

Floods and Water Power

Grade Level: 8th Grade

Subject(s): Science

Overview

This project explored how the history of water-powered industry in our area could be a vehicle to teach students about the various sources of energy which power our society, as well as the impacts of flooding in our region, past, present and future. The work I've done so far has focused more on the latter topic, with an emphasis on the 1874 Mill River flood and the possibilities for similar events in the future. I still plan to use project supply money to acquire artifacts related to local industrial history as a jumping-off point for students to think about the uses of water power. This could then be developed into a mini-unit or project exploring the uses, capacity, and risks of various power sources.

Objectives

Project objectives

- Introduce the history of the Mill River Flood of 1874 (150th Anniversary)
- Integrate an inquiry process using local primary sources
- Consider some of the impacts of the use of dams - floods like the one in 1874, the creation of water power, the impact on fish and wildlife, and others

Inquiry questions

What do you remember about the floods of last summer (2023) in the Pioneer Valley?

How does flooding impact an area and its ecosystems?

How are dams used throughout our region and to what ends?

How is water power produced? What are the impacts of this type of power?

Strategy

Approach

Students will review local primary sources and artifacts about water power, dams, and flooding in Western Massachusetts as a spark to ignite interest in the study of related subjects in science. The approach will allow for reference back to these tangible, relatable topics throughout the unit of study, as well as building knowledge of the local area, its history, industry, geography and environment.


Target audience

- 8th grade science class
- Spring 2024 - 150th Anniversary of Mill River Flood of 1874


Primary Source use & activities

- Variety of images of Mill River Flood of 1874 and aftermath (Springfield Republican photos)
- Videos of dam flooding in local rivers (YouTube - various sources)
- Physical artifacts related to hydropower, dams, and flooding for students to interact with

Resources

Slideshow  5/16 slides - mill river - website

Primary Source Set  Dam break photos.pdf

Final Report  Floods and Water Power final report - website