

Appendix 1: Implementing Teaching Standards

7P1.1: Explain how the motion of an object can be explained by its position, direction of motion, and speed with respect to some other object.

Students need to demonstrate that they can describe the location and motion of an object not only in words, but in numbers as well. Students learn that when describing the motion and direction of an object with words a reference point is needed. Students also learn that to calculate the speed of an object you need to know the distance in which it traveled, and how long it took to get there.

7P1.3: Illustrate the motion of an object using a graph to show a change in position over a period of time.

Students need to be able to place distance on the y axis of a graph and time on the x axis of a graph. This can be from numbers they collect, as in this unit, or numbers given by the teacher.

7P1.4: Interpret distance vs time graphs for constant speed and variable motion.

Students build on standard 7P1.3 while mastering this standard. When distance and time are plotted on a graph, students will use those values to calculate speed. Students at a higher math level can make the connection that the speed is actually the slope of the line on the graph.