GPS Station Movement and Land Deformation 20-minute activity

Name		Period/Class		Date	

Use this handout to summarize the kinesthetic activity using current GPS data to show how the land beneath our feet is moving, crumpling, sliding, and stretching.

Procedure and Questions

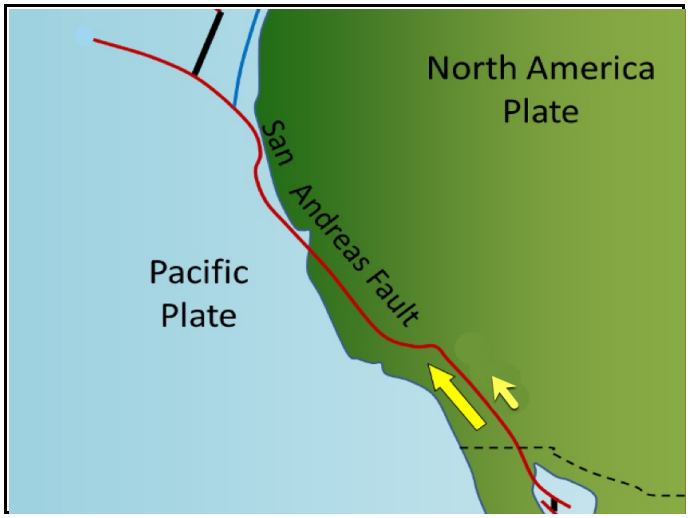
1. In the space to the right, sketch a **vector**. Label the head, tail, and where a GPS station would be located.

Complete the following sentence about vector length:
The longer the vector, the _____ the GPS station is moving.

2. The map to the right shows the motions of the major tectonic plates on the west coast.

   a. Locate the vectors on either side of the San Andreas Fault.

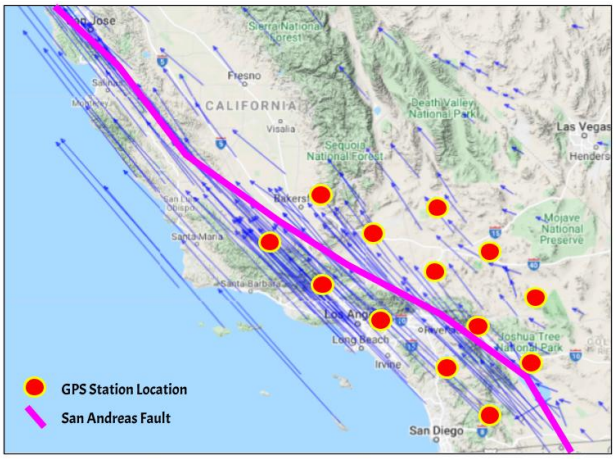
   b. In your own words, explain what the vectors indicate.

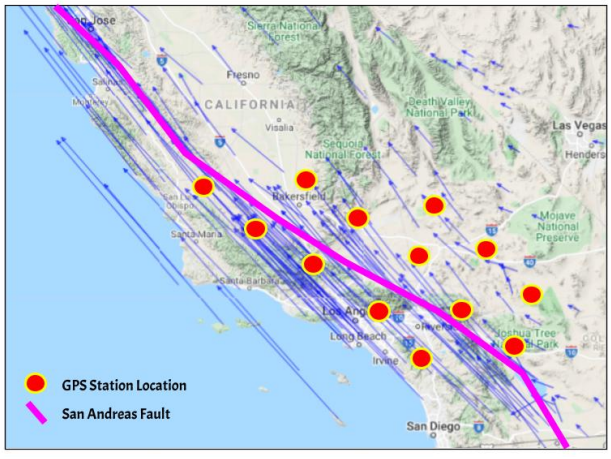


Where two tectonic plates slide past one another is known as a **transform boundary**. The San Andreas Fault is the best-known transform boundary in the United States.

3. In the activity, elastic bands were used to connect different people standing on different GPS station locations. What does the elastic material represent?

4. On the diagrams below, each dot represents one of the GPS stations that you just modeled. The image on the left is 'before' the movement, and the image on the right is where the GPS stations have moved over a period of time.





5. In your own words, explain what is happening to the land along the San Andreas Fault. Feel free to draw on the image to help explain your thinking.