**Distance, Displacement, Speed and Velocity** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the difference between distance and displacement? (page 20)
2. What is the difference between average speed and average velocity? (page 21)
3. What is elapsed time? (page 22)

**Regular Walk – 1 direction, 50 feet**

distance

displacement

direction

speed

velocity

**Fast Walk – 1 direction, 50 feet, round trip**

distance

displacement

direction

speed

velocity

**Skip – 1 direction 50 feet, go back 25 feet**

distance

displacement

direction

speed

velocity

**Jog – 3 laps around a circle**

distance

displacement

direction

speed

velocity

**Run – 1 direction 50 feet, 2 round trips**

distance

displacement

direction

speed

velocity

**Physics Honors Lesson Plan for Monday, September 12, 2018**

Objectives: Students will experimentally determine distance, displacement, speed and velocity.

Warm-Up (engage):

What exactly does a speedometer measure?

Explore: What is the difference between distance and displacement? (page 20)

What is the difference between average speed and average velocity? (page 21)

What is elapsed time? (page 22)

Distance, Displacement, Speed and Velocity Activity:

Take 4 balls outside along with a stopwatch.

Take students outside to demonstrate distance, displacement, speed and velocity.

Students mark off distances, take time data and calculate speed and velocity from distance and displacement.

North – walk – one direction 100 feet

East – fast walk – one direction 100 feet, there and back

South – skip – one direction 100 ft, there and 50 ft back

West – run – one direction 100 ft, there and back twice

Circle – jog – three times around a big circle

Explain:

When all data is taken, students will come back in and perform calculations.

Extend:

How is distance different than displacement?

How is speed different than velocity?

Closure: How could a car’s speedometer be adjusted to measure velocity.