Name_____ Period: _____

CH 9: PLATE TECTONICS SIMULATION LAB

Part 1

Crust Type	**Thickness** (use ruler to measure)	Density
Oceanic Crust (*Left side*)		
Continental Crust *(Right Side)*		

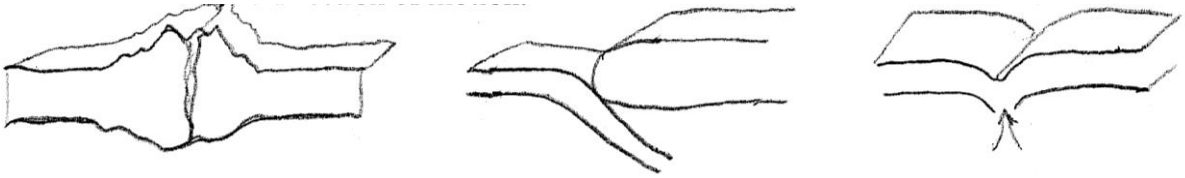
1. Which property do you think causes continental crust to have a higher elevation (on average) than oceanic crust? Explain.

Experiment with making your own crust using the sliders in the center of the screen. Note that the middle crust sample will turn blue or green depending on whether it is considered oceanic or continental crust.

2. See what happens when you adjust the thickness of the crust.
    a. What kind of crust is very thick crust?_____
    b. What kind of crust is very thin crust?_____
3. See what happens when you change the composition of the crust?
    a. Does oceanic crust have more iron or more silica? _____
    b. Does continental crust have more iron or more silica?_____

Part II:

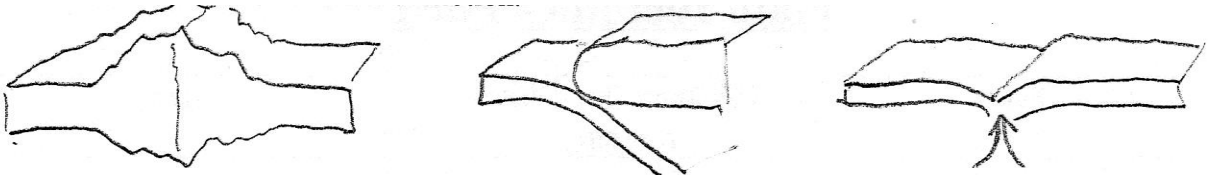
1. Drag a continental and oceanic crust into the simulation (young or old crust).
    a. Play the simulation. What type of boundary is this? (hint: use key on instructions sheet for help)
    b. Circle which diagram best represents has happened to the two plates. Label the two types of crust and show the direction of motion.



    c. Which plate subducts beneath the other? Why do you think this is (hint: think of the properties you explored in part I)?
    d. Let the simulation play for the entire length of time. What features are created on the continental crust parallel to the plate boundary?

2. Reset the simulation and set it up with two old oceanic crusts and select show sea water.
    a. Click the red arrows and play the simulation. What type of boundary is this?

b. Circle which diagram below best represents what has happened in the simulation. Label the two types of crust and show the direction of motion.



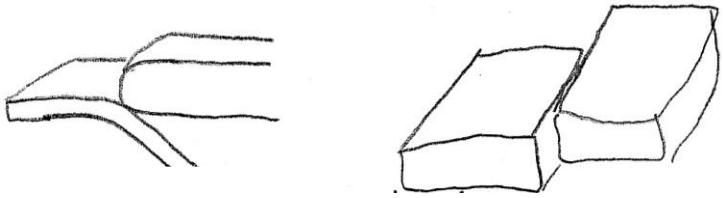
c. What feature is created at the plate boundary, a Ridge or Trench?

d. New crust is being created at a divergent boundary. Where does the new crust come from? What happens to the old crust?

3. Reset the simulation and set it up with two continental crusts.

a. Click the blue arrows and play the simulation. What type of boundary is this?

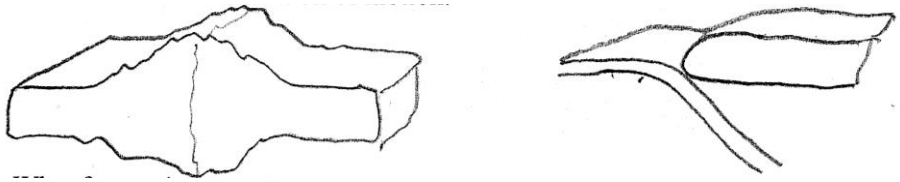
b. Circle the diagram that best describes what has happened. Label the two types of crust and show the direction of motion.



4. Reset the simulation and set it up with two continental crusts.

a. Click the green arrows and play the simulation. What type of boundary is this?

b. Circle the diagram that best describes what happened in the simulation. Label the two types of crust and show the direction of motion.



c. What feature is created at the plate boundary? Why does neither plate subduct? (subduct: one place dives beneath another)

5. Experiment with the crusts and the direction of their movement. Find two additional scenarios not yet described in this activity. Complete the table below.

Types of Crust	Type of Boundary	What Happens/New Features