



## Earth Egg 3-5

Modified from activity created by Laurie Molnar  
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### Key Points:

1. Students will gain a better understanding of the composition, ratio and proportion of the Earth's crust, mantle and core.
2. Students will be introduced to the scientific theory of plate tectonics.

### Materials:

- \* overhead projector/transparencies
- \* globe
- \* colored chalk
- \* brown hard-boiled eggs
- \* plastic knives
- \* plates
- \* napkins
- \* garbage bag (for clean-up)

### Introduction:

1. Ask students what a globe represents. Explain that a globe is a model of our Earth and that models are used to represent an object or item.
2. Present a model of the Earth's interior. Ask students how they think scientists are able to predict what the inside of our Earth looks like.
3. Explain the concept of inferences (conclusions and predictions) and use an example that children can relate to (guessing what is inside of a wrapped present by shaking, smelling, or weighing it). Explain that scientists drill into the Earth, study energy waves from earthquakes, and study rocks that spew from volcanoes in order to learn more about our Earth.
4. Explain that scientists have concluded that the Earth has three main layers, the crust, mantle and core. Using colored chalk, draw the layers on the board. Present information on the Earth's layers.
5. Explain the concept of plate tectonics. (The crust is like a jigsaw puzzle made of approximately 20 huge slabs of rock called "tectonic plates." According to

scientists, these plates have been moving throughout Earth's history, and they are still moving today.)

6. Explain that plate movement has formed the topography of our continents and has created mountains when they crashed into each other. Plate movement also causes volcanoes to erupt when they dive under the mantle and melt. Plate movement causes earthquakes when they scrape past each other.
7. Inform students that just like they use the globe as a model of the Earth, they are going to use an egg as a model of the Earth's interior. They will also get a better understanding of how plates move.

#### **Procedure:**

1. Distribute eggs, plates, napkins, and plastic knives. Instruct students to set their egg on their plate and wait for step-by-step directions to be given.
2. Ask students, based on what was reviewed, what part of Earth they believe the shell of the egg represents.
3. Demonstrate how to tap the egg lightly on all sides, breaking the shell.
4. Ask students what layer of the Earth is showing through the shell. Ask students if the shell of the egg could also represent tectonic plates.
5. Have students manipulate the shell of the egg, making the plates collide, in order to get a better understanding of how, why and where earthquakes occur.
6. Inform and demonstrate how to cut the egg.
7. Ask students to name the layers of the Earth's interior by using the egg as a model.

#### **Questions:**

1. What is the name of the tectonic plate you live on?
2. What is the composition of the different layers of the earth?
3. What do we call the boundary where the Pacific Plate meets the North American Plate? (San Andreas Fault)

#### **Lesson Extension:**

Have students access the following web site:

<http://www.hcrhs.hunterdon.k12.nj.us/science/ptech.html> . Ask students to write a 1-page paper to address the following questions:

1. What is Pangea?
2. How do we know it existed?
3. Who is Alfred Wegener?
4. Explain the continental drift theory.
5. Describe convergent, divergent, and transform boundaries.

Assessment: Observe students during the "egg activity." Collect students' worksheets to review students' understanding of the interior sections of the Earth.

**Useful Internet Resources:**

\* Surface and Interior of the Earth

[http://www.windows.ucar.edu/tour/link=/earth/Interior\\_Structure/overview.html&edu=elem](http://www.windows.ucar.edu/tour/link=/earth/Interior_Structure/overview.html&edu=elem)

\* Sixth Grade Plate Tectonics Home Page

Click on "Internet Activity" for questions related to the Earth's interior.

<http://www.eastislip.k12.ny.us/jfkes/sixthgrade/6thplatetectonics/platequest.html>

\* Plate Tectonics

<http://www.hcrhs.hunterdon.k12.nj.us/science/ptech.html>