

# OREO TECTONICS



Learn about the **three main ways** tectonic plates move by doing this fun experiment.

You'll need four Oreo biscuits. Set each of them up like this to start



### Top tips:

- Use a "twist" motion to separate the top biscuit.
- Use your thumbs to help guide where the top biscuit will break in two.

## A treat of a geology experiment!

The outer layer of our Earth, the crust, is not one solid piece of hard, cool rock. Instead, it is broken into large pieces that fit together – a bit like a puzzle. We call these pieces "tectonic plates".

Tectonic plates ride on top of a layer underneath, which is called the upper mantle. It's made of really thick and flexible molten rock. This allows the plates to move about at the places where they fit together. We call these places "plate boundaries".

The way the tectonic plates have moved in the past has shaped our land and oceans, making them look the way they do now. The way tectonic plates are moving today will shape how these look in the future too.

The top biscuit represents the **crust**. Separate it from the filling and break it in two (down the middle) to make two **tectonic plates**

The break is the **plate boundary**

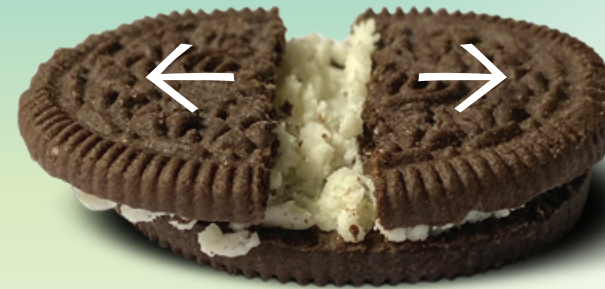
The filling represents the **upper mantle**



The bottom biscuit represents the **lower mantle**

## 1 Divergent plate boundaries

Push down and pull the "plates" apart from each other.

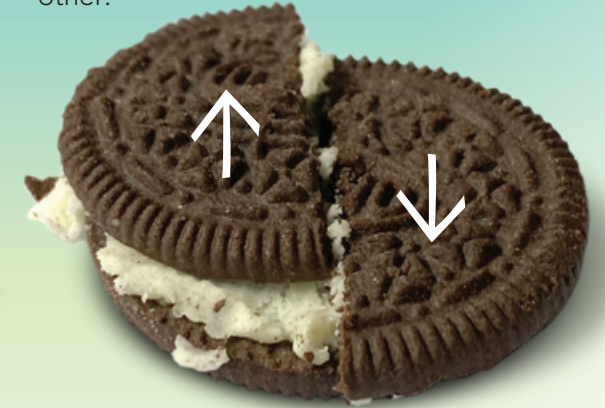


This type of movement allows the crust to spread out.

**HOW?** When tectonic plates move apart it creates space. This space is filled with new crust made from molten rock rising to the surface and cooling.

## 2 Transform plate boundaries

Push down and grind the "plates" past each other.

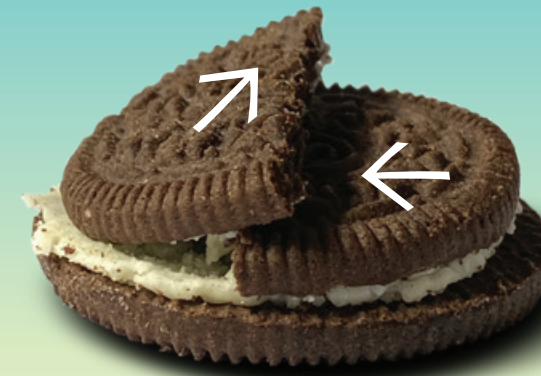


This type of movement changes the way the crust fits together.

**HOW?** You'll feel that the "plates" do not slide smoothly, but rather stick then let go, stick then let go. That's because of friction. As pressure or stress builds up, you will find that your "plates" start to crumble at the edges. You may even find that one of the "plates" cracks!

## 3 Convergent plate boundaries

Push down and push the "plates" towards each other.



This type of movement allows the crust to get more compressed.

**HOW?** The pressure from the plates moving together makes them either fold up against each other or makes one plate subduct (go under the other).

Did you know that the earth's tectonic plates are coming together to make a brand-new supercontinent?

Find out more on our website [kcc.org.nz](http://kcc.org.nz). Search "plate tectonics"

