Linear Motion Lingo

The following are the terms you should be familiar with in order to properly complete this unit. You are expected to be able to define each as well as apply these terms in any situation during this and subsequent units of study.

precision - The degree of exactness with which an operation is performed or a measurement stated.

accuracy - Freedom from mistake or error; degree of conformity of a measure to a standard or a true value

frame of reference - A point or set of points, assumed to be stationary, used as the "background" to describe motion.

magnitude - Refers to size and is expressed as a numerical value.

direction – The distance-independent relationship between two points in space that specifies the location of either with respect to the other. May be indicated by terms such as: north, south, positive, negative, up, or down.

time - the duration of an action or an event.

scalar – a measurable quantity, such as mass, volume, and speed which are fully described by a magnitude alone.

vector - A quantity that is defined by both a magnitude and a direction together.

distance - A scalar quantity which refers to "how much ground an object has covered" during its motion

displacement - A vector quantity which refers to how far out of place an object is, or the object's change in position**.**

position - Refers to where an object is relative to a point of reference**.**

speed - A scalar quantity which refers to "how fast an object is moving."

instantaneous speed - The speed of an object at specific moment.

average speed - The total distance traveled divided by the total time of travel.

constant speed - A speed that does not change, such as a steady speed.

velocity - A vector quantity which describes the rate at which an object changes its position. Also referred to as "speed with direction."

average velocity - Total displacement divided by the time interval.

constant velocity - Type of motion that describes an object that is not accelerating.

acceleration - The rate at which an object changes its velocity, meaning there is a change in speed, direction, or both. A vector quantity.

constant acceleration - Type of motion that describes the steady change in velocity over time.

freefall - A falling object which experiences no friction is in this type of motion and accelerates at a rate of 9.8 m/s^2 downward near the surface of the earth.