



Snack Tectonics

Name _____

Date _____

Hour _____

Background

The main force that helps shape the surface of Earth is plate tectonics. The rigid outer layer of the Earth, called the lithosphere, is made of plates that fit together like a jigsaw puzzle. These plates are made of rock, but the rock is generally lightweight compared to the denser rock beneath it. This allows the plate to “float” on top of the denser material. The fluid dense material is called the asthenosphere and in this activity it is represented by the frosting. However, plates are not all the same. Plates made of continental crust are thicker but less dense than plates made of oceanic crust. In this activity, oceanic plates are represented by fruit roll ups and continental crust is represented by graham crackers. In this activity we will practice what we know about plate tectonics and model several plate boundaries.

Steps

1. Spread your wax paper out. Spread your frosting on the wax paper. You want the frosting to be about half a cm. thick.
2. The frosting represents the asthenosphere the layer on which the Earth's plates ride. The plates in this model are represented by fruit roll up (oceanic crust which is thin and dense) and graham crackers (continental crust which is thick but less dense)

Divergent Plate Boundary

3. Place two squares of fruit roll ups (oceanic plates) onto the frosting right next to each other.
4. Press down slowly on the fruit roll ups as you slowly push them apart about half a cm. (because they are dense and will sink a bit into the asthenosphere)

Checkpoint 1 (Raise your hand for Ms. Murphy to check your progress, do not move on without approval).

Notice how the frosting is exposed and pushed up where the plates are separated. How does this represent what happens during plate tectonic movement? (hint what does the frosting represent when it pushed up between two plates?)

Continental-oceanic collision

5. Remove one fruit roll up (you may eat it)
6. Place one of the graham cracker halves lightly on the frosting (asthenosphere) next to the remaining fruit