**Physical Science - Chapter 2 and 3 Study Guide**

1. Explain the difference between distance and displacement.
2. A sprinter runs 300 m west and then turns around and goes 100 m east. Her displacement is:
3. The speed of a motorcycle at a particular moment is its \_\_\_\_\_\_\_\_\_\_\_\_\_\_ speed.
4. In 15 minutes, a bicyclist traveled 10 kilometers. What was the bicyclist's average speed?
5. A fly is sitting still on the counter top. It takes off and accelerates at a rate of 4 m/s2 for 3 seconds. How fast was the fly going after the three seconds?
6. A car is stopped at a red light. When the light turns green it accelerates to 35 mph in 0.02 hours. What is it’s acceleration?
7. **Explain what is happening at points A, B and C on the
speed vs time graph**
8. Explain how something can have a negative acceleration.
9. Explain how something can be moving and have zero acceleration. Provide an example.

1. **Explain Newton’s 3 Laws of Motion:**

**1st:**

**2nd:**

**3rd:**



1. The resultant force on the above box is:

1. Define:

 Air Resistance:

 Friction:

 Centripetal force:

1. What is the force being applied to an object that has a mass of 20 kg and is accelerating at 3 m/s2

1. What is the mass of an object that is accelerating at 15 m/s2 when a force of 3000 N is exerted?