Forming Earth Classwork #1 Name:_____

True or False Fixers. Label each statement with true or false. If the statement is false, change the boldface words in the statement to make it true.

1. _____ Our solar system started about **5 billion years ago** as gravity pulled objects out of a spinning cloud of dust, gas and other material.

_____

2. _____ That material came from a prior generation of **planets** that had exploded long before.

_____

3. _____ **99.9%** of the material in the cloud of dust formed the sun.

_____

4. _____ The Earth started out as a **frozen** sphere.

_____

5. _____ As the Earth was forming, the least dense material rose to the top to become **the crust,** oceans and atmosphere.

_____

6. _____ According to the latest theory, the last great collision was between protoEarth and protoTheia. This collision created orbiting matter that became **our moon**.

_____

Forming Earth Homework #1 Name:_____

1. Use the given words below to explain how the Earth was formed. Write about 2–3 sentences.

   Dust cloud gravity molten sphere

_____

_____

_____

2. Use the given words below to explain the theory of how the moon was formed. Write about 1–2 sentences.

   protoEarth protoTheia orbiting matter

_____

_____

_____

3. Use the given words below to describe the Earth cooling down about 4 billion years ago.

   Surface temperature atmosphere, oceans and crust insulated

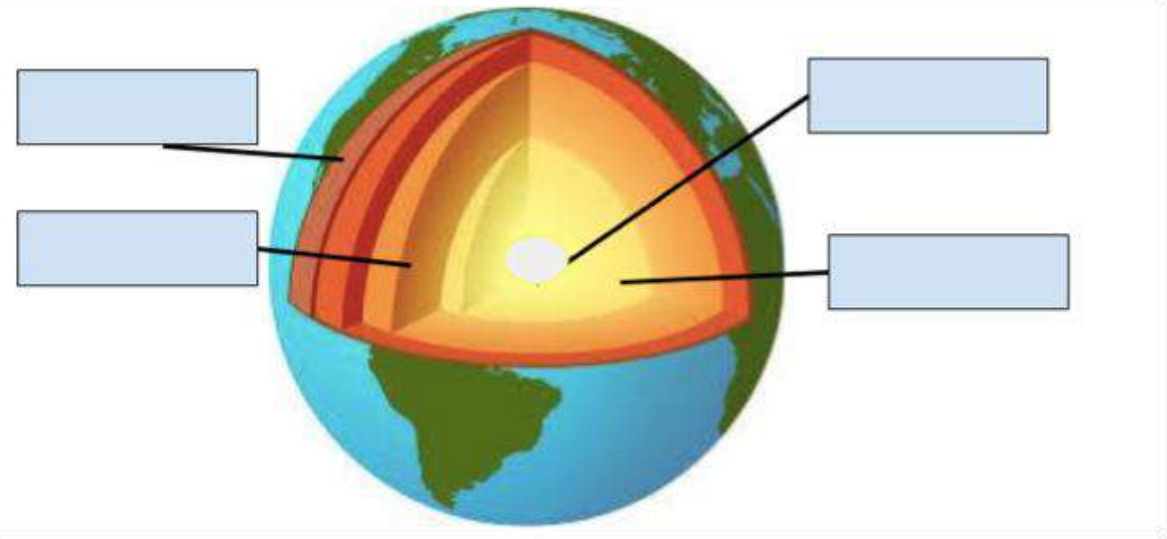
_____

_____

_____

Earth's Layers Classwork #2 Name:_____

1. Label the diagram below.



2. List the four layers of the Earth. Using the words in the word bank, describe each of the four layers. Be sure to use all of the words in the word bank.

Word Bank

Rigid thin ⅔ of the Earth's mass lithosphere tectonic plates
liquid molten nickel and iron magnetic field solid nickel and iron

---

a._____

_____

b._____

_____

c._____

_____

d._____

_____

Earth's Layers Homework #2 Name:_____

1. Draw a line to match the Earth's layer with the correct descriptions. There is more than one description for each layer.

Crust	a. If you think of the Earth as an apple, this layer is about the same thickness as the skin.
Mantle	b. Extremely hot and made of solid iron and nickel
Outer core	c. The upper part is rigid while the lower part of this layer is hot semisolid rock.
Inner core	d. Extremely hot and entirely liquid
	e. It's solid due to the pressure of the surrounding Earth.
	f. "Floats" on top of the mantle
	g. Together with the crust this layer is called the lithosphere.
	h. Earth's magnetic field

2. Using concentric circles, draw a diagram of the Earth's layers. Label the four layers. Be sure to attempt to draw them to scale, indicating the thinnest layer and the thickest layer.

Plate Tectonics Classwork #3 Name:_____

1. Describe three reasons that led scientists to believe the continents have moved.
    a. _____
    b. _____
    c. _____
2. Explain Alfred Wegener's idea of "Continental Drift."

3. What is Pangaea?

4. Explain the theory of plate tectonics.

5. Look at the map below. Draw arrows indicating to which other land masses North America and South America were once connected.

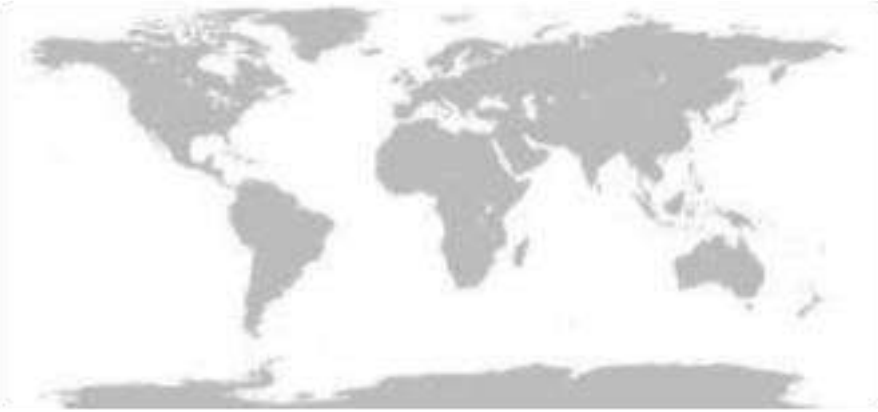


Plate Tectonics Homework #3 Name:_____

1. Pretend you are a scientist in the early 1900s. You are headed to a conference on the newly proposed theory of “Continental Drift.” Write a brief speech defending and explaining the theory and why you believe it to be true. Include at least three reasons to support your claim.

_____

_____

_____

_____

_____

_____

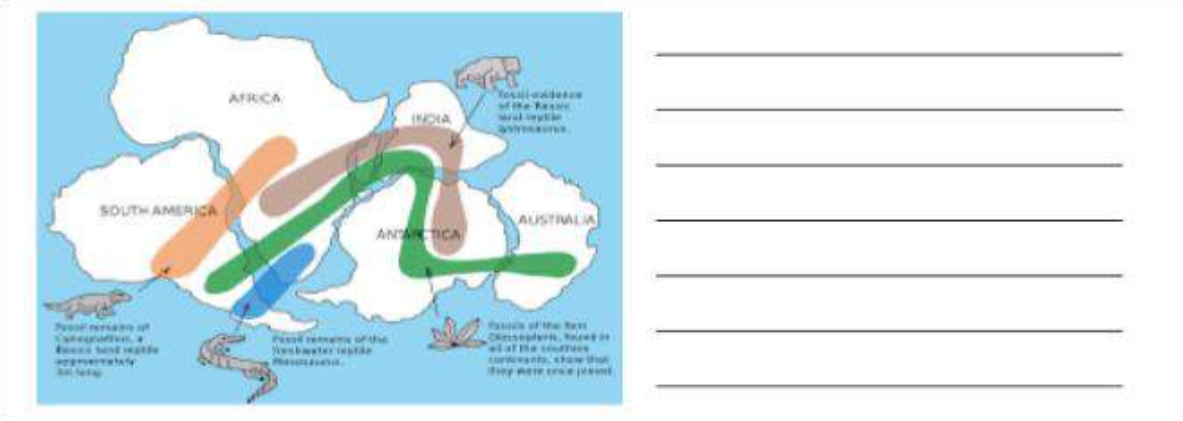
_____

_____

_____

_____

2. Explain how the map below supports your answer.



_____

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_____

Moving Tectonic Plates Classwork #4 Name:_____

1. Create a new diagram of the wood block experiment. Include a pot, heat source, arrows showing the direction the water moves, and the wood blocks floating on top. Be sure to label your diagram.

2. Explain how the convection current in the above diagram moves the wood blocks apart.

3. In a convection current, explain what happens to the water as it rises to the top.

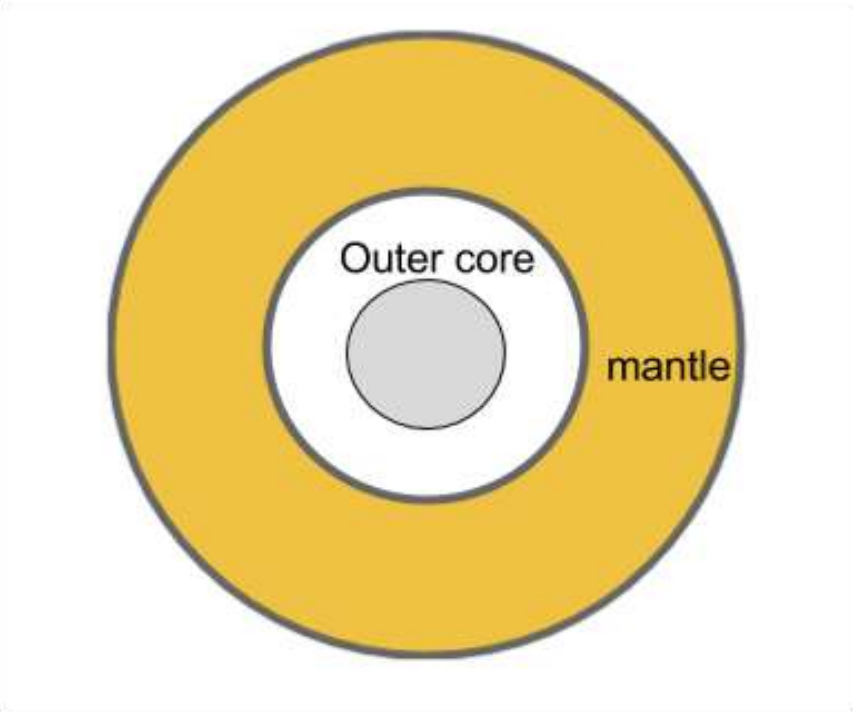
4. Explain how the convection current process relates to the Earth's tectonic plates.

Moving Tectonic Plates Homework #4 Name:_____

1. If you placed a pot of water on the stove, heated it until the water boils, and dropped several uncooked noodles in the water, which direction would the noodles travel in the water? Why?

2. Where does the energy to move the tectonic plates come from?

3. Look at the diagram below. Draw in arrows to show how convection currents flow in the Earth's mantle.



Types of Plate Interactions and the Results Classwork #5 Name:_____

1. Use the words in the word bank below to fill in the blanks and best complete the sentences.

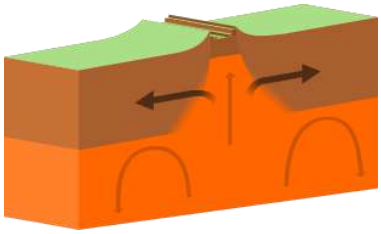
convergent boundaries	Himalayan Mountains	Subduction
Convergent	changes in the Earth's features	plate interactions
Mid-Atlantic Ridge	divergent	transform

   a. When the tectonic plates float into each other on the Earth's surface, it can cause _____.
   b. Divergent, transform and convergent are three types of _____.
   c. When plates are pulling apart in an interaction, it is called _____.
   d. When plates slide past each other in an interaction, it is called _____.
   e. When plates collide in an interaction, it is called _____.
   f. A _____ occurs when two plates are pushing against each other in a convergent interaction.
   g. _____ happens when two plates converge and one plate moves on top of another.
   h. An example of what can happen when plates converge is the _____.
   i. An example of what can happen when divergent plates divide is the _____.

Types of Plate Interactions and the Results Homework #5

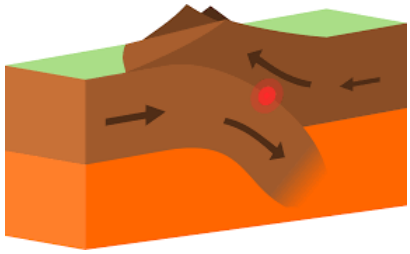
Name:_____

We have learned about the three types of plate interactions: divergent, transform and convergent. Label each diagram below and write one sentence describing what happens for each interaction.



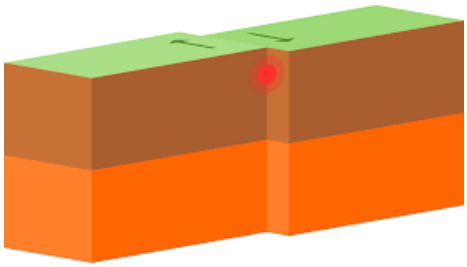
1. Plate interaction type:_____

Description:_____



2. Plate interaction type:_____

Description:_____



3. Plate interaction type:_____

Description:_____

Three Types of Rocks Classwork #6 Name:_____

Write one sentence to describe each type of rock.

Sedimentary:

Igneous:

Metamorphic:

Look at each picture below. Classify each rock by naming the type of rock it is. Then write one sentence explaining why you think it is that type of rock.

1. _____

2. _____

3. _____

Three Types of Rocks Homework #6 Name:_____

Draw a line to match the words with the definitions.

	a. Liquid fire
Intrusive Igneous	b. Rocks that are still in the Earth that form when magma cools down.
Extrusive Igneous	
Sedimentary	c. Rocks formed when one type of rock turns into another due to heat and pressure.
Metamorphic	d. Multi colored rocks formed from particles of other rocks.
Magma	e. Rocks that are formed as magma cools after exiting the Earth