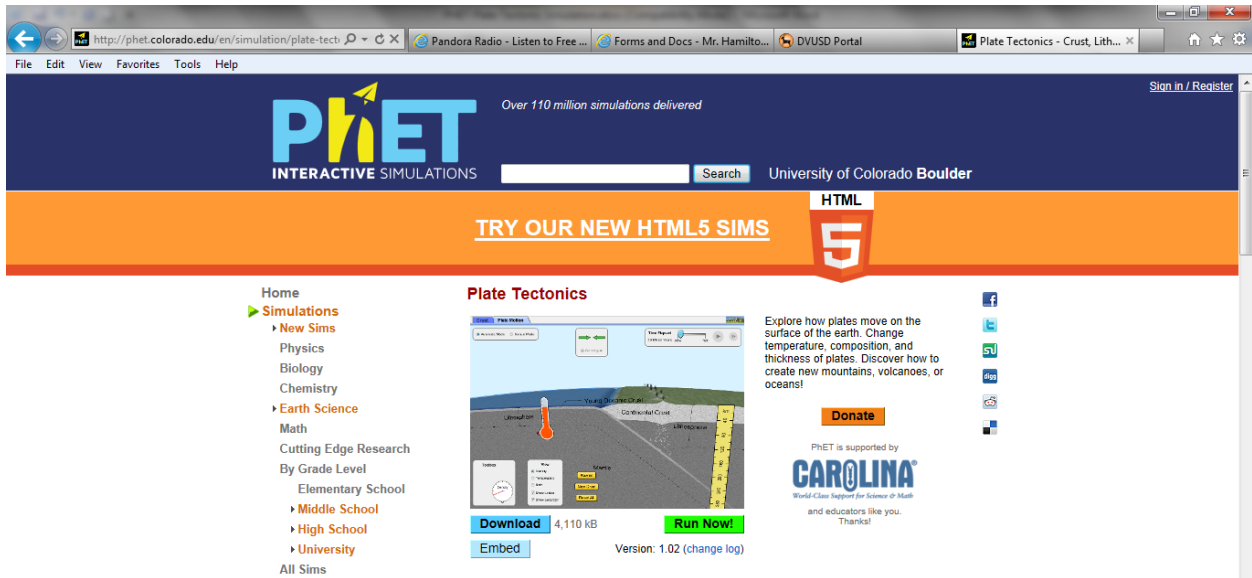


PHET Plate Tectonic Simulation

DON'T WRITE ON THIS COPY

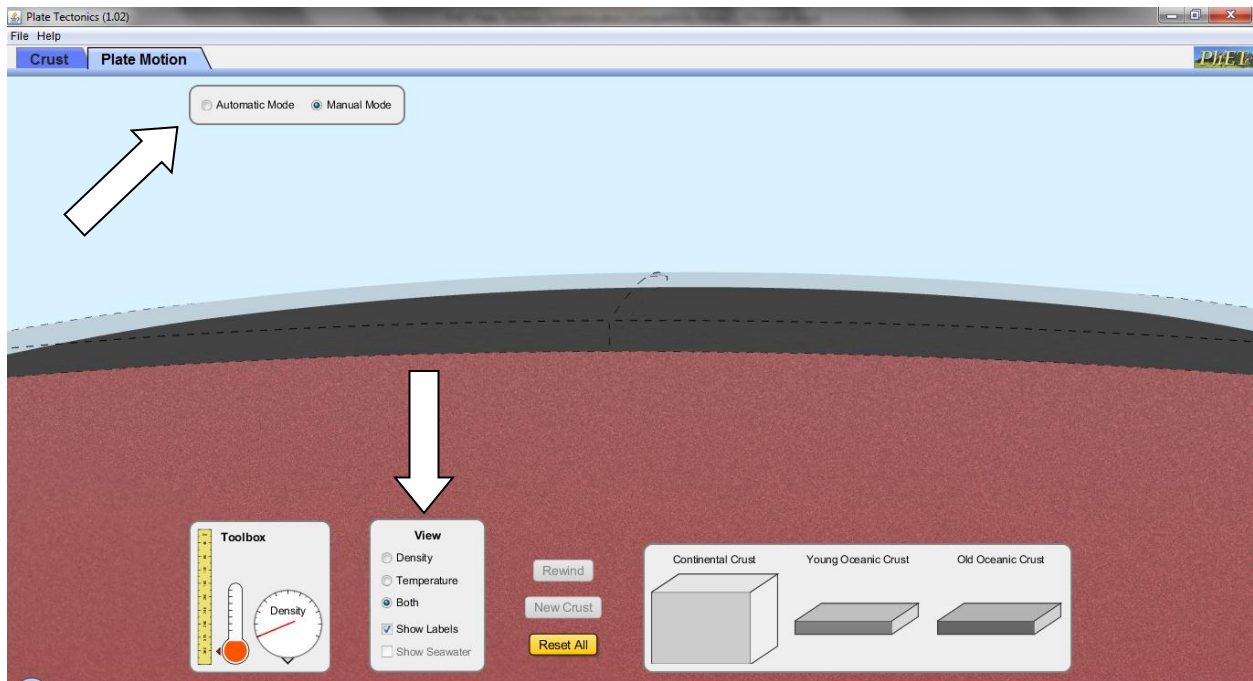
1. Go to the follow website: <http://phet.colorado.edu/en/simulation/plate-tectonics> or type PHET Plate Tectonics into a Google search
2. On this website, click the button that reads, Run Now (it is a lime green color). Let the simulation load. Pop ups for Java Script may pop-up. If they do, just click run.



3. After the simulation had load and is operation, go to the top left hand corner and click the Plate Motion tab

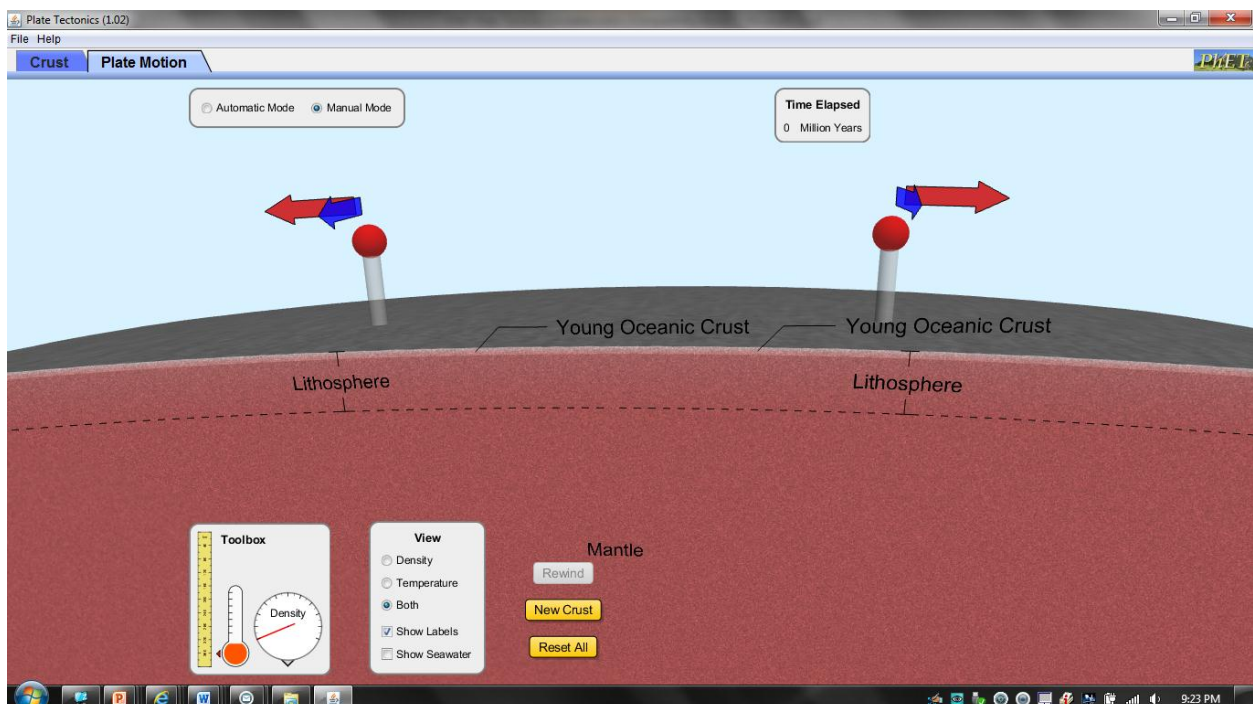


- Under the tabs, there is a gray box with automatic and manual modes. Make sure the black dot is clicked into manual mode
- In the lower left hand corner, there is a gray box that says View. Make sure you click Both and Show Labels. These must be up at all times, even after you hit reset!



New Oceanic vs. New Oceanic Crust Relationships:

- Go to the lower right hand corner. Click new oceanic crust and drag it to the dash lines. Repeat this again for the other half of the dashed lines.
- A red knob will appear. Pull on the red knob.



A. Diagram what happens when the two types of crust are moving.

B. Describe what you are seeing after you pull on the red knob.

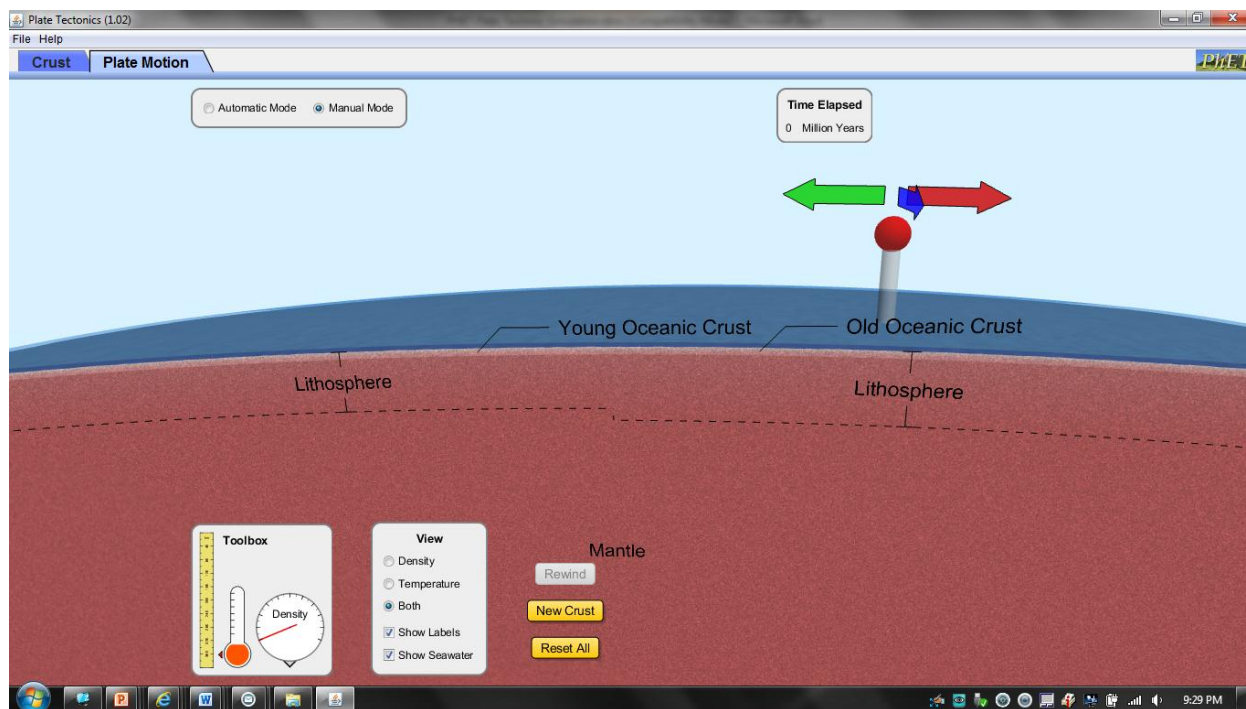
C. What type of plate boundary are you observing?

3. Click the yellow, New Crust, button in the lower part of the simulation. Remember to click both and show labels in the view box if they aren't already.

New Oceanic vs. Old Oceanic Crust Relationships:

1. Go to the lower right hand corner, click new oceanic crust and drag it to the dash lines. Got to the lower right hand corner again, and click old oceanic crust and drag it to the other half of the dash lines.

2. A red knob will appear to a blue, green and red arrow will appear. First pull the green knob.



D. Diagram what happens when the two types of crust are moving.

E. Describe what you are seeing after you pull the green knob.

F. What type of plate boundary are you observing? What is the name for the geographic feature indicated by the volcanoes? Yes, they have a specific name other than volcanoes!

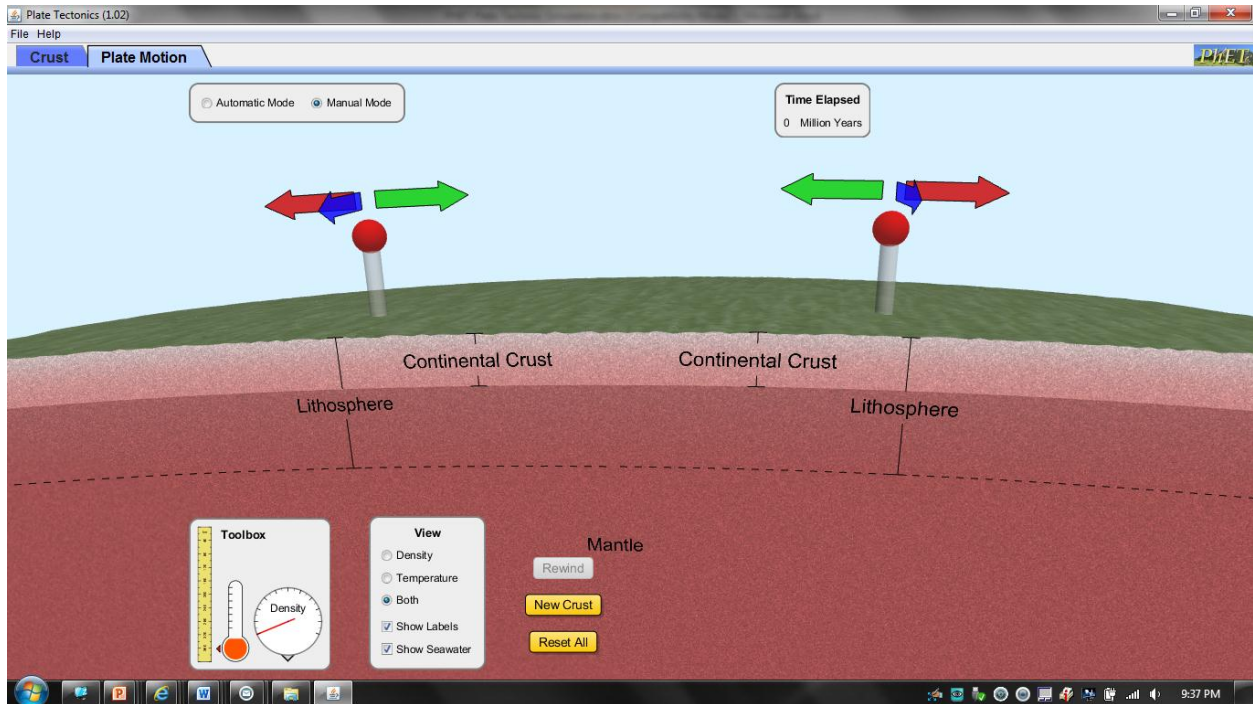
3. Click the yellow, New Crust, button in the lower part of the simulation. Remember to click both and show labels in the view box.

4. Go to the lower right hand corner, click new oceanic crust and drag it to the dash lines. Got to the lower right hand corner again, and click old oceanic crust and drag it to the other half of the dash lines.

5. A red knob will appear to a blue, green and red arrow will appear. Pull the knob towards the direction of the blue arrow.
 6. Stop when you get to the formation of a geographic feature.
- G. Diagram what happens when the two types of crust are moving.**
- H. Describe what you are seeing after you pull the red knob towards the blue arrow.**
- I. Where might you see this structure in the ocean?**

Continental vs. Continental Crust Relationship

1. Go to the lower right hand corner, click continental crust and drag it to the dash lines. Repeat this again for the other half of the dashed lines.
2. A red knob will appear. Pull on the red knob towards the red arrow.

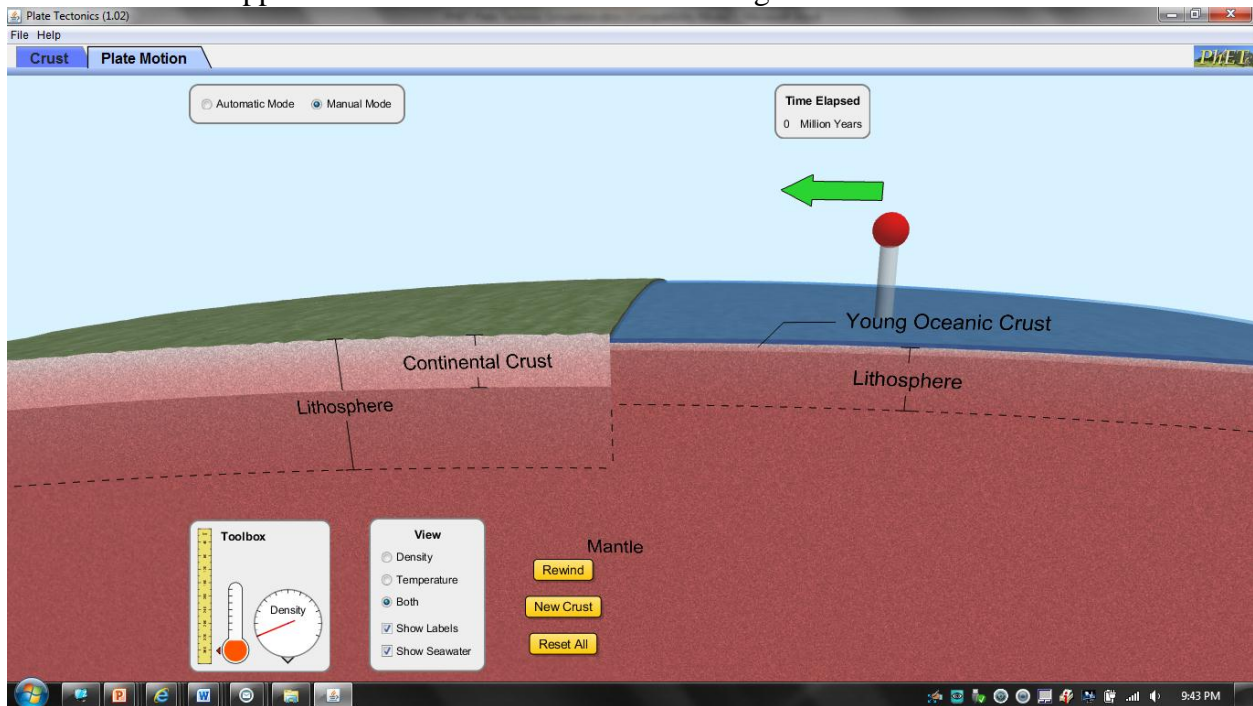


- J. Diagram what happen when the two continental crusts are moving**
- K. Describe what you are seeing after you pull on the red knob.**
- L. What type of plate boundary are you observing?**
- M. What feature is being formed at this plate boundary? Give a real life example of this geographic feature.**
- N. How might this simulation model Wegener's idea that the continents were all together and split apart?**

3. Click the yellow, Rewind, button in the lower part of the simulation. Remember to click both and show labels in the view box.
 4. Pull on the red knob towards the green arrow.
- O. Diagram what happen when the two continental crusts are moving.**
- P. Describe what you are seeing after you pull on the red knob.**
- Q. What type of plate boundary are you observing?**
- R. What feature is being formed at this plate boundary? Give a real life example of this geographic feature.**

Continental vs. Oceanic Crust Relationship:

1. Go to the lower right hand corner, click new oceanic crust and drag it to the dash lines. Repeat this again for the other half of the dashed lines with continental crust.
2. A red knob will appear. Pull on the red knob towards the green arrows.



- S. Diagram what happen when the two continental crusts are moving.**
- T. Describe what you are seeing after you pull on the red knob.**
- U. What type of plate boundary are you observing?**
- V. What feature is being formed at this plate boundary?**
3. In the tool box, click the thermometer and drag it onto the simulation. Move it around to compare the differences between the crusts and the plate motion.
- W. Where is the plate boundary the hottest? On the crust? Along the subduction zone? Why?**