

Earth Pizza Slice: A Scale Model of Earth's Interior

You are making a 1:10 million scale model of Earth's Interior. That means that 1 cm in your model represents 100 km in the actual Earth! This will count as a test grade.

1. Measure an 86.4cm x 28cm rectangle on white paper, cut this out neatly.
2. Fold the paper in half lengthwise and lightly sketch a dotted line along the fold, this is your center line.
3. At the very bottom of your center line on one end mark a point and label this: Center of Earth.
4. From the center line measure out 13.2 on either side. Do this on both ends of the paper. These are called your width lines. Lightly sketch lines for the width lines the length of the paper, parallel to your center line.
5. Cut a piece of string and make a loop at one end. Your pencil tip in the loop and the other end stretched out should measure 63.7cm.
6. From the center of the Earth point stretch the string up the center line and draw a partial arc circle from one width line to the other. This is your surface arc line. **Label it: Surface**
7. Draw a straight line from your center point to the intersection of one of your width lines and the surface arc line. Repeat this for the other intersection. This makes the "pizza slice" shape of your Earth.
8. Use the given chart measurements below to construct the given boundary layers. ***Measure downward from the surface arc line the distance given. Make a mark.
9. Then put your pencil tip-loop on the mark, stretch out the string and make a partial circle arc out to the width lines. **Label the boundary.**
10. After all layers are constructed and labeled: color appropriately; use resources to add specific information in each layer...(4 items for each: composition, thickness, state of matter, temperature) (Core=white, outer core=yellow, lower mantle=orange, Asthenosphere=red, Lithosphere=brown) (make sure your writing is visible)(add in convection currents)(your measurements should be accurate)

Table 1: Measurements for Earth's Interior Structure ("Pizza-Slice") Activity.

Boundary or layer	Actual Value (radius)	Scale Value (1:10 million Scale) Measure down from surface arc line
Radius of Earth	6371 km	63.7 cm
Depth to base of the crust (average)	35 km	0.35 cm
Depth to lithosphere/asthenosphere boundary	100 km	1.0 cm
Depth to upper mantle/lower mantle boundary	670 km	6.7 cm
Depth to mantle/outer core boundary	2885 km	28.9 cm
Depth to outer core/inner core boundary	5155 km	51.6 cm

Now take your "pizza slice" Earth and make a whole "pizza" Earth!!! Fifteen slices equal one whole "pizza" Earth.