

Modeling Plate Tectonics

Activity from LearnEd Notebooks
www.learnednotebooks.com

In this experiment, you will use a sandwich cookie to represent the layers of the Earth. The upper cookie will represent the crust (lithosphere) and the cookie filling will represent the mantle.

Activity 1:

- Take one cookie and remove the top cookie with a twisting motion
- Break the top cookie layer in half and put it back down on top of the filling
- Take the two cookie pieces and begin moving them toward each other

1. What effect does this motion have on the top cookie pieces? _____

2. What effect does this motion have on the cookie filling? _____

3. Which type of boundary does this represent? _____

Activity 2:

- Take a new cookie and remove the top cookie layer
- Break the top cookie in half and place it back down on top of the filling
- With the cookie pieces touching in the center, begin to slide them horizontally past each other

1. What effect does this motion have on the cookie pieces? _____

2. What effect does this motion have on the filling? _____

3. Which type of boundary does this represent? _____

Activity 3:

- Take a new cookie and remove the top cookie layer
- Break the top cookie in half and place it back down on top of the filling
- With the cookie pieces touching in the center, slowly move them apart

1. What effect does this motion have on the cookie pieces? _____

2. What effect does this have on the filling? _____

3. Since the filling represents the mantle, what effect would a separation of crust have on magma? _____

4. Which type of boundary does this represent? _____

Draw a diagram of what happened to your cookie during each of the three experiments. Include labels and arrows to represent what occurred as a result of the movement.