Modeling Plate Movements

Investigate how rock is pushing against rock creating landforms and changing the Earth’s surface along plate boundaries.

- Position your pages like the diagram below.
- Place blue tape as shown.
- Spread the sand evenly into a flat layer that covers the whole potato-shaped area.

- Slowly use a pushing force to move Plate #2 further under Plate #1 along the dotted line for movement A. **STOP** when you reach the line marked **STOP**.
- Record your observations using drawings and words. Describe what happened. Use arrows to show which directions the force caused the plate to move.
- Describe how the surface of Earth can be changed when forces push two plates together. Describe what kind of landform might result.
- Now slowly use a pushing force to slide Plate #2 until the dotted lines marked for movement B are lined up on both pages.
- Record your observations again using drawings, words and arrows.
- Describe how the surface of Earth can be changed when forces cause plates of Earth to rub along side of each other going in opposite directions. Describe what kind of landform might result.
- Carefully remove the tape along Plate #1 and pour the sand back into its container.
- Discuss the limitations or weaknesses of this model.
Teacher instructions:

- Copy and trim Plate #1 and Plate #2 for each group.
- Copy the instruction page for each group and provide them with painters tape strips.
- Monitor groups as they correctly tape Plate #1.
- Provide about 4-6 tablespoons of clean sand in a container to each group.

Sample layout before moving Plate #1

Original source for this activity was:
PASS Bridging to TAKS in Elementary Science
Science Center for Professional Development in Curriculum & Assessment - 2001
Sample layout after (horizontal) movement A

Sample layout after (vertical) movement B
Plate #1

- movement A
- movement B

Crack or Fault Line

tape this edge of plate model to table top
Tuck this plate under plate #1 until you reach this line.