

Cake and Brownie Lab...a model for Plate Tectonics

**Wash your hands before starting this lab! Only handle your own cake and brownie piece!
Do not put the cake or brownie on the table...always place the models on your paper towel.**

1) Calculate the density of your slice of cake and brownie.

Brownie	Cake
Mass	Mass
Volume	Volume
Density	Density

According to the density which one (cake or brownie) will represent oceanic crust?

Which one will represent continental crust? _____

2) Place your cake and brownie on the paper towel and slide them towards each other until they collide. Write down your observations about what happens, and draw a neat sketch. Based on the definitions of the words converge and diverge, have you created a convergent or divergent plate boundary?

Diagram of cake and brownie	Diagram of an actual convergent boundary
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3) You've created a model of a subduction zone. Which crust is being subducted?

What happens to the continental crust in the model? _____
When oceanic crust is subducted under continental crust it is bent at an angle as it goes under the continental crust and goes down into the mantle, where it begins to melt.

4) This model takes two pieces of cake so pair up. Place both slices of cake about 10 cm apart and slowly move them toward each other by using your palm to push the cake from the back. Make sure the cakes collide head on. What happens? _____

Make sure you label your diagrams and use arrows to show direction of movement.
(4 pts per diagram)

<p>Diagram the model of the cake collision</p>	<p>Diagram a continental to continental convergent boundary</p>
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Diagram a model of a transform fault

<p>Diagram the model using two brownies</p>	<p>Diagram an oceanic transform fault</p>
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Diagram a divergent boundary

<p>Diagram the model using two brownies</p>	<p>Diagram an oceanic divergent boundary</p>
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On a separate sheet of paper draw a cross section of the Earth showing divergent and convergent boundaries as well as a transform fault.

Teacher Note: This lab, all though it seems simple, is an excellent hands on activity for students to experience the dynamics of plate tectonics. The lab was developed by Rachel Cowan of Raven Consulting and revised by Rhonda Spidell.