



## Wave Lesson Plan

Developed by Robert J. Smith

**OBJECTIVE:** Participants will learn what sneaker waves are, how they form and why they are dangerous. By experimenting with a hands-on activity, participants will gain better understanding of how waves form and what causes sneaker waves.

**IT IS IMPORTANT THAT STUDENTS KNOW THAT THIS LESSON WILL NOT HELP THEM PREDICT SNEAKER WAVES. THEY ARE UNPREDICTABLE!**

**EQUIPMENT:** Several shallow pans filled with water, enough tables for participants to sit at, and large area for running.

**PREPARATION:** This activity requires a small amount of preparation. Be sure that the area used is large enough for a running game and has tables available. You will need several shallow pans filled with water for making waves.

**NUMBER:** Any number of participants can take part in this activity (more than 10 is optimal). The activity is limited only by the amount of open space available. It is best to conduct this lesson with kids from several age groups. 30-45 minutes.

**PROCEDURE A:** Start with the participants sitting at tables with shallow pans of water on the tables.

Ask kids what causes waves. Answers will range from the moon, the rotation of the earth, the tides or many other things.

Explain that wind causes waves by blowing across the top of the water; high winds cause big waves, light winds cause smaller waves. In some places where there is very little wind, the ocean has hardly any waves and is sometimes perfectly flat just like the water in the pans.

Have participants blow lightly across the pan trying to form small waves. Some participants may need to be shown how

to blow at the correct angle to get the waves started. Have students gradually increase the force they use to create bigger waves.

Ask them if they notice anything about the waves. Do bigger waves move faster, are there more waves with more wind?

Explain that bigger waves move faster than small ones and big waves catch up to smaller ones and carry them towards the beach. When bigger waves pick up smaller waves they move much faster and are much stronger. These big waves are sometimes called sneaker waves. Sneaker waves are unpredictable and can go further up the beach and be very dangerous. They are not tsunamis (tidal waves), which are caused by earthquakes.

#### DISCUSSION:

Ask participants what causes waves. What is a sneaker wave? Can you predict a sneaker wave? What do you do to avoid being caught by a sneaker wave?