

Google Drawing: Faults (35 points)

1. Create a Google Drawing.
2. Call it "Faults" and include your name(s) into the drawing name and share the drawing with your teacher.
3. Find 2 real pictures of each type of fault. (Transverse (Strike-Slip), Normal, Reverse (Thrust))
4. Find one diagram of each type of fault.
5. Label the footwalls and hanging walls on your reverse and normal faults. Transverse/strike-slip faults don't have footwalls or hanging walls.
- a. Make sure the text and images are easily visible, aligned, centered, in logical positions and orders and fonts are of similar styles.
6. Use the Arrow Tool to diagram the direction of the forces. (Shear, Compression, Tension). NOT the direction of movement of fault movement.
7. Follow the rubric below to maximize your score.

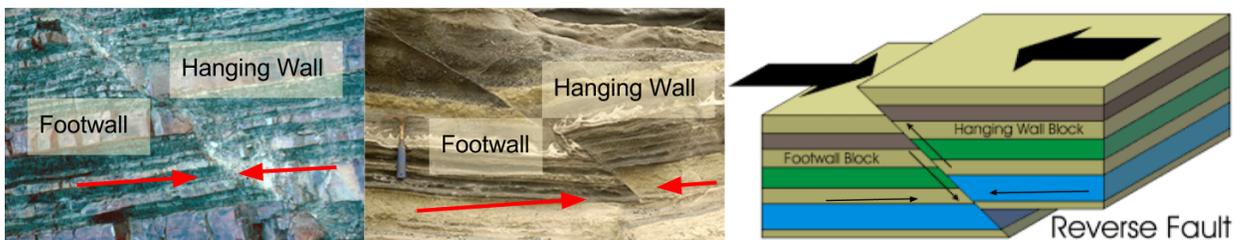
Rubric Categories	Magnitude 10.0	Magnitude 6.0 m	Magnitude 4.0	Magnitude 2.0	Magnitude 1.0
Real Pictures (5 points)	I have 6 real pictures. Two pictures for each type of Fault.	I have 5 real pictures. Two pictures for each type of fault minus 1.	I have 4 real pictures. Two pictures of each type of fault minus 2.	I have 3 real pictures. Two pictures of each type of fault minus 3.	I have less than 3 real pictures.
Completion (5 points)	More than 90% is completed and drawing is shared with teacher.	More than 80% is completed and drawing is shared with teacher.	More than 70% is completed and drawing is shared with teacher.	More than 60% is completed and drawing is shared with teacher.	Less than 60% is completed and drawing is shared with teacher.
Diagrams (5 points)	I have three diagrams showing each type of fault	I have 2 diagrams showing each type of fault	I have one diagram showing each type of fault.	I didn't complete this.	I didn't complete this.
Time and Effort (3 points)	I used my time wisely during the class time give.				I didn't use my class time wisely.
Labels (5 points)	Each real picture except the pictures of the transverse fault are labeled footwall and hanging wall and are labeled correctly.	Each real picture except the pictures of the transverse fault are labeled with the footwall and hanging walls, but I might have made a mistake labeling them.	I am missing some hanging and footwall labels, but do have some labeled.	I have less than half of the diagrams labeled.	I didn't label any of the diagrams.
Neatness and legibility (5 points)	My text is very visible and does not clash. Pics are aligned in logical order. Similar fonts and sizes for all text. Text centered in boxes.	Text color clashed a bit, pics not well aligned, fonts and sizes were not similar and not centered in boxes.	My text is difficult to read. Pics not aligned at all, fonts didn't make sense	I did not put time into designing my picture neatly.	
Title (2 points)	I called my document Faults and included my name in the title		I either forgot to title the image Faults or forgot to put my name in the title		I didn't title the document Faults or put my name in the title.
Arrows (5 points)	I used arrows pointing in the direction of the forces. Don't overlap text.	I used arrows pointing in the direction of the forces, but I got some forces wrong. Sometimes text overlapped other parts of pic.	I placed at least half of the arrows on the images. Many arrows are not pointing correctly. Arrows overlap text a few times.	I placed less than half of the arrows on the images or they were placed incorrectly most of the time.	I did not place any arrows onto the images.

Teacher Reflection and Procedure

- I let my students work on this individually, with a partner or a group of three. For this assignment I usually let students pick who they work with.
- Even though I am assessing student comprehension of faults, I am also teaching students how to use Google drawing. They have already used it once in my class so I expect better on this assignment.
 - They will learn how to add object boxes, center text in boxes, add images to pictures, add and move arrows, make some objects transparent.
- The instructions seem to be well understood so I feel that this is a pretty self explanatory assignment. I do however have the sample shown below visible on the projector so that they can see what I am looking for. I tell them that they cannot use the images that I have already used in the sample.



Normal Faults



Reverse Faults



Transverse Faults

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- I give this assignment to my students before really discussing with them what hanging and footwalls are and what forces are acting upon them. They inherently come up with these questions during the assignment and get a chance to do some research to solve these questions or I discuss it with each group as they ask questions. I also send them to <http://EarthScience.xyz/Faults> where many of these questions and the example can be found.
- I show the example to them all before they begin and let them know that they have to find different images and diagrams from the ones in my example.
- This assignment can be done in about 55 minutes with the discussion. It can and does sometimes spill over into the next day.
- I have added some examples of student work at this link.

<http://earthscience.xyz/content/teaching-about-faults-using-google-drawings>