Glossary

acceleration the rate of change in velocity; the change in velocity over time

acceleration due to gravity acceleration of an object as a result of gravity

average acceleration the change in velocity divided by the time over which it changes

average speed distance traveled divided by time during which motion occurs

average velocity displacement divided by time over which displacement occurs

deceleration acceleration in the direction opposite to velocity; acceleration that results in a decrease in velocity

dependent variable the variable that is being measured; usually plotted along the y-axis

displacement the change in position of an object

distance the magnitude of displacement between two positions

distance traveled the total length of the path traveled between two positions

elapsed time the difference between the ending time and beginning time

free-fall the state of movement that results from gravitational force only

independent variable the variable that the dependent variable is measured with respect to; usually plotted along the x-axis

instantaneous acceleration acceleration at a specific point in time

instantaneous speed magnitude of the instantaneous velocity

instantaneous velocity velocity at a specific instant, or the average velocity over an infinitesimal time interval

kinematics the study of motion without considering its causes

model simplified description that contains only those elements necessary to describe the physics of a physical situation

position the location of an object at a particular time

scalar a quantity that is described by magnitude, but not direction

slope the difference in y-value (the rise) divided by the difference in x-value (the run) of two points on a straight line

time change, or the interval over which change occurs

vector a quantity that is described by both magnitude and direction

y-intercept the y-value when $x = 0$, or when the graph crosses the y-axis