EARTH SCIENCE	NAME:	
PHET: PLATE TECTONICS	<b>PER:</b>	<b>DATE:</b>

Go to the **PhET** website

Click on

Run Now!

Spend a few minutes exploring the simulation. Don't worry, you can't break it. Select the "Crust" tab at the top of the simulation. Under view select "Both".

- 1) What are the 3 **variables** that can be changed in this simulation? (Scale or zoom is a nice feature, but not a variable.)
  - \*\* \*\* \*\*
- 2) Try to duplicate the <u>continental crust</u> as accurately as possible by adjusting the **variables**. Show on the diagram where you set each variable. (In other words, draw where you must move the slides on the diagram at the right.)
- 3) Try to duplicate the <u>oceanic crust</u> as accurately as possible by adjusting the variables. Show on the diagram where you set each variable.

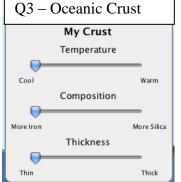
 In terms of the three variables you have investigated, describe how continental crust differs from oceanic crust.

Select the "Plate Motion" tab at the top of the screen. Under view select "Both".

5) Investigate the following convergent boundaries by dragging the designated pieces of crust into the appropriate side of the simulation. Click and drag one of the red levers in the direction of the green arrows until the motion stops. Click on New Crust to change the type of crust. Report your findings in the following table:

Left Side Crust	Right Side Crust	Which Crust is more Dense?	Which Crust Subducts?	Do non- volcanic Mountains Form?	Does a Trench Form?	On Which Crust Do Volcanoes Form?
Continental	Continental					
Continental	Old					
	Ocean					
Old	Continental					
Ocean						
Continental	Young					
	Ocean					
Young	Continental					
Ocean						
Old	Young					
Ocean	Ocean					
Young	Old					
Ocean	Ocean					

Q2 – 0	Continental	Crust
	My Crust	
	Temperature	
<u> </u>		
Cool		Warm
	Composition	
<b>—</b>		
More Iron		More Silica
	Thickness	
<b>—</b>		_
Thin		Thick



6) Describe the relative motion of the plates at ALL convergent plate boundaries.
7) Three times you used the same two types of crust, but switched left and right sides. What do you observe about the results? Is the side the crust is placed on important?
8) Look for patterns in density, subduction, and volcanoes in the table. When volcanoes form, on which plate do they always form?
9) Explore how a continental-young oceanic crust collision differs from a continental-old oceanic crust collision.  ** Describe the difference in the angle of subduction between old and new plates.
** How does the distance between the volcanoes and the plate boundary differ between old and new plates?
10) Investigate divergent boundaries by dragging pieces of crust into the simulation. Click and drag one of the red levers in the direction of the red arrows until the motion stops. Click show labels.  Describe the relative motion of ALL plates at divergent boundaries.
11) What is generated at ALL divergent plate boundaries?
12) Investigate transform fault boundaries by dragging pieces of crust into the simulation. Click and drag one of the red levers in the direction of the blue arrows until the motion stops. Describe the relative motion of ALL plates at transform fault boundaries.

mountains and volcanoes. Plate tectonics also accounts for processes like sea floor spreading and	
subduction. Refer to the data you collected in this lab and use "CLEAR" writing to complete the following	ıg:
13) Explain <b>how</b> plate tectonics accounts for one process that creates one feature on or near the Earth	ı's
surface.	
Surface.	
<del></del>	

In this lab simulation you observed how plate tectonics accounts for features like mid-ocean ridges,