CLASSROOM ACTIVITY

Milky Way Candy Bar Plate Tectonics Demonstration

The following activity can be done after students have been introduced to the different types of plate tectonic boundaries, to help them visualize what can happen at each. The only materials needed are a small Milky Way candy bar for each student. Make sure you are aware of any student allergies before beginning the activity.

Before passing out the candy bars, tell the students that they must follow directions and do what you say when you say to or you will take their candy bar away. This works every time to assure that the students pay attention.

Materials

Small Milky Way Candy Bar for each student
A paper towel for their desk

Massachusetts Science, Technology and Engineering Standards
Earth and Space Science Grades 6-8

Earth History

* Describe how the movement of the earth's crustal Plates causes both slow changes in the earth's surface (e.g., formation of mountains and ocean basins) and rapid ones (e.g., volcanic eruptions and earthquakes)

National Science Education Content Standards
Earth and Space Science Grades 5-8

* Lithospheric plates on the scales of continents and oceans constantly move at rates of centimeters per year in response to movements in the mantle. Earthquakes, volcanic eruptions and mountain building result from these movements.

Procedure:

1. With the wrapper on, tell students to crack the chocolate on the surface of the candy bar. This can be achieved by pressing gently on the surface of the chocolate. You are creating tectonic plates.

2. After plates are created, have students slowly remove the wrapper and visualize what they have done to the "surface of the earth".

3. Then instruct students to hold the two ends of the candy bar by the sides. Have them slowly pull the candy bar apart until the caramel is visible. Ask the students what type of boundary they are creating, and what can occur at that type of boundary. (This illustrates a divergent boundary; you are seeing "magma" (caramel). Earthquakes, volcanic eruptions, ocean ridges, and hydrothermal vents can form at this type of boundary.)

4. Now have students push the candy bar together until "mountains" are formed with the chocolate. Ask the students what type of boundary they are creating, and what can occur at that type of boundary. (This is a convergent boundary that creates mountains). Also inquire whether any students got plates to subduct. Explain that this is how ocean trenches, along with volcanic mountains, or chains of islands are formed. At this point I encourage students to share their earth surface features with students around them- they love showing off their mountains!

5. Next have students gently pull the candy bar apart, but only enough so some mountains subside. Then have them slide the chocolate plates past each other to illustrate a transform plate boundary. Again, ask students what can occur at this type of boundary (earthquakes).

6. Tell the students that we wouldn't want anyone to get hurt during an earthquake, so they'd better eat their candy bars!!

7. A class discussion can be held at this point to help students understand the types of plate boundaries.

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(Adapted from an activity presented at Sea Education Association, Woods Hole, MA)