



OBSERVING THE MOVEMENT OF TECTONIC PLATES WITH CLAY LAYERS

Tectonic plates are giant pieces of Earth's crust that move, bump, and slide past each other. In this experiment, you will model how plate movement can cause mountains, valleys, and faults using layers of clay.

Name: _____ Date: _____ Grade: _____



QUESTION

How does the movement of tectonic plates change the Earth's surface?



MATERIALS

- Modeling clay or Play-Doh (3–4 colors)
- Shallow tray or plastic container
- Ruler
- Index card or thin, flat tool
- Paper and pencil
- (Optional) Toothpick or skewer (to make marks)



PROCEDURE

- 1. Build the Layers**
Make 4–6 different colored clay layers. Press them flat in the tray to form a stack.
- 2. Mark the Layers**
Use a ruler or toothpick to make small marks across the top layer. These will help you see movement.
- 3. Simulate Plate Movement**
Place the index card vertically in the middle of the clay layers.
 - To model plates moving toward each other, push from both sides toward the center.
 - To model plates moving apart, pull the sides away from the center.
 - To model plates sliding past each other, push one side forward while pulling the other side back.
- 4. Observe and Record**
Look at how the layers change. Measure any changes if you like. Draw what you see.
- 5. Reset and Try Again**
Smooth the clay and try a different type of movement.

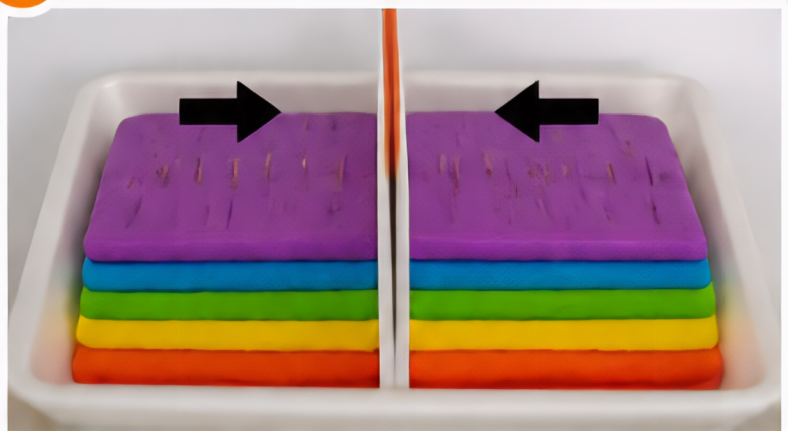


THINK FURTHER!

In real life, these movements can cause earthquakes, volcanoes, mountains, and deep ocean trenches. Can you think of examples on Earth?



EXAMPLE SETUP



Pushing from both sides (plates moving toward each other).



OBSERVATIONS

Fill in the table below for each type of plate movement.

Type of Movement	What Happened to the Layers?	Landform(s) Formed	Sketch
Plates Moving Toward Each Other			
Plates Moving Apart			
Plates Sliding Past Each Other			



CONCLUSION

What did you learn about tectonic plate movement?
