| **It's Not My Fault!** | |
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| Earth Science | Mr. Traeger |

Name: _____      Period: ____      Date: _____

## Purpose
The purpose of this activity is to become familiar with the different types of earthquake-producing faults, folds, and the structures responsible for the formation of fault block mountains.

## Materials
- Fault block cutout sheet
- Tape/Glue Stick
- Textbook section 11.1
- Scissors
- Colored Pencils

## Procedure/Questions
### Part 1: Basic Fault Types
1. Color the fault model on the activity sheet using the color key printed on the sheet. Use a different color for each rock layer. ie) rock layer X = green, rock layer Y = yellow, rock layer Z = red.
2. Cut out the fault model. Fold the rock layer extensions down to form a box with the features (trees, train track, river) on the top. Tape touching corners together. The box you make is a three dimensional model of the top layers of the Earth's crust.
3. The dotted lines on your model represent a fault. Carefully cut along the dotted lines. You should end up with two pieces.
4. Label one of the sides "hanging wall" and label the other side "foot wall." Make sure that you label them correctly.
5. Locate points A and B on your model. Move the two pieces so that point A is next to point B. a) In the space below, draw how the rock layers X, Y, and Z now appear from the side. Label the hanging wall and foot wall. Show which way each side of the fault moved using arrows. b) Use your book, section 11.1, to determine and label what type of fault this is. c) What type of stress caused this fault? Tension, compression, or shear stress?

| • Draw side view of structures below with A next to B. <br> • Label Hanging Wall and Foot Wall <br> • Show which way each side of the fault moved using arrows. | Type of Fault? | Type of stress that caused this fault? |
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6. Locate points C and D on your model. Move the two pieces so that point C is next to point D. a) In the space below, draw how the rock layers X, Y, and Z now appear from the side. Label the hanging wall and foot wall. Show which way each side of the fault moved using arrows. b) Use your book, section 11.1, to determine and label what type of fault this is. c) What type of stress caused this fault? Tension, compression, or shear stress?

| • Draw side view of structures below with C next to D. <br> • Label Hanging Wall and Foot Wall <br> • Show which way each side of the fault moved using arrows. | Type of Fault? | Type of stress that caused this fault? |
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7.  Locate points E and F on your model. Move the two pieces so that point E is next to point F. a) In the space below, draw how the surface of the ground looks from up above. Draw the road, river, railroad tracks, and trees. Show which way each side of the fault moved using arrows. b) Use your book, section 11.1, to determine and label what type of fault this is. c) What type of stress caused this fault? Tension, compression, or shear stress?

| • Draw top down view of structures below with E next to F.<br>• Draw the road, river, railroad tracks, and trees<br>• Show which way each side of the fault moved using arrows. | Type of Fault? | Type of stress that caused this fault? |
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8.  Locate points G and F on your model. Move the two pieces so that point G is next to point F. a) In the space below, draw how the surface of the ground looks from up above. Draw the road, river, railroad tracks, and trees. Show which way each side of the fault moved using arrows. b) Use your book, section 11.1, to determine and label what type of fault this is. c) What type of stress caused this fault? Tension, compression, or shear stress?

| • Draw top down view of structures below with G next to F.<br>• Draw the road, river, railroad tracks, and trees<br>• Show which way each side of the fault moved using arrows. | Type of Fault? | Type of stress that caused this fault? |
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**Part 2: Additional Questions**

1.  Draw and label a side view of anticlines and synclines. Also tell me how they are formed.

2.  Imagine you were just hired by Chevron as a high-paid petroleum geologist. Would you want to drill for oil on anticlines or synclines? Why?

3.  Why do some rock types fold and other rock types fault (break)?

4.  What is the difference between a thrust fault and a reverse fault?