



Teacher Resource Guide

Transport to the Past! – Why are the sidewalks so high?

Welcome to *Transport to the Past! – Why are the sidewalks so high?* This Core Experiential Learning Program will educate the students on the geography of Silver City, and the geological and environmental events that created the Big Ditch.

The Floods

Main Street, the heart of downtown Silver City in the 1870s and early 1880s, was transformed by a series of floods into a deep channel now known as the Big Ditch. The story began when Silver City's streets were platted in 1871, imposing a grid pattern on a landscape which had to accommodate seasonal water runoff. Main Street, in the natural drainage route from both the Pinos Altos Mountains to the north and the Continental Divide to the west, had problems from the very beginning. As the town grew, the nearby mountains were gradually stripped of trees as firewood and lumber were harvested (virtually every daily operation--from cooking dinner to running mining machinery--was fueled by wood). Unregulated open-range grazing by cattle, horses, burros, and large flocks of sheep and goats depleted the grasses. It was a recipe for disaster.

Floods became an accepted part of life for Silver City residents, especially during the summer monsoon rains. Every year saw new efforts to control the erosion on Main Street, but every year the damage worsened. By the late 1880s, the rainy season was referred to as the "flood season." On July 21, 1895, a summer cloudburst sent torrents from two directions down the valley where Silver City was located. The barren hills on the watershed could not absorb or slow the immense wall of water that formed, causing massive destruction as it swept through town. Main Street at this point resembled an arroyo, and was abandoned for street purposes. In the summer of 1902, heavy floods converged on what was left of Main Street, digging down to bedrock—some 60 feet deep in places—and devouring the banks on either side. Silver City's "Big Ditch" was born.





Goals/Objectives/Student Outcomes Flood Exhibit

Students will:

- Increase their understanding of the “Big Ditch” and the causes of its formation.
- Analyze accounts of the flood from newspaper articles and first person descriptions.
- Compare and contrast downtown Silver City from the late 1800’s and early 1900’s and present day.

Vocabulary for Flood Exhibit for grades 3 to 5

monsoon-a period of heavy rainfall, especially during the summer

erosion-the gradual wearing away of rock or soil by physical breakdown, chemical solution, and transportation of material, as caused, e.g. by water, wind, or ice

arroyo-a narrow valley in a North or South American desert that is usually dry but carries water during a rain storm

watershed-the land area that drains into a particular lake, river, or ocean

spillway-a channel for carrying away excess water

natural disaster-a disaster caused by natural forces rather than by human action

Vocabulary for K to 2

Weather - the state of the atmosphere at a place and time as regards heat, dryness, sunshine, wind, rain, etc.

Floods - an overflowing of a large amount of water beyond its normal confines, especially over what is normally dry land.

Grazing - To feed on (herbage) in a field or on pastureland.

Natural Resources - materials or substances such as minerals, forests, water, and fertile land that occur in nature and can be used for economic gain.

Common Core Standards

Speaking and Listening Standards K-5, #3

Writing Standards K-5, #3

Standards and Benchmarks for Flood Exhibit

Strand I: Scientific Thinking and Practice

Content Standard I: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting and validating to think critically.

K-4 Benchmark I: Use scientific methods to observe, collect, record, analyze, predict, interpret, and determine reasonableness of data.

1. Make new observations when discrepancies exist between two descriptions of the same object or phenomenon to improve accuracy.
2. Recognize the difference between data and opinion.
3. Use numerical data in describing and comparing objects, events, and measurements.
4. Collect data in an investigation and analyze those data.
5. Know that the same scientific laws govern investigations in different times and places (e.g., gravity, growing plants).

K-4 Benchmark II: Use scientific thinking and knowledge and communicate findings.

1. Use a variety of methods to display data and present findings.
2. Understand that predictions are based on observations, measurements, and cause-and-effect relationships.

5 Strand I: Scientific Thinking and Practice

Standard I: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

Websites for Flood Exhibit

www.classzone.com/books/earth_science/terc/.../es1205page01.cfm

science.nationalgeographic.com/.../photos/weathering-erosion-gallery...

www.kidsgeo.com/geology...kids/0059-introduction-to-erosion.php

www.brainpop.com/science/theearthsystem/erosion/

Student Readings for Flood Exhibit

[Cracking Up: A Story About Erosion](#) (Science Works) by Jacqui Baily

[Erosion: Changing Earth's Surface](#) (Amazing Science (Picture Window)) by Robin Koontz

[Super Cool Science Experiments: Erosion](#) (Science Explorer) by Simon Charnan, and Ariel Kazunas

Setting up your Silver City Museum Experience

Please complete fully the Core Experiential Learning Program Selection and School-to-Museum Transport Application.

Pre and Post Visit Activities

The pre and post-visit grade-level appropriate activities associated with this Core Experiential Learning Program are listed below along with a basic description of the activities. The New Mexico Common Core and/or Standards and Benchmarks that the activity supports are also listed.

Pre-Visit Activities

Pre-K through 1st

This pre-visit activity will introduce the students to the built environment and why sidewalks are important. Teachers will need to read *The Floods* and show historic flood pictures to the students.

Common Core: Speaking and Listening Standards, 3

2nd and 3rd Grade

This pre-visit activity will teach the students the economic importance of the built environment. Teachers will need to read the WPA and *The Floods* to the students. The class can discuss the images of buildings built by the WPA.

Common Core: Speaking and Listening Standards, 3

4th and 5th Grade

This pre-visit activity will introduce the students to an important historical figure who was very important in regards to the built environment and sidewalks. Teachers will need to have the students read about *The Flood* and about Elizabeth Warren.

Common Core: Reading Standards, 3

Post-Visit Activities

Pre-K through 1st

The post-visit activity provides the students with a list of current picture of a sidewalk in downtown Silver City. Teachers can reinforce the importance of flooding in the formation of the Big Ditch and why there are high sidewalks downtown. This activity can be done as a class.

Common Core: Speaking and Listening Standards, 3

2nd and 3rd Grade

This post-visit activity will allow the students to use critical thinking and observation skills. The activity can be done individually or as a class.

Common Core: Speaking and Listening Standards, 3

4th and 5th Grade

This post-visit activity will allow students to use critical thinking and observation skills.

Common Core: Speaking and Listening Standards, 3

Additional pre and post activities are available in the Silver City Museum Teacher's Guide available on the Silver City Museum's website.