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| ACCELERATION: change in an object’s speed or direction (velocity) over time | AIR RESISTANCE: the fluid friction experienced by objects falling through air | BALANCED FORCES: when the total of all forces on an object equals zero and its motion does not change | DECELERATION: negative acceleration, or slowing down |
| ENERGY: the ability to do work or cause change, such as moving an object some distance | FORCE: a push or pull exerted on an object | FREE FALL: the motion of a falling object when the only force acting on it is gravity | FRICTION: the force that opposes motion between two surfaces that are in contact with each other. |
| GRAPH: a diagram that shows how two variables are related, such as a line graph | INERTIA: the tendency of an object in motion to stay in motion and an object at rest to stay at rest | ISAAC NEWTON: 17th century English physicist, astronomer, mathematician, theologian, philosopher | KINETIC ENERGY: energy an object has because of its motion |
| MASS: a measure of how much matter is in an object | MOMENTUM: the product of an object’s mass and its velocity | MOTION: the state in which one object’s distance from another is changing | NET FORCE: sum of all forces acting on an object |
| NEWTON (N): unit of measure that equals the force required to accelerate one kilogram of mass at a rate of  1 m/s/s (m/s2) | POTENTIAL ENERGY: stored energy an object has because of its position or shape | REFERENCE POINT: a place or object used for comparison to know if an object is in motion | SPEED: the distance an object travels in one unit of time |
| UNBALANCED FORCES: when the net force on an object does not equal zero; results in the object changing its motion | VELOCITY: an object’s speed and direction at a given instant | WEIGHT: a measure of the force of gravity on an object | WORK: occurs when a force is used to move an object through a distance; measured in joules (J) |