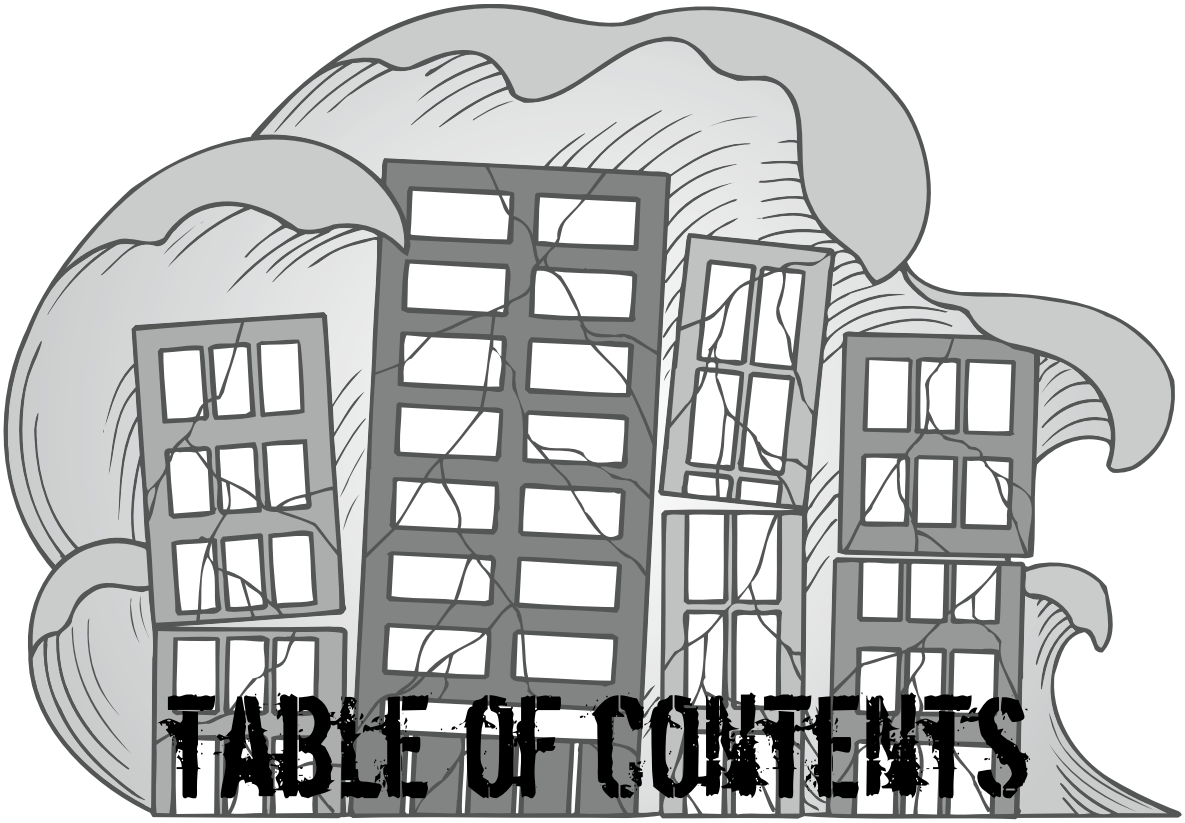

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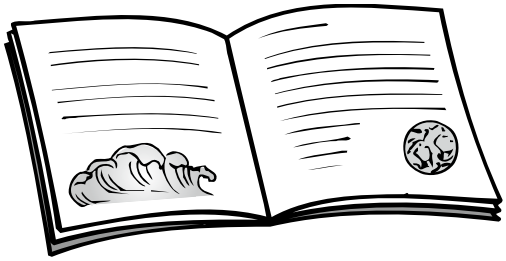

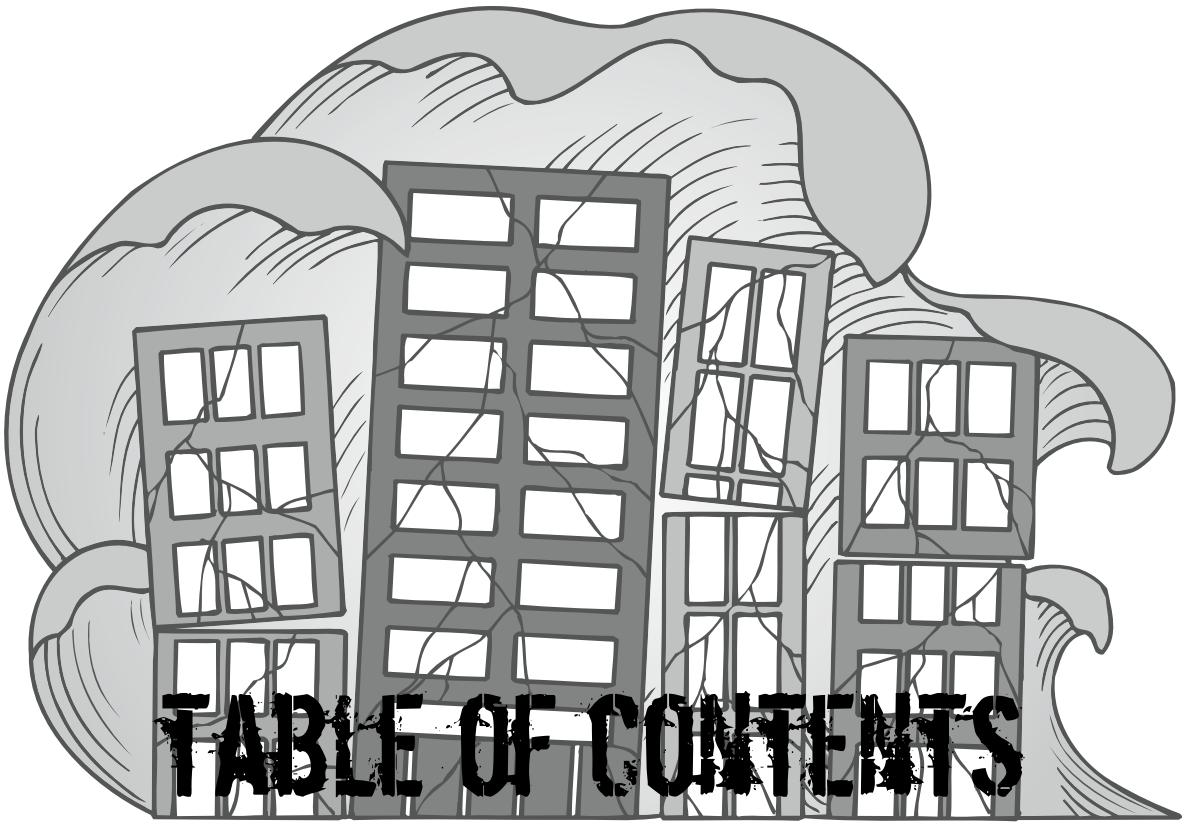

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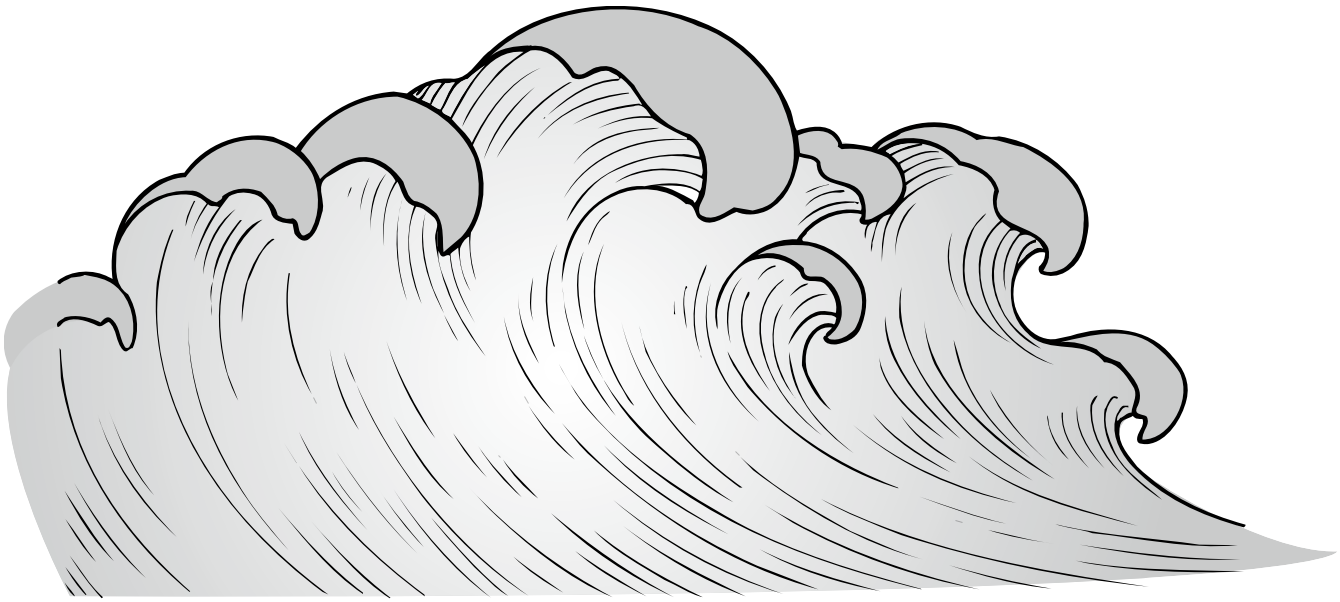


HOW IS AN EGG LIKE OUR EARTH?

At the center of Earth is the core surrounded by the mantle. The crust that has been broken into large and small plates floats atop the lithosphere, the upper part of the mantle.

PURPOSE

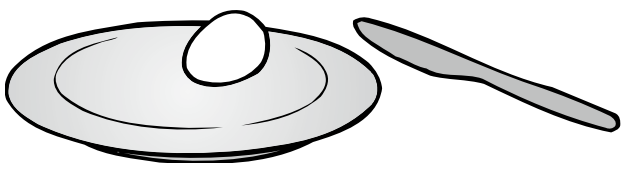
- To use an egg to demonstrate the crust and interior of Earth
- To show how the layers relate to each other

MATERIALS

- 1 brown hard-boiled egg for each group
- plastic knives
- paper plates

PROCEDURE

- Gently tap the shell on each side, noticing how the surface cracks.
- Manipulate the cracked shell to demonstrate how plates move about.
- Carefully cut the egg in half. Observe the cross-section of the interior.



TRY THIS

1. Draw the cross section of Earth and label the parts.
2. Write a diamante, a seven-line poem, to compare the egg and Earth. The first three and a half lines refer to an egg, the last to the Earth.

Directions

subject #1
describe subject #1
ending with -ing refer to #1
first two refer to #1; last two to #2
ending with -ing refer to #2
describe subject #2
subject #2

Sample

Egg
adjective, adjective
participle, participle, participle
noun, noun, noun, noun
participle, participle, participle
adjective, adjective
Earth

SEISMIC WAVES

WHY THE EARTH SHAKES

Energy is released as rocks slip along fault lines. As it radiates out in all directions, ripples, called seismic waves, pass through Earth's crust. Seismic waves move through the earth like sound waves move through air. They give off vibrations in all directions as they move through the crust. When they reach the surface, the ground shakes and people brace themselves for an earthquake.

All seismic waves are not equal. They differ in the speed and direction in which they move. Primary and secondary waves travel through the earth and are called body waves. PRIMARY WAVES, called P-WAVES, move the fastest and arrive at the surface first. As they travel through solids, liquids and gas, they compress together and spread apart. SECONDARY WAVES, or S-WAVES, move more slowly and only travel through solids. They move from side to side like a snake.

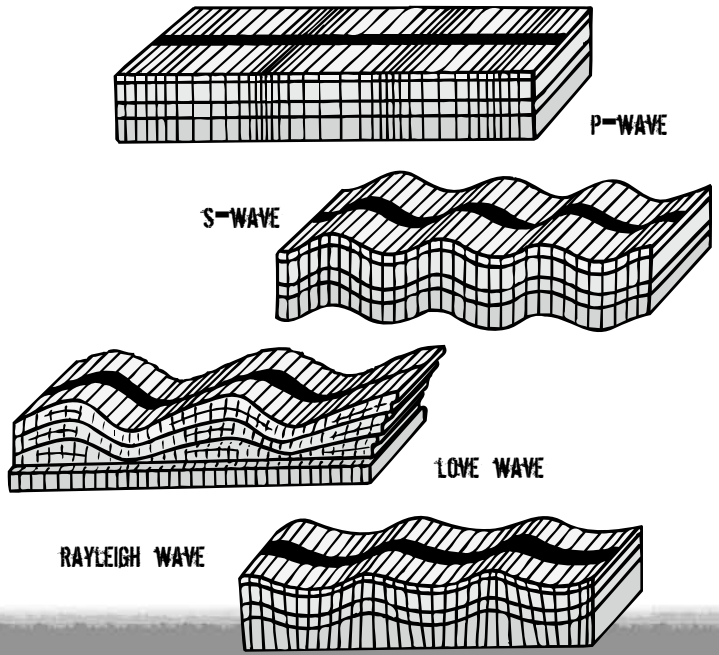
RAYLEIGH and LOVE WAVES are surface waves and cause the most damage. These waves move like ripples on the surface of a pond. They are named after the men who discovered them—John William Strutt, Lord Rayleigh and Gustave Love. RAYLEIGH WAVES roll like ocean waves. LOVE WAVES shake the ground from side to side.

TRY THIS

1. Using a Slinky™, copy the motion of the seismic waves mentioned above.
2. Complete the Seismic Waves chart. Use words and phrases, as well as drawings to illustrate your response.

WHAT DO YOU THINK?

Geologists know how fast body waves travel through solids, liquids and gases. How will this help them to learn more about Earth's interior?



WAVE WATCH

A HANDS-ON OUTDOOR EXPERIMENT

There are two types of waves—those generated by wind and tsunamis, created by earthquakes or other undersea disturbances. The results are very different, as you will discover when you complete the activities below.

PURPOSE

- To determine the effect that wind and disturbances have on water. Keep in mind that a tsunami is influenced by an undersea occurrence.

MATERIALS

- large plastic containers
- water to fill the containers to an inch from the top
- rocks of different sizes and shapes
- instruments for measuring

PROCEDURE 1: WIND-GENERATED WAVE

1. Blow across the water to make waves. Vary the amount of "wind" generated.
2. Record the results of your experiment by using words and drawings to explain and show what happened.

CONCLUSION

1. What can you conclude from your tests regarding the effect that wind has on water?
2. Can you apply this information to larger bodies of water? Does wind have the same effect on oceans?

PROCEDURE 2: TSUNAMI WAVE

1. Drop a variety of rocks, one at a time into the water. Vary the experiment by releasing them from different heights.
2. Record the results of your experiment. Note the extent and height of the ripples.

CONCLUSION

1. From your tests, can you conclude that the size and impact of the rocks determined the amount of water that was displaced?
2. Can you assume that the results would be the same if the water had been dis-