8th Grade Unit 3 Force and Motion Basics

Teacher Instructions

TEKS

Ⓡ SCI.8.6A Demonstrate and calculate how unbalanced forces change the speed or direction of an object’s motion.

Ⓢ SCI.8.6B Differentiate between speed, velocity and acceleration.

**Activity 1 Introduction to Graphing**

**Materials:**

* ruler with centimeters, timer or watch with second hand

Focus: I can make an excellent graph.

*Language Objective:* I can follow directions and use a ruler.

**Activity 2 Unbalanced Forces**

**Materials:**

* Balance Board, 2 kg masses, 1-1kg mass, student volunteer
* Net Forces Cards

Focus: I can calculate balanced and unbalanced forces

*Language Objective:* I can work with my partners to read and sort forces cards.

**Activity 3 Measuring and Calculating Speed**

Materials:

* masking tape, marker, motorized car, meter stick, timer, calculator

Focus: I can measure and calculate speed.

*Language Objective:* I can work with my partner to conduct a lab.

**Activity 4 Learning About Velocity**

Materials:

* map of USA with cities indicated, calculator, ruler
* computer or phone with Google maps
* Speed and Velocity video downloaded from website

Focus: I can determine the speed and velocity of travel.

*Language Objective*: I can work with my partners to read a map.

**Activity 5 Acceleration**

Materials:

* balloon, student volunteer, green, yellow, orange and blue colored pencils
* 2 books, ramp, toy car, sheet of paper
* scissors, glue

Focus: I can differentiate between speed, velocity and acceleration.

*Language Objective*: I can read descriptions and sort them into categories.