



Build A Dam



Essential Question: What physical characteristics must a landscape have to sustain a large reservoir?

Overview

A **dam** is a barrier built across a river to block the flow of river water. In most cases, a large lake called a **reservoir** forms behind a dam. Most dams have **outlet works**, a series of gates or valves that can be opened to release water from the reservoir. Outlet works allow a dam operator to control the flow of water from behind the dam.

A **spillway** is the dam's overflow channel. Spillways are used in emergencies, such as floods, to release the water from the reservoir before the pressure of the water on the dam gets too high. Spillways are often located on the top of the dam, but many reservoirs have other channels that can be used as spillways during times of high water.

You can think about the parts of a dam in terms of your bathroom sink. The drain in your sink is like the outlet works of a dam. It is the way you can control the water running out of the sink. The sink overflow holes (near the top) are like the spillway. The sink overflow holes let water out before it overflows the sides of the sink. In the same way, a dam's spillway releases excess water in case the water level gets too high.

In this activity, you will work with a group to construct a landscape with a stream suitable for the building of a dam.

Materials

For each group of four students:

- stream table with landscape materials
- oil-based clay (approximately 2 lbs per stream table)
- 1-L plastic beaker filled with water
- irrigation kit
- toothpicks
- 1 bucket for collecting discharge water
- plenty of paper towels
- rulers
- wax paper

Safety

Follow standard safety rules and school safety rules for laboratory activities.