

RESOURCE LIBRARY  
ACTIVITY : 40 MINS

## Introduction to Waves

Students learn about waves by comparing and contrasting photographs and watching a hands-on demonstration.

### GRADES

1, 2

### SUBJECTS

*Earth Science, Geography, Physical Geography*

### CONTENTS

1 PDF, 4 Images

## OVERVIEW

Students learn about waves by comparing and contrasting photographs and watching a hands-on demonstration.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/introduction-to-waves/>

## DIRECTIONS

### 1. Activate students' prior knowledge about waves.

Ask students if they've ever seen, felt, or made a wave. Have them share their experiences. Ask: *Where can you find waves?* Encourage students to think beyond the ocean with answers such as a lake, puddle, pool, sink, bathtub, and more. Write their responses on the board.

### 2. Figure out where in the world waves are.

Show students the map of the world and a globe. Ask them to identify the areas that are covered with water. Students should be able to point out oceans and lakes. As students

identify each area, ask: *Is the water's surface flat? Does it have waves?* Make sure they understand that waves are found in bodies of water of all sizes. Tell students that, in oceans, they can find waves all the way across the ocean—not just at beaches.

### 3. Show students photographs of ocean waves.

Show students the photographs and ask students to compare and contrast the waves. Ask: *How are these the same? How are they different?* Students should point out differences such as size, height, and length. If needed, prompt students with the following questions: *Which is biggest? Which is tallest? Which is longest?* Have them point to the correct photographs. Ask: *What do you think causes waves?* Point out how choppy the waves in one of the photographs looks and challenge students to figure out why. (wind) Tell students that other things affect waves, too.

### 4. Demonstrate how waves move.

Gather students around a pan of water. Tilt the pan in different directions and disturb the water in other ways to demonstrate how waves of different sizes are formed. Put a cork in the pan to represent a boat on the ocean. Ask students to describe how the cork moves as the waves change size.

## OBJECTIVES

## Subjects & Disciplines

Earth Science

Geography

- [Physical Geography](#)

## Learning Objectives

Students will:

- describe their personal experiences with waves
- identify bodies of water that have waves on a world map and a globe
- compare and contrast waves in photographs
- describe how waves move

## Teaching Approach

- Learning-for-use

# Teaching Methods

- Demonstrations
- Discussions
- Hands-on learning
- Visual instruction

# Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
  - Remembering
  - Understanding
- Geographic Skills
  - Acquiring Geographic Information

# National Standards, Principles, and Practices

## NATIONAL GEOGRAPHY STANDARDS

- Standard 7:

The physical processes that shape the patterns of Earth's surface

## NATIONAL SCIENCE EDUCATION STANDARDS

- (K-4) Standard D-1:

Properties of earth materials

## Preparation

## What You'll Need

## MATERIALS YOU PROVIDE

- Cork
- Globe
- Large pan
- Water

## REQUIRED TECHNOLOGY

- Internet Access: Optional
- Tech Setup: 1 computer per classroom, Projector

## PHYSICAL SPACE

- Classroom

## GROUPING

- Large-group instruction

## BACKGROUND & VOCABULARY

### Background Information

Waves are the movement of water. Seeing how waves move helps you to see patterns.

### Prior Knowledge

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### Recommended Prior Activities

- [Parts and Sizes of Waves](#)

### Vocabulary

Term	Part of Speech	Definition
wave	noun	moving swell on the surface of water.

## For Further Exploration

### Websites

- [NOAA: Homepage](#)
- [NOAA: Fun for Kids](#)



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