

Title: Energy and Earthquakes

Name _____

Phenomenon:

Listen as your classmates describe their experience in an earthquake. Watch the video to see live pictures of the effect of earthquake waves moving through the ground and buildings.

What questions do you have?

1.

2.

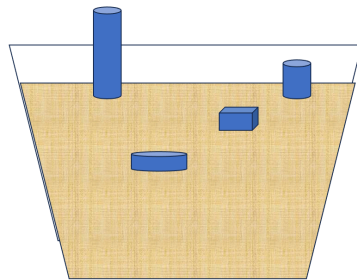
Part 1: Make a model of the effect of an earthquake on buildings and buried tanks (water, oil, gasoline).

Materials:

- Sand
- Soft plastic container (yogurt, cottage cheese)
- Water
- Small plastic objects (Lego, toy parts)

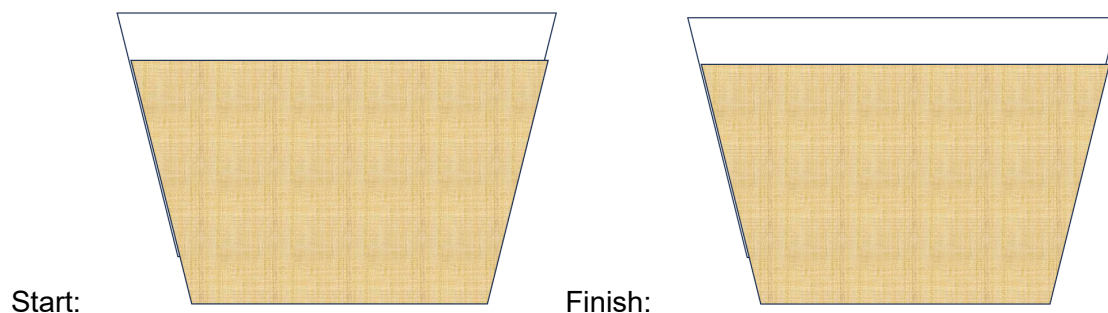
Directions: I don't think I have any suggestions for this lesson. It was very straightforward and simple to follow. My students were very engaged and had good discussions based on what they saw from their models.

1. Fill the plastic container about $\frac{3}{4}$ full of sand. Add water until the sand is wet but not over the top of the sand.
2. Place plastic items on the surface (make some tall and some short) and bury a couple of them.



i.

3. Gently shake the container from side to side to model an earthquake. Shake slowly at first then faster.
4. Write down and draw what happens:



Part 2: Planning the next steps after an earthquake.

The list below will provide you with some good suggestions for protecting yourself and those around you.

1. Think before moving! Remain in a safe position until the shaking stops. Move slowly and carefully.
2. Move slowly. Evacuate your building with caution. Use alternate routes if necessary.
3. Meet your family outside in a pre-designated spot away from buildings that may be dangerous.
4. Wear shoes to protect your feet from broken glass and objects that have fallen.
5. Use a flashlight, not a candle. Sparks, open flames, gas lanterns, or cigarettes may cause a fire or explosion if there is a gas leak. Turn off gas to the home heating.
6. Check water supply, food storage, and first aid supplies.
7. Do not attempt to drive. Leave roads clear for emergency vehicles. Roadways may also be blocked with obstacles that make driving unsafe.
8. Turn on your battery operated radio to listen for advisories.
9. If your cell phone is working, use it sparingly. People with emergencies need phone service first.

From: <https://iemaohs.illinois.gov/preparedness/earthquakeafter.html>

Work with your group to plan alternate strategies for energy use after an earthquake. Fill out the table as you work:

Energy Type	Strategy 1	Strategy 2
Light		
Internet, TV, Radio		
Heat		
Transportation		

Part 3:

1. Write down 2 sources of energy that potentially could be used at your home if the electricity was cut off after an earthquake.
2. Choose one of these and describe what it might look like at your home.

CER

Claim: How prepared is your family?

Evidence: How do you know?

Reasoning: What could your family do about improving your earthquake readiness?