Unit 5 Motion Study Guide

1. Be able to identify trends on graphs. (Flat lines, positive linear, No speed, constant acceleration etc.)

2. Discuss speed, constant speed and constant velocity.

3. If Joe and bob are in the line pull during Field day and joe is pulling to the right with 25N of force and Bob is pulling to the left with 18N of force. Who will win the line pull and by how much force?

4. What are the forces an object has to overcome to begin to move?

5. Describe a situation of balanced forces when the object is moving and when the object is not moving and a situation of unbalanced forces.

6. How can we use Newtons 2nd law to explain how one item will go further when shot out of a cannon vs another item.

7. Explain how a spring scale works. What does it measure and in what units?

8. How can a large box have less mass than a much smaller box?

9. Compare a cement truck's distance to stop at a red light vs. my mini van. Which of Newton's laws explains this best?

10. What is the relationship between mass and acceleration? Will an empty cart on a rollercoaster accelerate quicker than a full cart?

11. Compare and contrast KE and PE.

12. Explain how KE and PE interact in reference to a rubber band and a hornet. (the rolled-up paper shot from the rubber band)

13. Where on a skate park half pike is the PE highest and KE lowest, the PE is lowest and KE is highest, and finally Where are they both 50/50?

14. Construct a graph that shows how KE changes as you drop a 3kg object from a height of 5,10,15 meters.