

## Three Fault Model

The purpose of this activity is to investigate what happens to the earth's surface when earthquakes occur at each of the three different types of faults: strike-slip, normal and thrust faults.

### Constructing the Model:

1. Color the model using the key provided.
2. Glue the model onto a piece of construction paper.
3. Cut out the fault model and fold each side down to form a box with the drawn features on top.
4. Tape or glue the corners together. This box is a 3-D model of the top layers of the Earth's crust.
5. The dashed lines on your model represent a fault. Carefully cut along the dashed lines. You will end up with two pieces.

### Part I:

Locate points A and B on your model. Move point B so that it is next to point A. Observe your model from the side (its cross-section). Make a sketch of your model in the space below.

Are the rock layers still continuous?

What likely happened to the river?

The road?

What type of fault is this?

The railroad tracks?

Which way did point B move relative to point A?

What happened to rock layers X, Y and Z?

Is this type of fault caused by tension, compression or shearing?

**Part II:**

Locate points C and D on your model. Move point C so that it is next to point D. Observe your model from the side (its cross-section). Make a sketch of your model in the space below.

Are the rock layers still continuous?

What likely happened to the river and the road?

What type of fault is this?

What about the railroad tracks?

Which way did point B move relative to point A?

What happened to rock layers X, Y and Z?

Is this type of fault caused by tension, compression or shearing?

**Part III:**

Locate points F and G on your model. Move point F so that it is next to point G. Observe your model from the overhead. Make a sketch of your model in the space below.

Are the rock layers still continuous?

What likely happened to the river? The road? The railroad tracks?

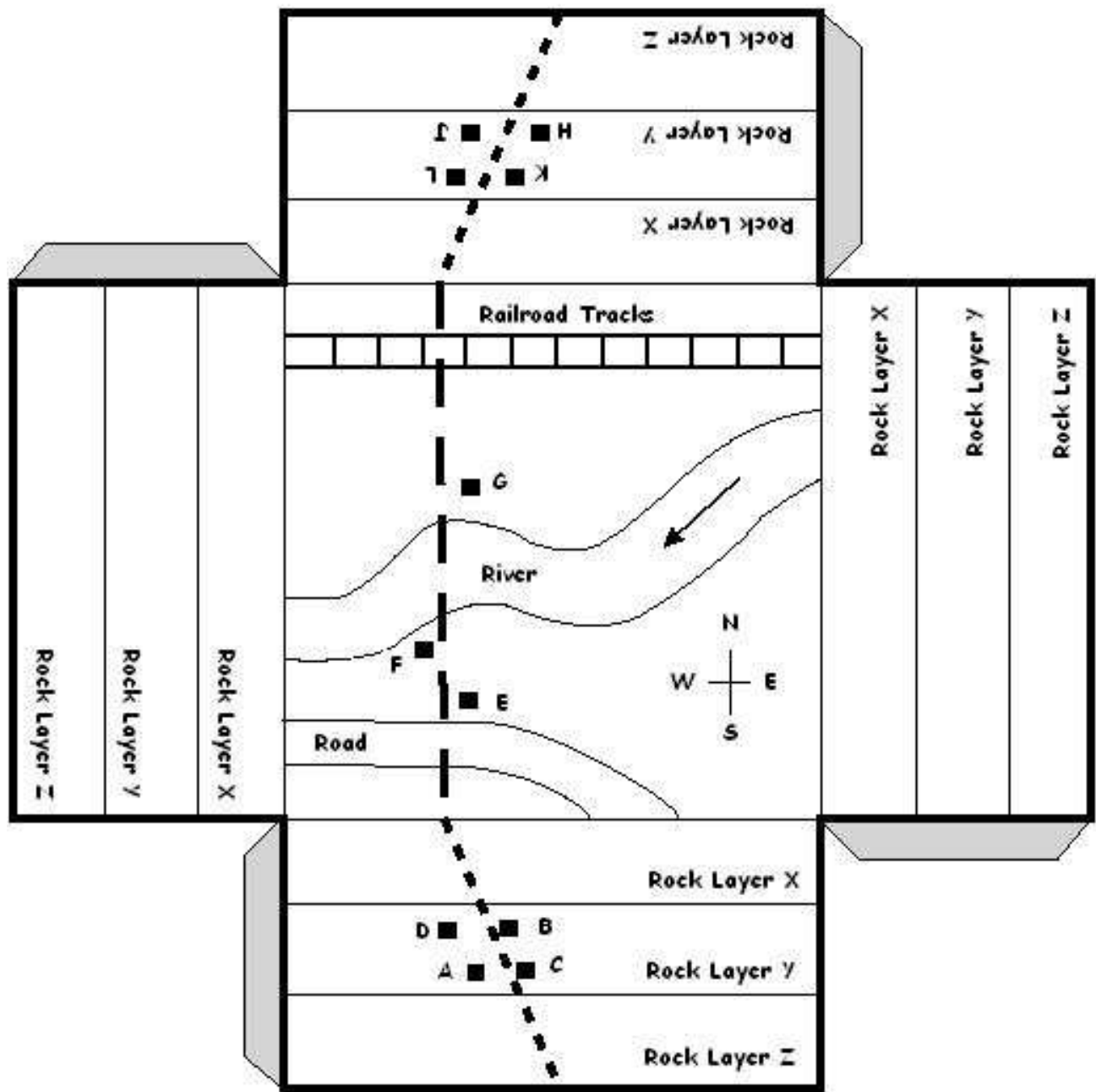
What type of fault is this?

If the scale used in this model is 1 mm = 2 m, how many meters did the earth move when the strike-slip fault caused point F to move alongside point G? (If there were a sudden horizontal shift of this magnitude it would be about five times the shift that occurred in the 1906 San Andreas fault as a result of the San Francisco earthquake.)

If you were standing at point F and looking across the fault, which way did the block on the opposite side move??

Is this type of fault caused by tension, compression or shearing?

What happened to rock layers X, Y and Z?



**Coloring Key:**

- ρ Rock Layer X - Red
- ρ Rock Layer Y - Orange
- ρ Rock Layer Z - Yellow
- ρ River - Blue
- ρ Road - Black
- ρ Railroad Tracks - Brown
- ρ Grass - Green