acceleration the change of velocity per unit of time (IG, SRB)

air resistance the force exerted by air molecules on objects moving through air (IG, SRB)

attraction to pull toward each other (SRB)

average speed the theoretical constant speed at which an object would have to travel in order to go a given distance in a given period of time. Total distance divided by total time. (IG, SRB)

centripetal force a force acting on an object moving around another object, pulling it toward the center (SRB)

change in position when an object moves from an initial position to a new position (SRB)

collision when one object hits another object (IG, SRB)

concussion the most common form of brain injury (SRB)

constant speed speed that does not vary over time (IG, SRB)

constraint a restriction or limitation (IG, SRB)

criterion (plural: criteria) a standard for evaluating or testing something (IG, SRB)

crumple zone a section of a vehicle designed to absorb energy during a collision and protect passengers (SRB)

deceleration a negative change of velocity per unit of time (moving more slowly) (SRB)

delta (Δ) a symbol that indicates change (SRB)

distance how far between two objects or locations (IG, SRB)

energy usable power that can be transferred or converted to different forms, but cannot be created or destroyed (IG, SRB)

engineer a designer who uses scientific information and other considerations to accomplish a goal or solve a problem (SRB)

escape velocity the minimum speed required to leave an orbit (SRB)

field a space, or zone, around a mass (SRB)
**force** an interaction between objects. A push or pull. (IG, SRB)

**friction** a force acting between surfaces in contact. Friction acts to resist motion. (IG, SRB)

**gram (g)** a unit of mass (IG, SRB)

**gravitational force** the force of attraction between objects with mass (SRB)

**gravity** a force of attraction between masses (IG, SRB)

**impulse** force applied over a period of time (IG, SRB)

**infer** to reach a conclusion based on evidence (SRB)

**interval** an amount, such as the time or distance between two markers. Standard interval units, like seconds and meters, are used to measure time and distance. (SRB)

**joule (j)** a unit of kinetic energy (IG, SRB)

**kinetic energy** energy of motion (IG, SRB)

**light speed** the distance light can travel in a given time frame (SRB)

**mass** a measure of the quantity of matter in an object (IG, SRB)

**motion** the process of changing position (SRB)

**net force** the sum of all the forces acting on a mass (SRB)

**newton (N)** a unit that describes measurement of force; the amount of force needed to accelerate 1 kg by 1 m/s² (IG, SRB)

**orbit** the curved path of an object around another object (SRB)

**position** the location of an object (IG, SRB)

**potential energy** energy stored in the position or condition of an object (IG, SRB)

**rest** not moving (SRB)

**slope** in math or physics, the steepness of a line on a graph (IG, SRB)

**speed** the distance traveled by an object in a unit of time. Speed is reported in standard units of distance per unit time, such as meters per second or kilometers per hour. (IG, SRB)
speedometer a device that measures speed  (SRB)

supersonic speed when an object moves faster than the speed of sound  (SRB)

surface area a measurement of each face of an object’s exterior dimensions  (SRB)

terminal velocity the maximum speed an object can obtain during free fall through air  (SRB)

theory of special relativity Albert Einstein’s 1905 theory to explain the relationship between space and time  (SRB)

thermal energy radiant energy that heats  (SRB)

transfer to move from one to another  (SRB)

variable any factor that can be changed  (IG, SRB)

weight a measurement of the force of gravity from a massive object (such as Earth) pulling another object toward it  (IG, SRB)