Name: _____

Date: _____

Pd: _____

Test Prep #1

Elements, Compounds, Mixtures/Matter in Motion/Forces and Motion

Elements, Compounds & Mixtures:

1. What is everything in the universe made of?

2. Define element and give two examples

3. Describe the three parts of an atom

4. Define compound and give two examples

5. What is unique about the properties of compounds vs. the properties of the elements that make them up?

6. Define mixture and give two examples

7. Describe the two different types of mixtures (hint: think about what the prefix in their name means) and give an example for each type

8. Describe a suspension and give one example

9. Describe a colloid and give one example

10. Describe a solution and give one example

11. Explain the difference between a solute and a solvent.

12. What is the universal solvent?

13. What are two factors that affect solubility rate? (hint: think of your dissolving lab!)

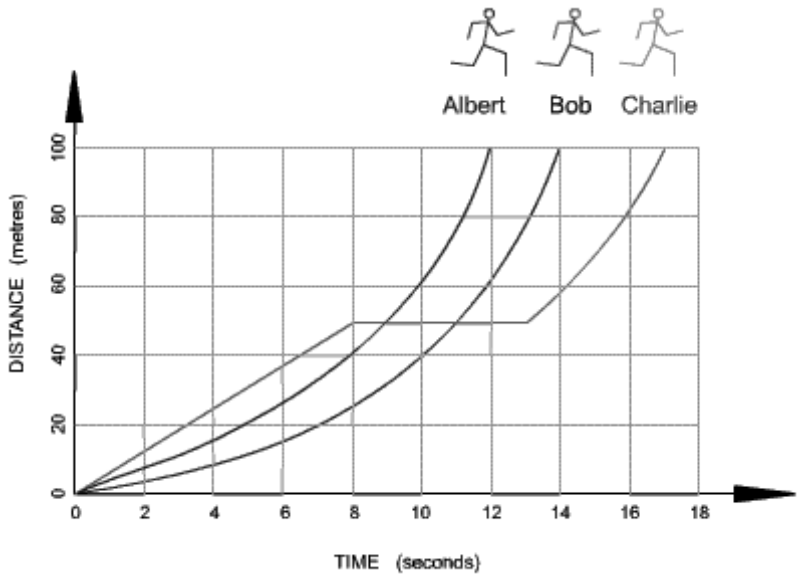
Matter in Motion:

1. What is motion?

2. Define speed, including units.

3. What is velocity?

4. Describe both types of acceleration, including units.



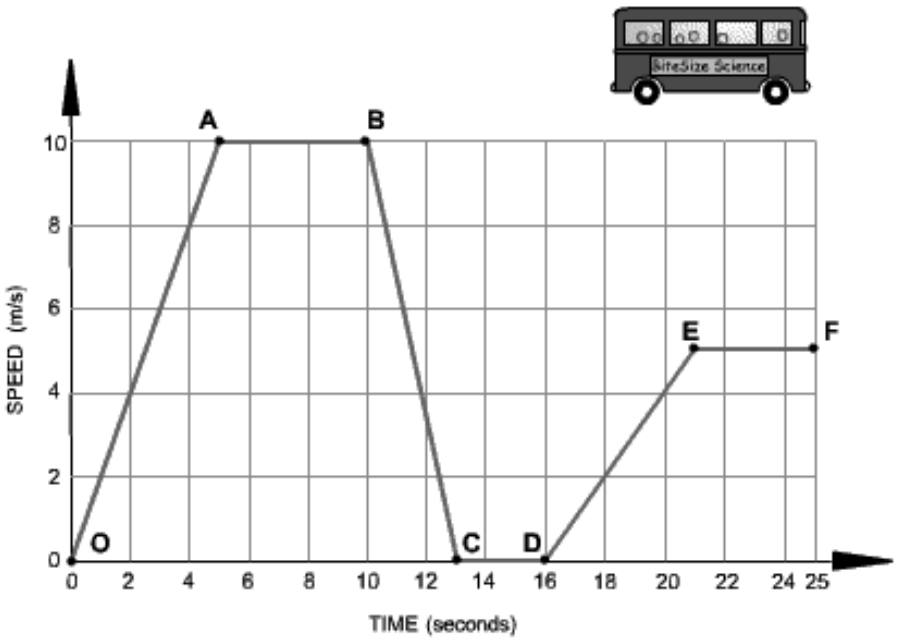
5. The graph above shows how three runners ran a 100 meter race.

   Which runner won the race? Explain your answer

   Which runner stopped for a rest? Explain your answer

How long was the stop?

Calculate Albert's average speed



6. The graph above shows the speed (velocity) changes on a bus journey. Choose the correct words from the choices below to complete each statement. You may use them more than once.

Positively accelerating **Negatively accelerating** **Constant speed** **At rest**

Segment 0-A The bus is _____. Its speed changes from 0 to 10 m/s in 5 seconds.

Segment A-B The bus is moving at a _____of 10m/s for 5 seconds.

Segment B-C The bus is _____. It is slowing down from 10 m/s to rest in 3 seconds.

Segment C-D The bus is _____. It has stopped.

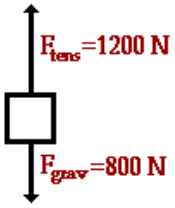
Segment D-E The bus is _____. It is gradually increasing in speed.

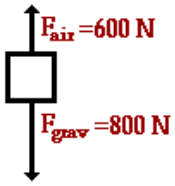
<u>Forces – How Matter Moves:</u>

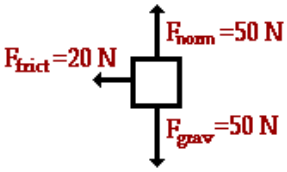
1. What is a force? (Include units)

2. What is the net force?

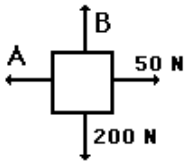
3. Calculate the net force for each object below (don't forget units!)



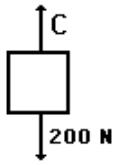




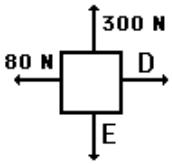
4. The net force is known for each situation. However, the magnitudes of a few of the individual forces are not known. Analyze each situation individually and determine the magnitude of the unknown forces.



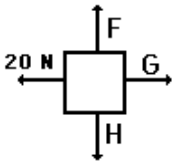
F_{net} = 0 N



F_{net} = 900 N, up



F_{net} = 60 N, left



F_{net} = 30 N, right

5. Explain the difference between unbalanced and balanced forces

6. Describe how friction affects the motion of an object.

7. According to physics, how do I do **work**?

Forces and Motion:

1. Describe gravity and the two rules for how it works

2. At what rate do objects accelerate toward earth?

    a. Is that true for all objects or only some?

b. What force works against this?

3. Explain terminal velocity and give one example of why it is good.

4. What is free fall and where are the two places it can occur?

5. Explain Newton's 3 Laws IN YOUR OWN WORDS and give an example for each.

6. Does momentum make it easier or harder to stop an object?

7. Describe the Law of Conservation of Momentum?