



Aim

To model the plate tectonic supercycle

Materials

- Two bread slices
- Wrap or flat bread
- Hommus
- Plate
- Spoon

Safety notes

- Check for food allergies before undertaking the experiment.
- Experiment should be carried out in hygienic conditions if planning to eat the materials afterwards.

Method

See the [AusEarthEd video](#) of this experiment on YouTube.

1. Spoon hommus onto the plate and spread a thick layer in the centre (representing the asthenosphere).

Continental rifting

2. Tear the crust off two sides of a slice of bread.
3. Place crustless bread in the centre of the hommus and gently pull it apart to model continental rifting.
4. When finished, place bread on side of plate to use for subduction and convergence.

Oceanic rifting

5. Tear off a portion of your wrap (about the size of a slice of bread) and then tear this in half.
6. Place the pieces of wrap next to each other in the centre of the hommus and slowly pull them apart to model oceanic rifting.

Subduction and convergence

7. Remove one of the pieces of wrap and place your torn bread on either end of the remaining wrap piece.
8. Push the bread together to model subduction of an oceanic plate and subsequent continental convergence.
9. Remove all bread and wraps from the hommus.





Supercontinent formation

10. Tear all of the crust off another piece of bread.
11. Tear the bread into three or four pieces.
12. Place the bread pieces on the hommus, with gaps between them.
13. Slide the bread together until one compact continent model is formed.

Analysis

1. Why is bread used for continental crust and a wrap for oceanic crust? (relate characteristics of the model to real lithosphere)

2. What are the advantages of this model of the plate tectonic supercycle?

3. What aspects of the real plate tectonic supercycle are NOT included in this model?

4. Models are tools to help us understand reality. How has this model helped you to understand the plate tectonic supercycle?

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