

RESOURCE LIBRARY  
ACTIVITY : 1 HR

## The Tremendous Travels of Trash

Students watch demonstrations and a video to understand where water travels when it goes down a drain and how water pollutants impact a larger area.

### GRADES

6 - 8

### SUBJECTS

*Biology, Geography, Human Geography*

## OVERVIEW

Students watch demonstrations and a video to understand where water travels when it goes down a drain and how water pollutants impact a larger area.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/tremendous-travels-trash/>

## Program



## DIRECTIONS

### 1. Build background.

Ask: *How does trash end up far out to sea?* Explain to students that the ocean is the end point of all water that flows off land, and the ocean can take pollutants and trash far out to sea.

### 2. Watch the video.

If possible, show students Act 3 of “Dirty Secrets” from the film *Strange Days on Planet Earth*. Or, find information about the focus of the video clip on the provided *Strange Days* website.

### **3. Have a whole-class discussion about wastewater.**

Ask: *Where does our wastewater go?* Most students will respond that the water goes “away” or “down the drain.” Discuss the fact that there is ultimately no “away.” Emphasize the point that water, and what’s contained in it, flows into creeks, rivers, and ultimately to larger bodies of water such as estuaries, seas, and oceans.

### **4. Demonstrate what happens when water is filled with pollutants.**

Fill a container with water. Add grass clippings, leaves, or small, light fruit peelings to the water to represent pollutants like plastics. Pour this mixture toward, but not down, the drain. Ask: *What will happen to the water and the items?* Ask students to think of some measures that could be taken to prevent the items from going into the drain.

### **5. Demonstrate water cleanup measures.**

Demonstrate one cleanup measure by pouring water with the grass clipping mixture through a mesh screen or white cloth to show students that the solids were retained and did not go down the drain. Point out that water treatment facilities can also remove additional pollutants and help cleanse the water.

### **6. Have students investigate a real-world example.**

Have students use current newspapers or reliable Internet news sites to investigate an example of a real water treatment and reuse issue currently in the news and report back.

### **7. Have students reflect on their experience.**

Ask students to describe how their perceptions of water going “away” and the impacts of trash like plastics on wildlife and ourselves have changed as a result of the activity.

## **Extending the Learning**

Go to the [PBS](#) website to find out where you can get the *Strange Days* episode “Dirty Secrets.”

## **OBJECTIVES**

## **Subjects & Disciplines**

**Biology**

## Geography

- Human Geography

# Learning Objectives

Students will:

- explain where water goes after it goes down a drain
- describe some measures that can be taken to prevent items from going down a drain
- investigate a real, present-day water treatment and reuse issue
- reflect on how their perceptions about where water goes after humans use it have changed

# Teaching Approach

- Learning-for-use

# Teaching Methods

- Demonstrations
- Discussions
- Multimedia instruction

# Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
  - Analyzing
  - Applying
  - Understanding

# National Standards, Principles, and Practices

NATIONAL GEOGRAPHY STANDARDS

- **Standard 14:**

How human actions modify the physical environment

## NATIONAL SCIENCE EDUCATION STANDARDS

- **(5-8) Standard F-2:**

Populations, resources, and environments

### **Preparation**

### **What You'll Need**

#### **MATERIALS YOU PROVIDE**

- Fine mesh
- Food coloring
- Grass clippings
- Leaves
- Plastic containers
- Water

#### **REQUIRED TECHNOLOGY**

- Internet Access: Required
- Tech Setup: 1 computer per classroom, Projector, Speakers
- Plug-Ins: Flash

#### **PHYSICAL SPACE**

- Classroom

#### **GROUPING**

- Large-group instruction

## BACKGROUND & VOCABULARY

# Background Information

All water that flows off land takes pollutants with it. The polluted water flows into small bodies of water that ultimately lead to larger bodies of water and the ocean.

## Prior Knowledge

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## Recommended Prior Activities

- None

## Vocabulary

Term	Part of Speech	Definition
pollutant	<i>noun</i>	chemical or other substance that harms a natural resource.
wastewater	<i>noun</i>	water that has been used for washing, flushing, or industry.

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### For Further Exploration

#### Websites

- [PBS: Strange Days on Planet Earth](#)

PARTNER



FUNDER



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