

Lesson 17

Geology Formations

How has the watershed changed over the years?
What geological formations provide clues to another time period?

GOAL To recognize that natural and man-made causes alter the flow of the river and the surrounding terrain

OBJECTIVES Students will:

- ✓ imagine going on an airplane ride through time periods
- ✓ draw and describe the watershed during different time periods
- ✓ present their findings to the class

MATERIALS butcher block or poster board for each group, pencils, markers or crayons, lined paper

CORE CURRICULUM CONTENT STANDARDS

- Language Arts 2(2)
- Science 7(2, 5-8), 8(2)
- Social Studies 1(1,2,5-8), 2(4), 9(1,2,4,5,7)
- Arts 5(1,3), 6(2)

VOCABULARY glacial, crust, ridge, basalt, lava, fault, talus slide, boulder, Precambrian rock

PROCEDURES

1. Explain that the students will be embarking on a journey through the past. Instruct them to imagine flying up in an airplane over the Farmington River Watershed. Explain that the simulated airplane ride will take them through time zones so they may view the Farmington River and surrounding land from above and from different perspectives.
2. Inform the students that their task will be to describe and draw what they see.
3. Break up students into groups and have group choose one person to read the pilot's descriptions.

4. Instruct the students to listen as the pilot describes how the river flowed and items they might see during a particular time period.
 - a. **PRE-GLACIAL**

The river flowed from Becket, Massachusetts downstream to connect with the Quinnipiac River to empty into what is now the New Haven harbor. The high ridges outlined the narrow valleys. Talcott Mountain was formed from *basalt* lava as it flowed through the *faults* or breaks in the earth's *crust*. *Precambrian rock* jutted out through the *ridges*.
 - b. **GLACIAL ACTIVITY**

Huge boulders and ledges obstruct the Farmington forcing it to twist and turn. Huge accumulations of rock debris or talus slides are found at the foot of Talcott Mountain. A melting glacier left a huge wedge blocking the flow of the river forcing it to turn north in the town of Farmington. A resulting lake was formed that reached up to Tarriffville eventually forming a gorge.
 - c. **NATIVE AMERICAN TIMES**

Virgin pines rose up through the mountains. Wigwams were situated along the river in areas such as Farmington, Simsbury and Windsor. Clear water from the river revealed rocks in the riffles and salmon fish swimming. Small areas of trees were cut for planting gardens of corn, beans and squash. Wildlife of all sorts were free to roam the forested areas.
 - d. **COLONIZATION/INDUSTRIALISM**

Forested areas were clear cut for farm fields. Houses made from the tree logs were built around small towns. Dams were constructed to control the floods and to provide water power to the mills and factories developing close to water ways. The river was becoming polluted from the factory waste discharging into the river. Virgin pines were cut to create masts for ships and beaver and other animal pelts were sent to England resulting in a decrease in wildlife. A large canal, called the Farmington spanned an area from New Haven to Northampton, Massachusetts.
3. Have student groups create drawings and descriptions of how they think the area looked from an aerial view during each of these four time periods. Have students present to class.
4. Ask students to write about one of the time periods they would have liked to have seen and why.

EXTENSIONS

1. Have students research a geological formation and present to the class.
2. Have students visit an area of the Farmington River Watershed that shows evidence of a time past. Contact the historical association in their town for information.
3. Have students take a historical walk.

RESOURCES

The Farmington River Guide 2002, Farmington River Watershed Association

GLOSSARY

basalt - a rock of igneous origin

boulder - a large rounded mass of rock lying on the surface of the ground or embedded in the soil

crust - the hard, outer part of a planet, moon or asteroid

fault - a dislocation caused by a slipping of rock masses along a plane of fracture; also the dislocated structure resulting from such slipping

glacial - having to do with a huge mass of ice slowly flowing over a land mass, formed from compacted snow in an area where snow accumulation exceeds melting

lava - the rock formed by the cooling and solidifying of molten rock that reached Earth's surface through volcanic activity or fissure

Precambrian rock - rock traces belonging to the geologic time period between Hadean Time and the Cambrian Period, often subdivided into the Archean and Proterozoic eras, comprising most of the earth's history and marked by the appearance of primitive forms of life

ridge - a long, narrow area of hills or mountains

talus slide - a sloping mass of rock debris at the base of a cliff