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| **Subunit Topic** | **Instructional Time** |
| Describing Motion | 2-3  weeks |
| **State Objective(s)** | |
| 7.P.1.1  Explain how the motion of an object can be described by its position, direction of motion, and speed with regard to some other object.  7.P.1.3:  Illustrate the motion of an object using a graph to show a change in position over a period of time.  7.P.1.4  Interpret distance versus time graphs for constant speed and variable motion. | |
| **Vertical Alignment** | |
| 3.P.1 Understand motion and factors that affect motion. | |
| **Essential Understanding(s)** | **Essential Question(s)** |
| Students will understand that:   * the motion of an object can be described based on three factors:  the position of the object, the direction of the motion, and its speed as it relates to another object. * the motion of an object depends on the observer’s frame of reference. * a graph can be used to describe and interpret the motion of an object in terms of its position, direction, and speed, velocity, and acceleration. | How can the position of an  object, the direction of the motion  and the speed be used to  describe the motion of an object?  How can the frame of reference  change how motion is  perceived?  How can we interpret  distance-time graphs and  speed-time graphs to describe  how objects move? |
| **Essential Subunit Vocabulary** | |
| position                      speed-time graph       direction                     vector       frame of reference     distance-time graph | |