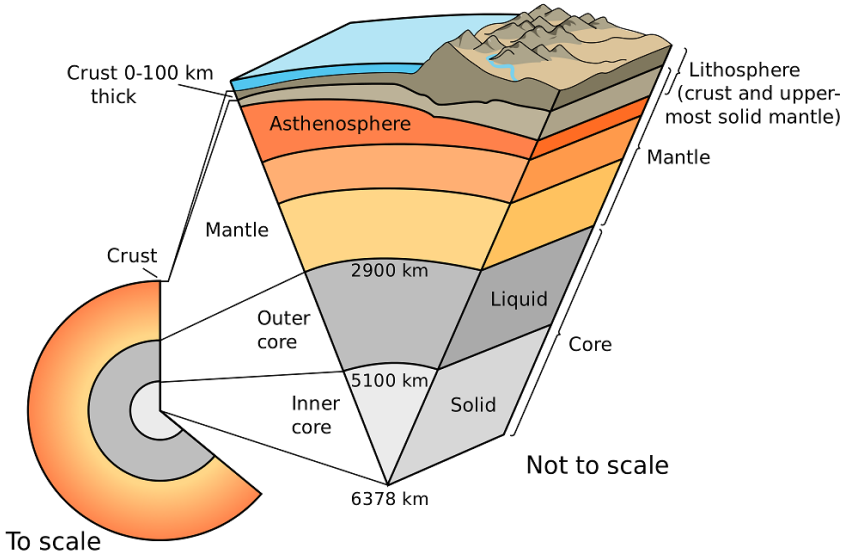
Name: _____ Date: _____ Period: _____

Earth's Layers: Coloring and Questions

The Earth has many layers within it, as shown in the graphic on the next page. The **Crust** is the exterior layer of Earth: it is the cool, hard layer on which all land life lives. The crust, which is part of the **lithosphere** (the layer of Earth that includes the crust and slightly molten layer just beneath it), is broken into several large pieces called *tectonic plates*. Further, there are two types of crust: *oceanic* and *continental*.



Oceanic crust – named because it is below the oceans – is old and dense, and tends to sink under **continental crust**, which is lite and fluffy – it tends to float, and makes up the continents.

Below the crust is the **Mantle**, a warm layer that can vary from rigid (where cooler) to plastic (where hotter). The Mantle has convection currents, which move hot magma from the outer core to the crust, and dropping cold magma back to the outer core – much like a lava lamp. This convection movement can push and pull tectonic plates, getting them to move and interact. The upper part of the Mantle is the **Asthenosphere**, the layer that the crust floats upon.

Below the Mantle is the **Outer Core**, which is liquid due to the extreme temperatures caused by extreme pressures. This liquid, metallic layer causes Earth's magnetic field.

The Earth's **Inner Core** is the innermost layer, and is solid: the extreme pressures at this depth overwhelm the temperatures that cause fluidity. As Earth slowly cools down, the Outer Core loses its temperature, growing the Inner Core.

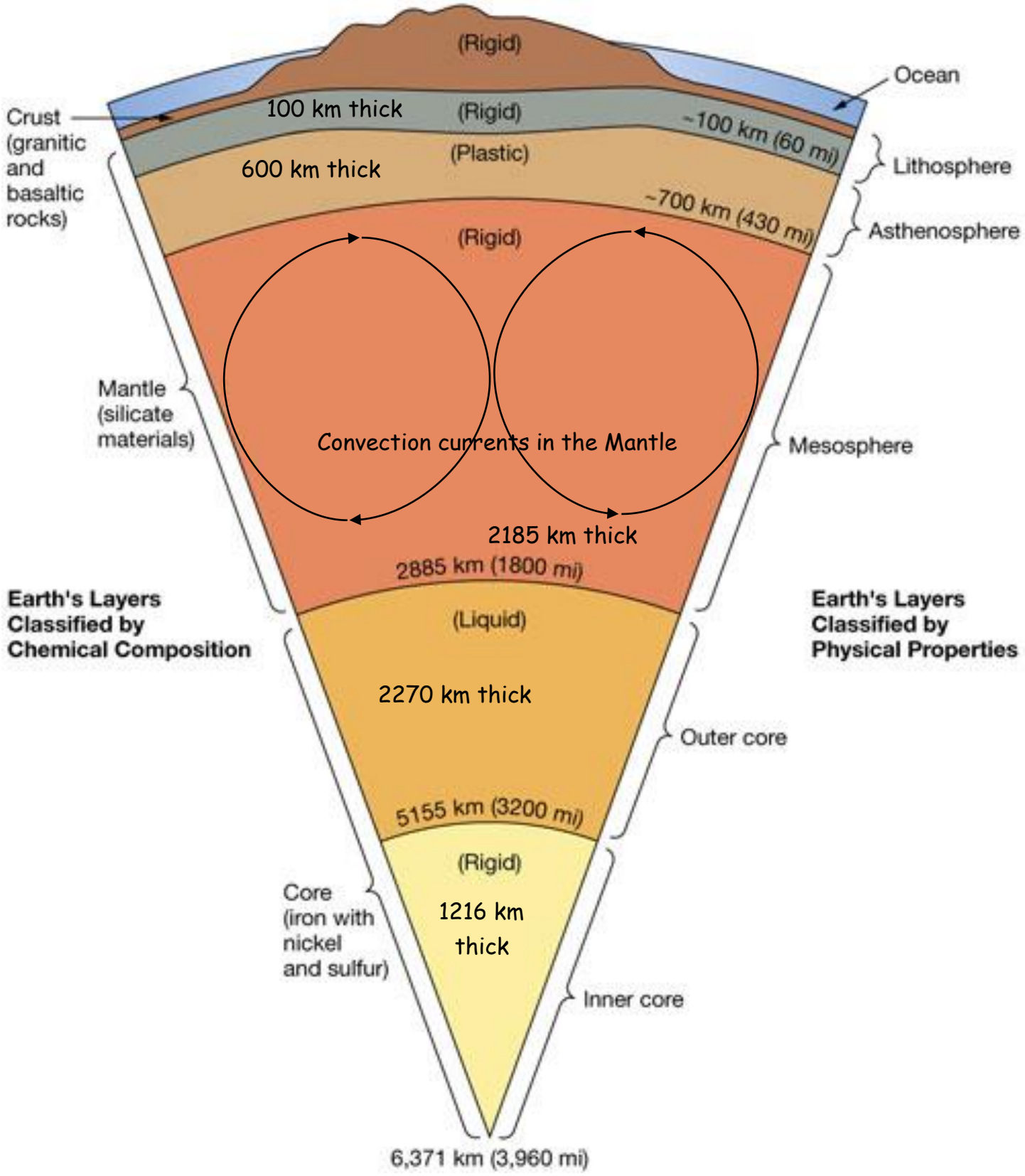
NOTE: Please follow the directions carefully!

1. On the 3rd Page, use the Layers Word Bank to place the layers of the Earth into the correct locations in the empty diagram. You can use the diagram on the 2nd page as a guide!
2. After you have labelled the layers, color them using this guide:

Ocean - blue	Asthenosphere – yellow-orange
Oceanic Crust - dark brown	Mantle – orange
Continental Crust - light brown	Outer Core - red-orange
Lithosphere – yellow	Inner Core – red

3. Fill out the small squares with the information for each of the main layers of the Earth, using the diagram on the second page or your textbook!
    a. Composition: Granitic (rich in silica) or Basaltic (silica-poor); iron with nickel and sulfur; silicate materials
    b. Thickness: shown in kilometers (km) depending upon the depth that each layer goes
    c. State of Matter: Rigid (solid), Plastic (like putty or clay), or Liquid (like syrup)

Name: _____ Date: _____ Period: _____

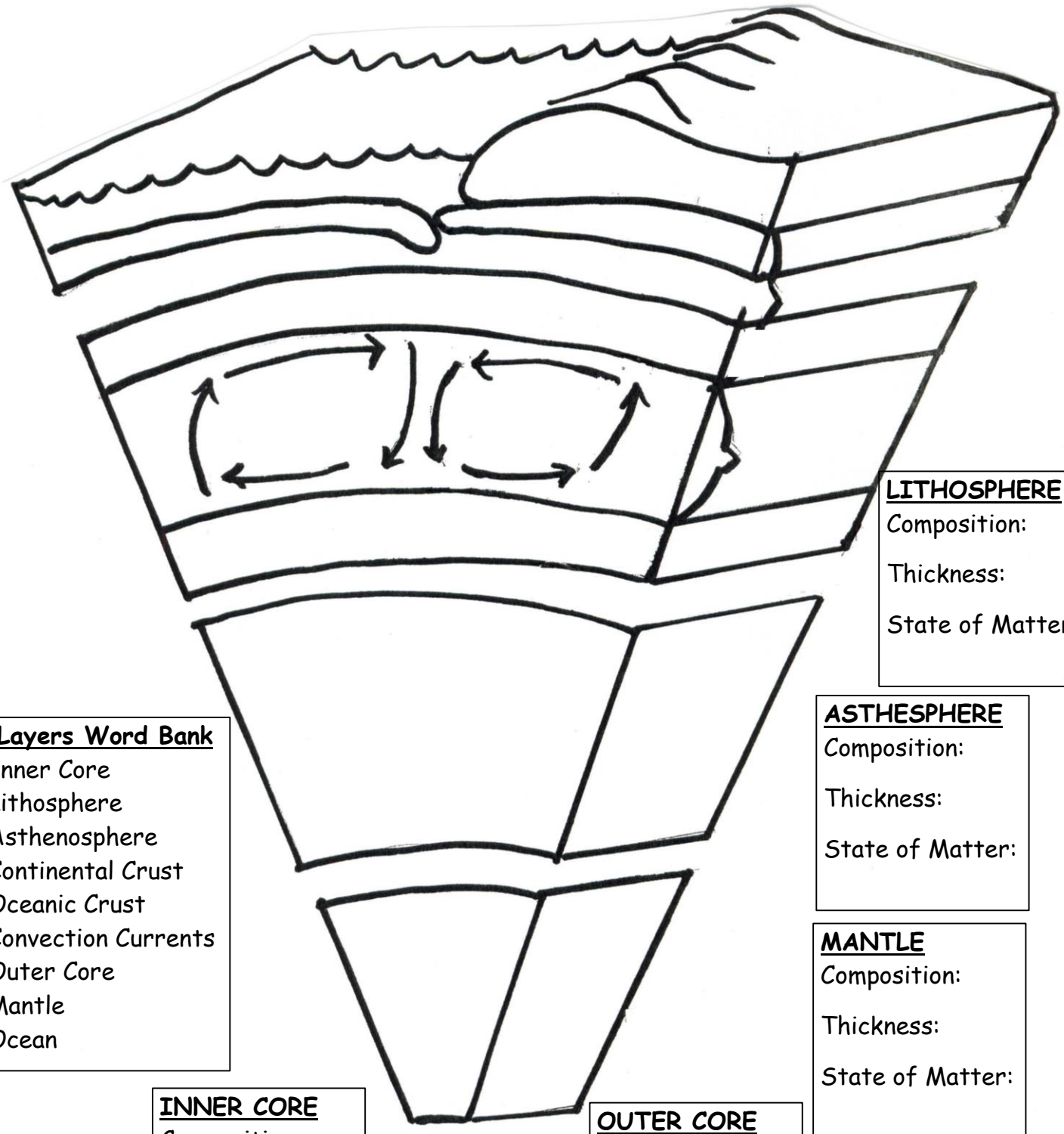


Rigid = solid
Plastic = semi-molten = semi-liquid
Liquid = molten

Granitic = felsic = silicate rich
Basaltic = mafic = silicate poor

Name: _____ Date: _____ Period: _____

The Earth's Layers



Layers Word Bank

Inner Core
Lithosphere
Asthenosphere
Continental Crust
Oceanic Crust
Convection Currents
Outer Core
Mantle
Ocean

LITHOSPHERE
Composition:

Thickness:

State of Matter:

ASTHESPHERE
Composition:

Thickness:

State of Matter:

MANTLE
Composition:

Thickness:

State of Matter:

INNER CORE
Composition:

Thickness:

State of Matter:

OUTER CORE
Composition:

Thickness:

State of Matter:

Name: _____ Date: _____ Period: _____

Earth Layer Questions

Use the information provided to you in the above diagrams and paragraphs on the first page to answer the following questions:

1. In which layer is there convection?

2. From what layer is this convection bringing heat from?

3. How do convection currents influence plate tectonics?

4. Tectonic plates are part of which layer?

5. What layer do tectonic plates move upon?

6. What are the differences between *oceanic* and *continental* crust?

7. Which layer is under the most pressure?

8. Which layer is liquid? Why is it liquid?

9. Name the order of layers from the top to the bottom: