Unit 1 Study Guide

chapters 1-3

Answer each of the following thoroughly on a separate piece of paper.

1. What is the basic metric unit for mass? For length? For weight?
2. A place or object used for comparison to determine if something is in motion is called a?
3. What is friction?
4. Name the 4 types of friction (according to Ms. Skaggs) and describe each type.
5. The rate at which velocity changes is called?
6. Give several examples of acceleration.
7. Name 2 ways to increase acceleration.
8. What is speed?
9. How do you calculate the average speed of an object?
10. What is the difference between instantaneous speed and average speed?
11. If you know the speed of an object and the direction it is moving in, then you know its?
12. What is weight?

14. What do we call the amount of matter in an object?

1. How can you tell if an object is in motion?
2. Give the abbreviations for the following:

Kilometer: Hour: Meter: Minute:

1. What do unbalanced forces produce?
2. Explain inertia.
3. What is air resistance?
4. List each of Newton’s Laws, define them, and give a real world example.
5. Explain what happens when 2 forces moving in the same direction act on an object?

Use the diagram above for questions 22 & 23.

1. What do you learn by looking at the head and length of each arrow?
2. What direction would this object move?
3. Your Ipod is sitting on the dashboard of your car at a stop sign. As the car begins to move forward, the Ipod moves backward and falls off the dashboard. Using Newton’s first law, explain what has happened.
4. Define each of the following parts of the scientific method
   1. control
   2. independent variable
   3. dependent variable
5. Review how to do metric conversions
6. When constructing a graph, which axis contains the independent variable? The dependent variable?
7. Know how to read distance vs. time graphs, speed vs time graphs and position vs time graphs.
8. What is the slope of a graph? What does it represent in each of the above types of graphs?
9. Define
   1. equilibrium
   2. momentum