

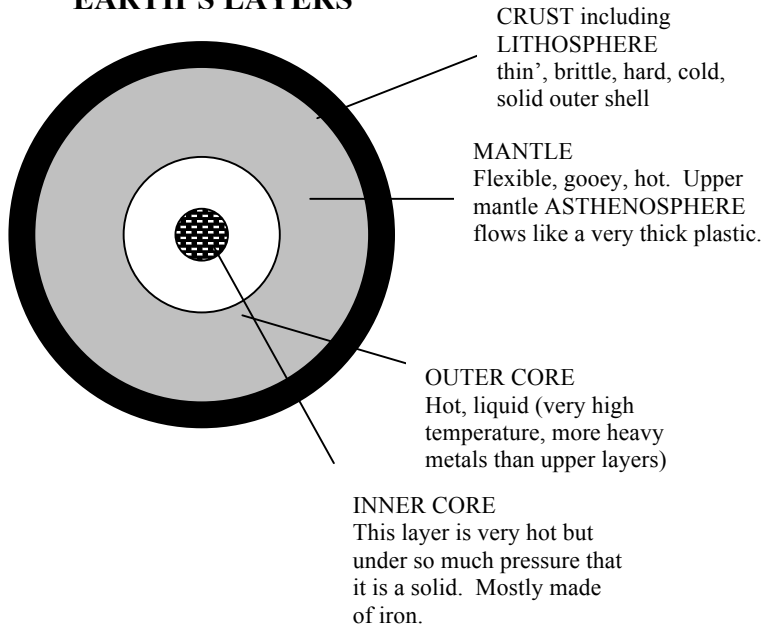
Candy Bar Plate Activity

Safety and precautions:

- CLEAN UP after yourself. All trash needs to go into the trashcan.
- You will only get 1 bar each, so use it wisely.
- Eat your bar only when instructed to do so.

The three layers of the Milky Way bar will serve as a model for plate tectonics today.

EARTH'S LAYERS



LAYERS OF A MILKY WAY If you cut a Milky Way in 1/2...



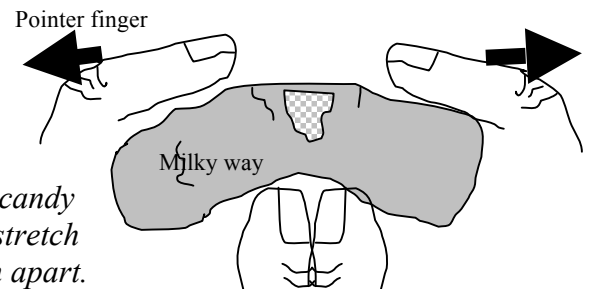
- CHOCOLAT: thin, solid and brittle
- NOUGAT: solid, not very flexible
- CARAMEL: thick sticky, and flexible

- Which layer of Earth is not represented in the Milky Way model?

BOUNDARY TYPE 1:

Unwrap the candy bar.

Use your fingernail to make a few cracks in the middle, top of the candy bar. Hold each end of the candy bar with your thumb and forefinger and SLOWLY stretch the candy bar, pulling it no more than 1/2 to 1 inch apart. The chocolate should separate, exposing the caramel.



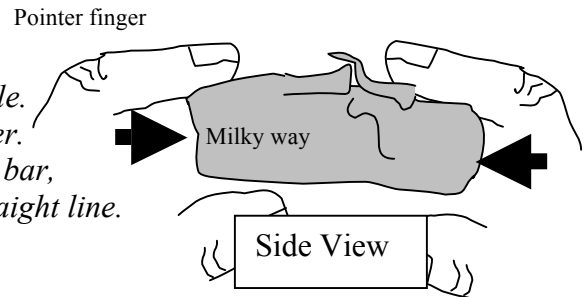
- Sketch your model.
- What type of boundary is represented in Boundary Type 1?
- Which layer 'cracked'? What layer does this represent of the Earth?

When the top layer cracks, this makes a 'hole' to fill in.

- **What layer of the Earth would be most likely to fill this hole?**
- **What type of landform is created with this type of boundary formation?**
- **Why would there be earthquakes at this type of boundary?**
- **In what layer would earthquakes occur?**

BOUNDARY TYPE 2:

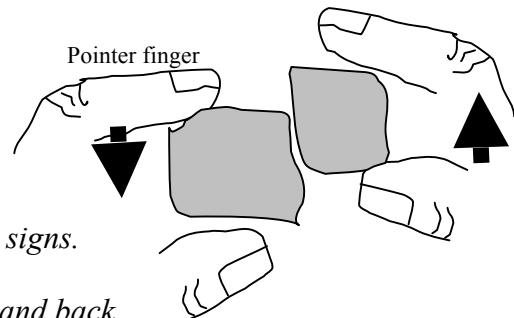
Holding the Milky Way in both hands, return the bar as close to original bar as possible. Push in from the ends of the bar to force together. It might work best to put fingers on edges of the bar, not on the top & bottom. Try to keep bar in a straight line.



- **Sketch your model.**
- **What type of boundary is represented in Boundary Type 2?**
- **Which type(s) of boundaries would form mountains from plates pushing each other up?**
- **Which type(s) of boundaries would force one plate under another plate? Which type(s) of boundary might have deeper earthquakes, divergent or convergent?**

BOUNDARY TYPE 3:

Use the knife to cut the chocolate bar in half. Use your fingernail to make a couple of marks perpendicular to the cut you made with the knife. This should form a couple of + signs. With fingers & thumbs on long edges of bar, slide your right hand forward, pull your left hand back.



- **Sketch your model.**
- **What type of boundary is represented by boundary type 3?**
- **Are earthquakes that occur at this type of boundary shallow or deep? Explain why.**
- **What is the force in the Earth that is moving the crustal plates along the surface?**

