

Formative Assessment #1

**Concept(s)
Addressed**

Layers of the Earth are deposited due to density of the materials. Models (containers with materials of different densities) provide indirect evidence of how materials layer due to density.

Time

30 minutes

Materials

Individual

Prompt

Advance

preparation

1. Duplicate prompt for each student

Procedure:

1. Tell students they will have an opportunity to share what they understand about using models to show how Earth materials layer.
2. Distribute the prompt to each student and ask him/her to do his/her best work.

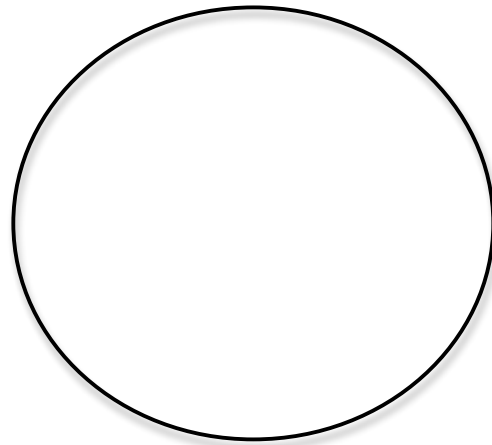
Formative Assessment #1

Directions: Using the terms in the word bank, answer the following questions. Be sure to use complete sentences and label the drawing.

density	Mantle	Outer Core	Lithosphere
Asthenosphere	model	Inner Core	Crust

1. How does the density bottle model the layers of the earth? Use all the terms in word bank above.

2. In the diagram below show the similarities between the density bottle and the layers of the Earth. Be sure to label the diagram clearly. Draw arrows between the dense material in the bottle and the most dense part of the Earth.



Justified Multiple Choice

Directions: Please circle the best answer and explain why it is the best answer using science terms.

- 3. Geologists obtain indirect evidence about Earth's interior by
 - a. measuring pressure differences at Earth's surface.
 - b. estimating temperature inside Earth.
 - c. directly looking under the many layers.
 - d. using models to infer types of materials

Science

"reason:" _____

Formative Assessment #1

Expected Student Responses for a High Level Response

Directions: Using the terms in the word bank, answer the following questions. Be sure to use complete sentences and label the drawing.

Density or dense	Mantle	Outer Core	Lithosphere
Asthenosphere	model	Inner Core	Crust

1. How does the density bottle model the layers of the earth? Use all the terms in word bank above.

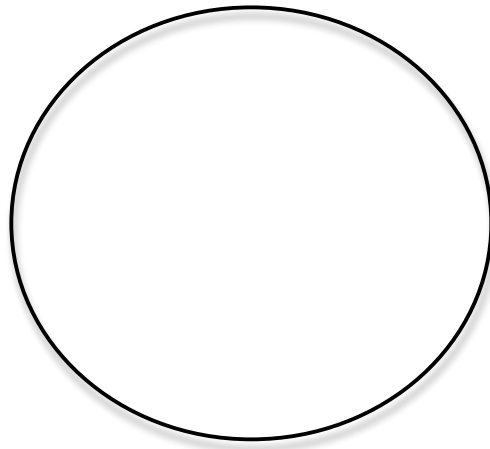
This model is like the earth because the inner core is most dense and the crust least dense. Earth layers in order of density are inner core, outer core, mantle with two parts asthenosphere and lithosphere. The lithosphere floats on the asthenosphere. The top of the lithosphere is called the crust

2. In the diagram below show the similarities between the density bottle and the layers of the Earth. Be sure to label the diagram clearly. Draw arrows between the dense material in the bottle and the most dense part of the Earth.



Label Layers

Draw arrows most dense parts of bottle model and earth.



Justified Multiple Choice

Directions: Please circle the best answer and explain why it is the best answer using science terms.

3. Geologists obtain indirect evidence about Earth's interior by
 - a. measuring pressure differences at Earth's surface.
 - b. estimating temperature inside Earth.
 - c. directly looking under the many layers.
 - d. using models to infer types of materials

Science "reason:"

Reason will reveal student understanding of use of models. Use the reason to clarify use of models.

Reason should relate building a model could show what something is like even if you can't see what is inside.
