

## Tsunami Simulation – Worksheet

**Purpose:** To simulate a tsunami wave and observe what happens.

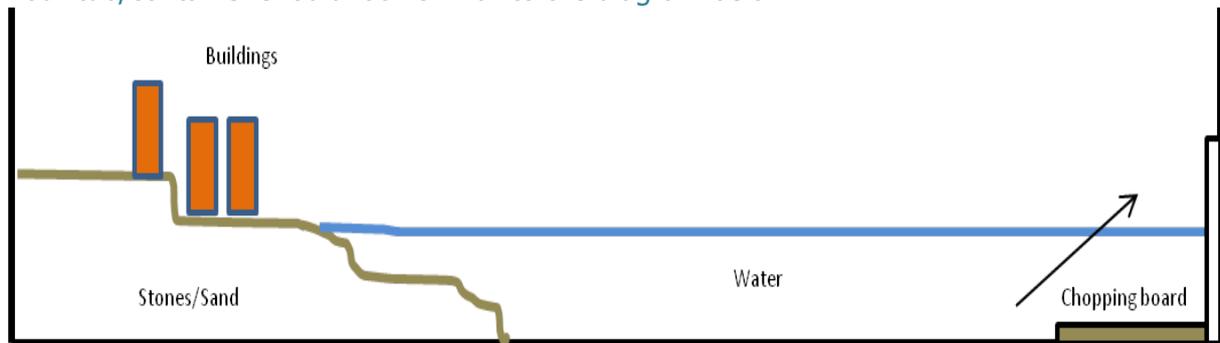
**Equipment:**

- 1 x bath tub or other large rectangle shaped container that can contain up to 20cm of water.
- 1x chopping board
- Water
- Stones to simulate a shoreline beneath the water and the coastline above the water
- Objects you can stand up to act as buildings, for example empty soft drink cans.

**Procedure:**

1. Fill your bath tub or large rectangle shaped container with cold water to about 1/3 full (or up to 20cm).
2. At one end of the tub/container pile your stones, ensuring that you have some stones above the water line to act as the coastline.
3. Place your objects upright on the stones that are above the water line.
4. At the other end of the tub/container gently submerge your chopping board, holding it flat on the bottom of the tub/container.

Your tub/container should look similar to the diagram below:



5. Lift the chopping board up on one end to generate the wave.
6. Record your observations on the page overleaf.

## Observations

Record your observations here

Can you answer the following questions based on your observations?

1. What happens when you lift the chopping board?
2. Did your matchbox buildings remain in place?
3. What happens if you make the stones steeper?
4. What happens if you make the stones flatter?
5. What happens if you place your match box buildings in the water and then lift the chopping board up?
6. How much 'run up' did your experiment create?
7. How much horizontal flooding occurred?
8. Was there significant damage to objects and structures on land?
9. Were some objects affected more than others? Why?
10. Think about what you have seen in this experiment. What do you think could happen in a real-life tsunami?

