U2C1 Test Study Guide

1. What would you look for to identify each of the following types of interactions? Give an example of each. Be sure to include evidence.
   - Magnetic:
   - Electric Charge:
   - Electric Circuit:
   - Mechanical:
   - Light:
2. Draw an energy diagram for the following situation: Mrs. Chiu turns a hand held generator which causes a light bulb to glow. In your diagram remember to include: all sources and receivers (chain interaction), and identify each interaction type.
3. Create an example of an energy transfer and identify the source and receiver.
4. What type of wave is a P wave (earthquake)?
5. What type of wave is an S wave?
6. What is transferred by a wave?
7. How are sound waves generated?
8. Does the medium a wave is moving through move with the wave?

9. What is the relationship between amplitude in a wave and the energy the wave is carrying?

10. What is the relationship between wavelength and wave frequency?

11. What is the unit for frequency?

12. What determines the speed of a wave? (Include both things).

13. Rank the speed of waves from highest to lowest speed based on mediums: solid, liquid, gas.

14. How would you use a distance/time or position/time graph to determine:
    - the speed of an object?

    - the distance an object has traveled during a given time period?

15. Draw the speed triangle below.

16. Use the speed triangle you drew to solve the following problems for speed, distance or time as indicated in the questions. **SHOW YOUR WORK (including units)!!**
    - If Steve throws the football 50 meters in 3 seconds, what is the average speed (velocity) of the football?

    - If it takes Ashley 3 seconds to run from the batters box to first base at an average speed (velocity) of 6.5 meters per second, what is the distance she covers in that time?

    - Bart ran 5000 meters from the cops and an average speed (velocity) of 6 meters/second before he got caught. How long did he run?