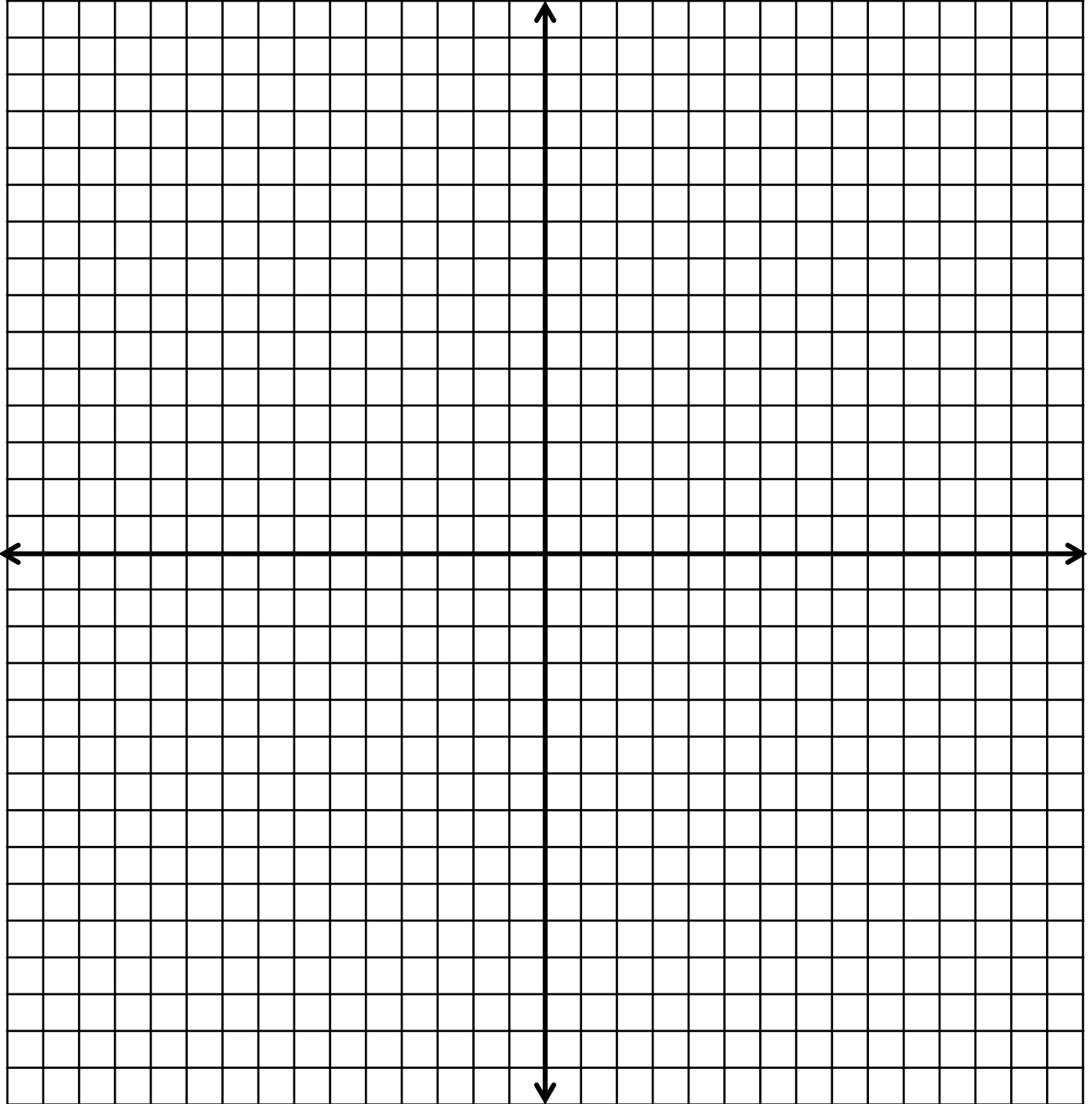




Name: \_\_\_\_\_ Date: \_\_\_\_\_ Group: \_\_\_\_\_

# MATH CONNECTIONS

Earth contains distinct layers: the inner core, outer core, mantle, crust, and lithosphere. When constructing a model of Earth's layers, each layer's chemical composition, state of matter, and thickness should be considered. Use the steps on Page 2 to complete a replica of Earth's layers in the grid below.



# MATH CONNECTIONS

Follow the steps below to construct a model of Earth's layers in the grid on page 1:

- Plot the coordinates  $(-5,-9)$  and  $(5,-9)$ . Connect them with a line.
- Plot the coordinates  $(-8\frac{1}{3}, 1)$  and  $(8\frac{1}{3},1)$ . Connect them with a line.
- Plot the coordinates  $(-12\frac{3}{4}, 14\frac{3}{4})$  and  $(12\frac{3}{4}, 14\frac{3}{4})$ . Connect them with a line.
- Plot the coordinates  $(-13,15)$  and  $(13,15)$ . Connect them with a line.
- Plot the coordinates  $(-3,-15)$  and  $(3,-15)$ .
- Connect the coordinates  $(-3,-15)$  and  $(-13,15)$  with a line.
- Connect the coordinates  $(3,-15)$  and  $(13,15)$  with a line.
- Label each section of your model from top to bottom: Crust, Mantle, Outer Core, Inner Core.
- Color each section a different color.

The lithosphere is the layer of Earth comprising Earth's Crust and Upper Mantle.

- Draw the line  $y = 14\frac{1}{2}$  on the grid.
- Between  $y = 14\frac{1}{2}$  and  $y = 15$ , add slanted stripes to show the Lithosphere.

Each square on the grid represents about 212 kilometers. Calculate the estimated thickness for each of Earth's layers and write it in the corresponding empty space below.

Layer	Chemical Composition	State of Matter	Average Thickness (km)
Lithosphere	Crust and upper Mantle	Solid and rigid	
Crust	Lighter Elements: Al, Ca, Mg, K, and Na	Solid	
Mantle	Silicates (Si, O), Magnesium, and iron	Varies from brittle, solid to molten state of magma	
Outer core	Iron and nickel	Liquid	
Inner core	Iron and nickel	Solid	