

Activity 1.2

- Grade Level
3-4
- Subject Areas
Science, Social Studies
- Duration
1-2 class periods
- Setting
Classroom
- Skills
Modeling, constructing, describing
- Vocabulary
Watershed, Runoff
- Correlation with Next Generation Science Standards
4-ESS2-1, 5-ESS2-2

Going with the Flow: Constructing a Watershed Model

Charting the Course

In this exercise students will construct a model of a watershed.

Background

The Delaware River and the Delaware Bay receive water draining directly from surrounding land through ground (underground wells) and surface water, as well as from many smaller rivers, lakes and streams. The entire area of land that drains into a particular water body is called a watershed. Watersheds are separated from one another by elevations in the area such as slopes and hills. The Delaware River, which is the main source of fresh water into the Delaware Estuary originates in New York. The River receives water from some 200 smaller rivers and the entire Delaware River watershed encompasses about 13,500 square miles.

Objectives / Students will be able to:

1. Describe what a watershed is.
2. Describe the many ways that water enters the Bay.
3. Construct a model watershed.

Procedure / Warm Up

Open a class discussion about estuaries and watersheds by asking how does water enter the bay? Define what a watershed is and talk about how human activities can affect the quality of the water in the bay.

The Activity

1. Have students work individually or in teams of two-four students.
2. Distribute materials.
3. Instruct students to construct their own model of a watershed with the main criteria being that water must flow from higher lands to lower lands and flow into a bay. Students may model the adjacent lands for any use, but they should be prepared to describe how the land use might affect the body of water in their models. Encourage students to name the main features of their models

Materials:

- Modeling clay or dough
- Small paint trays or tray liners
- Paints and other materials to construct landscape features (ie. Coffee, or sand may be used for dirt, small pieces of felt or scrubbing pads can be used for marshes)

Wrap Up / Have students present their models to the class and discuss the impact of the associated land use.

Extensions / Introduce the concept of non-point source pollution.

Storm drain mapping activities are available through the state and other organizations. Invite the Watershed Ambassador for your region to visit the class for additional lessons on watershed issues (A written invitation presents a great writing exercise for students). See www.state.nj.us/dep/seeds/njwap.htm for more information.