

Layers of the Earth

You probably know that the earth has a number of layers. But do you know how scientists found out about the layers? The information scientists have gathered come from earthquakes! Earthquakes produce shock waves that travel through the earth. These shock waves penetrate the depths of the earth and return to the surface. During this passage, the speed and the direction of the waves change. The changes in the movements of the waves are caused by differences in the structure and composition of the earth's interior. By recording and studying these waves scientists have been able to "see" into the interior of the earth. As a result of their observations, scientists believe that the earth is made of four different layers.

Watch the video *Geologist's Notebook: Digging through the Earth* from www.missdoctorbailer.com

Watch for the answers to the following questions. You will be asked to answer them true or False at the end.

- ___ 1. The Earth's thin shell of hard rock is called the crust.
- ___ 2. The asthenosphere has soft rock that lacks strength.
- ___ 3. Both layers of the mantle are rock: both layers of the core are metal.
- ___ 4. The middle of the earth is soft and spongy.
- ___ 5. Heat rising from deep inside earth can move the crust's plates.

Each member of your lab group will be given a card with information about a layer of the earth. There are four layers, so some people may have two to read.

As you read, underline the following information and be ready to share with the whole table.

1. State of matter (liquid or solid)
2. Elements found in the layer
3. Temperature
4. Thickness

Materials: Colored pencils, scissors

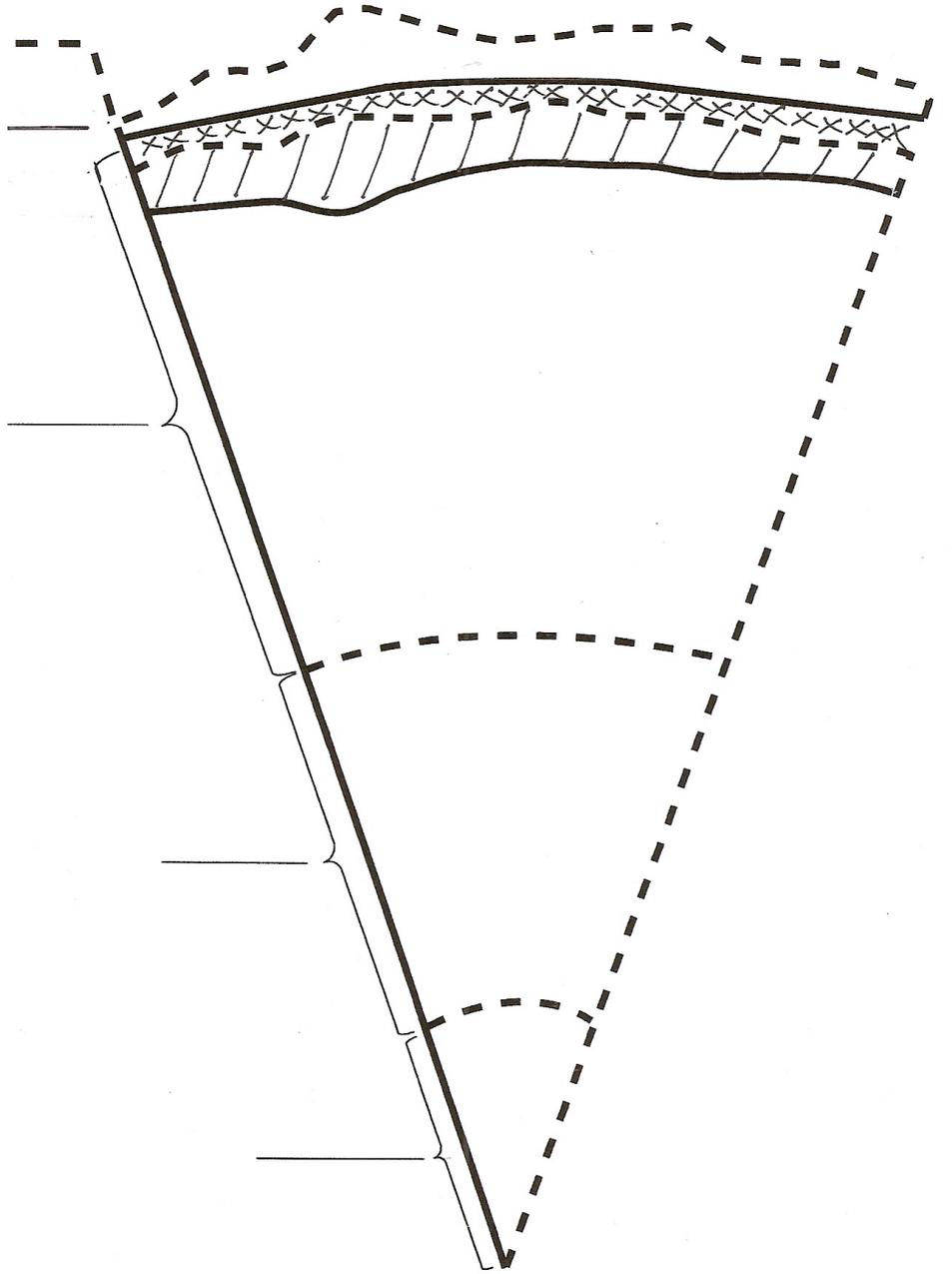
What To Do:

1. Glue Bottom Sheet into your notebook.
2. Cut only along the dotted lines on the top sheet.
3. Match the solid outline on the top sheet with the bottom sheet.
3. Apply glue to the labeled area.
4. Lay the top sheet on top of the bottom so that the shapes match.
5. Label the first flap of the Top Sheet at the pointed end of the cone "Inner Core"
6. Fold the flap back and record the underlined information from your reading.
7. Continue placing the name and the information under each flap.
8. Color the layers a different color as follows:
Crust/lithosphere -green
Outer Core - orange
Mantle/asthenosphere -yellow
Inner core – red
9. Color the circle at the bottom the correct colors.

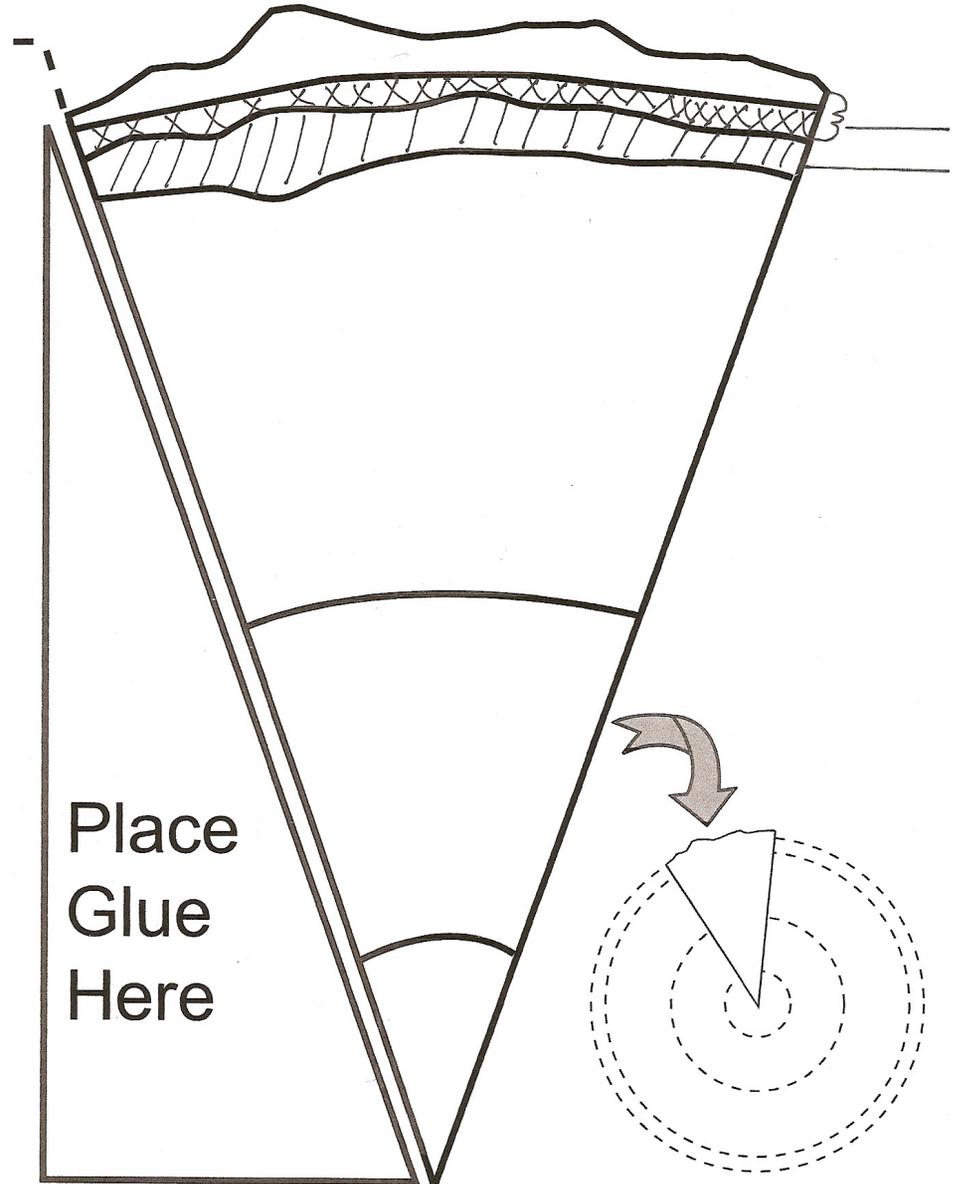
Questions:

1. What elements are found in the layers of the earth?
2. What element seems to be the most abundant? _____

Top Sheet



Bottom Sheet



Name _____ period _____

EXIT TICKET

Layers of the Earth

1. What is the name of the layer at the center of the earth?
 - a. outer core
 - b. inner core
 - c. mantle
 - d. crust
2. What is the name of the layer at the top of the earth?
 - a. outer core
 - b. inner core
 - c. mantle
 - d. crust
3. What is the core made of?
 - a. rock
 - b. sponge
 - c. metal
 - d. dust
4. The core's temperature is
 - a. very hot
 - b. medium hot
 - c. warm
 - d. cool
5. The crust and the upper layer of the mantle combine to make the
 - a. outer core
 - b. asthenosphere
 - c. mantle
 - d. lithosphere

Name _____ period _____

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Layers of the Earth

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