

Name: \_\_\_\_\_ Period: \_\_\_\_\_

**I. Vocabulary: Review the vocabulary words and definition in your science journal. (18 words)**

Acceleration, Balanced Force, Energy, Friction, Force, Inertia, Kinetic Energy, Line Graph, Mass, Matter, Momentum, Motion, Movement, Velocity, Position, Potential Energy, Speed, Unbalanced Force

**II. Newton's First Law of Motion**

A. An object in motion stays in motion and an object at rest stays at rest, unless acted on by an outside force.

- i. Identify unbalanced and balanced forces.
- ii. What types of forces can cause an object to accelerate or change direction?
- iii. Identify inertia in real world situations

**III. Newton's Second Law of Motion**

A. The rate of change of momentum of an object is directly proportional to the resultant force acting on it.

- i.  $\text{Force} = \text{mass} \times \text{acceleration}$
- ii. Identify real world situations...*example: the same force is applied to a bowling ball, basketball, and tennis ball. Which one will travel the greatest distance? Be able to explain why.*

**IV. Newton's Third Law of Motion**

A. For every action there is an equal and opposite reaction.

- i. Identify real world situations

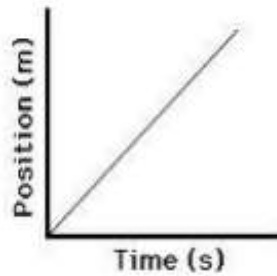
**Distance:** the length of a line between two points

**Motion:** a change in an object's position

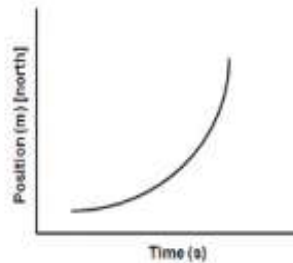
**Direction:** the path that a moving object follows

**Speed:** a measure of how far an object moves in a certain amount of time; Distance / Time

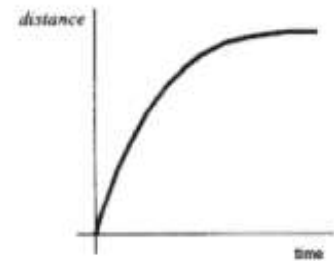
**Constant Speed**



**Increasing Speed**



**Decreasing Speed**



**Force:** a push or pull on an object

Objects move in the direction of the applied force

A force can change the direction of an object's motion and the speed.

The greater the force, the greater the motion.

The greater the mass, the less the motion. Objects that weigh less can move faster.

**Mass:** how much matter makes up an object

**Matter:** anything that has mass and takes up space

**Gravity:** a force that pulls objects toward each other