

You can model many tectonic processes with sandwich cookies! Here is an Example:

COOKIE SUBDUCTION

<http://www.exploratorium.edu/faultline/activezone/cookie.html>

This is a quick demonstration/activity to show how large amounts of rock and sediment are added to the edge of continents.

What do I need?

- Cream centered cookie (e.g. Oreo, Hydrox)

What do I do?

1. Pull apart the cookie.
2. Use the part with the most cream center still attached.
3. With the cream side up, slowly slide the cookie into your mouth. While sliding, the upper front teeth should scrape off the creaming filling. The creamy filling should be plastered onto your front teeth when you're done.

What's going on?

When an oceanic plate dives under continental plates, layers of the sea floor are often scraped off and plastered onto the edge of the continental plate next to it. This process of adding oceanic material to the edge of a continental plate is called accretion. It's an important process in the building of continents. Much of the west coast of the Americas is composed of accreted rocks or terrains. The diagram below shows how the edge of the continental crust bulldozes off the top layers of the subducting oceanic crust. In the cookie analogy, your teeth do the bulldozing, scraping off cream filling rather than sediments.

A diagram of subduction, showing how an oceanic plate dives under a continental plate.

Lithosphere and asthenosphere are layers of the crust.

