**Movin’ at the Speed of Dirt**

Begin with the End in Mind: Many engineers and scientists, including geologists, use physics in their daily work. In this activity, we’ll use our knowledge of linear motion graphs to interpret tectonic plate movement.

1. Visit UNAVCO’s website at <http://facility.unavco.org/data/dai2/app/dai2.html>.
2. If you get a welcome screen, click “Take Me to the DAI.”
3. Run a search of your choice.
4. Click on a GPS station of your choice. When the graph appears on the right, click on the graph.
5. Displayed on your screen is a displacement versus time graph for motion in three directions (N-S, E-W, and up-down).
6. Paste either the N-S or E-W plot on the back of this page.
7. Complete the items below.

Questions Station Code:\_\_\_\_\_\_\_\_\_\_\_

1. Is the station moving? Provide your evidence and reasoning.
2. Pick two dates, write down the dates, and find the average velocity of the GPS station over those dates.
3. Did the GPS station accelerate at any time? Provide your evidence and reasoning. Annotate your plot to show points of acceleration.
4. Access the E-W plot for AC03, Anchor Point, Alaska. Compare/contrast the velocity of your station to that of AC03.
5. Does AC03 have more or less evidence of acceleration than your station? Provide your evidence and reasoning.