
12	Speaks clearly and understandably; presentation contains all components.
14	As previous, plus all reported facts are correct.
16	As previous, plus presentation is clear, organized and concise.
18	As previous, plus maintains eye contact with class.
20	As previous, plus conveys enthusiasm.