

8T Assignment #1: *Density/Classroom Techniques*

Name: _____

1. Use the density model ideas to explain the most likely arrangement of oceanic and continental lithosphere that you ultimately chose for the Check Your Understanding: Buoyancy and the Other Layers of the Earth worksheet (attached as the last page of this pdf)

My choice (A, B, or C) and the basic reason why I chose this arrangement

The density ideas I used, AND how each idea supports my explanation:

2. Which norm were you assigned to work on today? (*circle one*)

paraphrasing pausing probing for specificity presuming positive intentions

Reread what the purpose of your norm is (see the handout you read).

How did you do?	
What worked and what didn't work as you tried to apply this norm?	
Did it help, hinder, or have no effect on productive group work? (clarify)	

3. During class you used three different protocols to promote productive dialogue and reading (listed below). Choose ONE of that you felt was effective and explain why it aided group discussions.

Final Word

Say Something

Talking Sticks

4. You also used some classroom reading and assessment techniques (listed below). Choose one that you felt was effective and explain how it enhanced the science lesson or your understanding of the science concepts.

Predict-Explain-Observe formative assessment technique for science investigations

Stop Light Sticky Notes formative assessment of whiteboard explanations

Paired Reading protocol for productive reading

Check Your Understanding (formative assessment midway through modeling)

Check Your Understanding: Buoyancy and the Outer Layers of the Earth

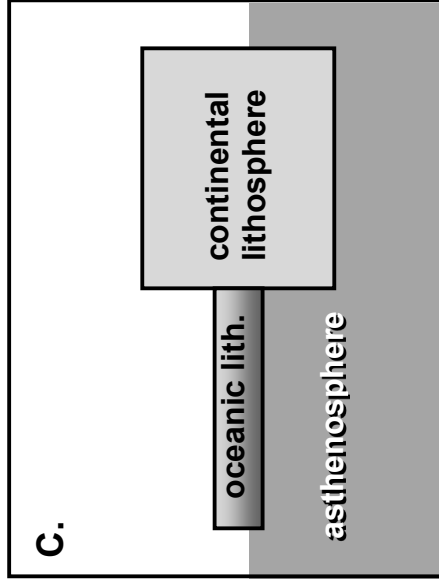
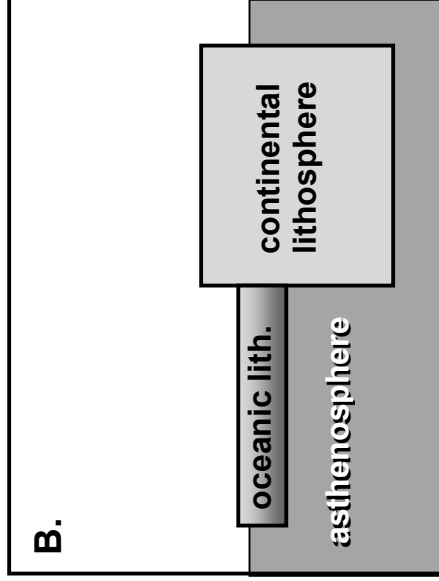
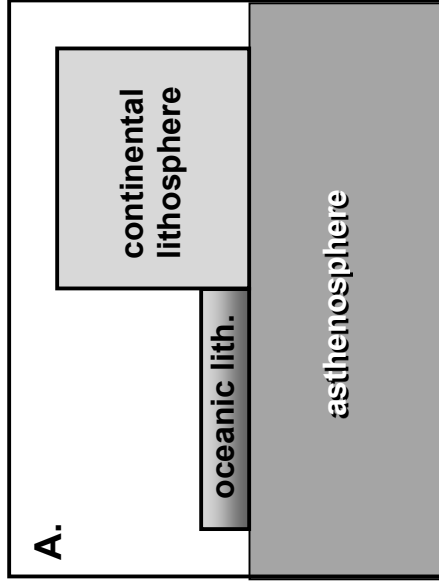
The stiff, rigid, brittle outer layer of the Earth is called the **lithosphere** (*lithos* means 'rocky'). If you have heard anything about *Plate Tectonics*, then the plates that cover the surface of the Earth are made of lithosphere. The layer that lies below the lithosphere is a much weaker, mushy layer that is mostly solid, but can actually flow slowly (ductile), sort of like silly putty. This layer is called the **asthenosphere** (*asthenos* means 'weak'). So to review, the Earth has a brittle outer layer called the lithosphere, which sits on top of a mushy layer called the asthenosphere.

There are two varieties of lithosphere: **continental lithosphere** (the foundation of continental land masses) and **oceanic lithosphere** (the rocky stuff underneath Earth's oceans). In general, continental lithosphere is much thicker but less dense than oceanic lithosphere. We know what the surface of these types of lithosphere are like— the continents stick up in the air, whereas the oceanic rocks lie submerged beneath ocean water. The question becomes, what are they like deeper down in the Earth?

- The three figures below (A, B, C) are side-view slices through the Earth. Use the information provided in Table 1 and the Density Ideas developed in class to decide which of these figures show the most likely arrangement of oceanic and continental lithosphere.

Table 1. Information about the lithosphere and asthenosphere

lithosphere	Layer	Density	Other Information
	continental	2.7 g/cm ³	Stiff, rigid, brittle, very thick
	oceanic	2.9 g/cm ³	Stiff, rigid, brittle, relatively thin
asthenosphere		3.3 g/cm ³	Below the lithosphere, weak, mushy, ductile



I chose:	I used these density ideas to support my choice:	We chose:	We used these density ideas in our explanation