**Vocabulary: Sled Wars**



**Vocabulary**

* Acceleration – a change in speed or direction.
	+ Acceleration is measured in meters per second per second, or m/s2.
	+ Acceleration can mean either speeding up or slowing down. An object moving at a constant speed but changing its direction is also accelerating.
* Energy – the ability to cause changes, apply a force, or do work.
	+ Energy can exist in many forms. It can be stored or used.
	+ Energy can be changed to another form, but it can never be created or destroyed.
	+ The SI unit of energy is the joule (J).
* Friction – a force that works against motion as surfaces rub together.
	+ Friction causes sliding objects to slow down and stop.
* Kinetic energy – the energy an object has because of its motion.
	+ The faster an object moves, the greater its kinetic energy is.
	+ The formula for kinetic energy is *KE* = *m* • *v*2, where *m* is mass and *v* is velocity (or speed).
* Mass – the amount of matter in an object.
	+ Mass is measured in kilograms (kg). A kilogram is about 2.2 pounds.
* Momentum – a measure of how difficult it is to stop a moving object.
	+ Momentum is the product of an object’s mass and velocity, *p* = *m • v*.
* Potential energy – the energy an object has because of its position or shape.
	+ The higher an object is placed, the greater its *gravitational potential energy*.
	+ The formula for gravitational potential energy is *PE* = *m* • *g* • *h*, where *m* is mass, *g* is gravitational acceleration, and *h* is height.
* Speed – how quickly an object is moving.
	+ For example, if an object moves 5 meters in 1 second, its speed is 5 meters per second, or 5 m/s.
	+ In general, speed is calculated by dividing distance by time: *s* = 
	+ An object’s speed in a particular direction is its *velocity* (*v*).