FOSS Motion, Force, and Models Module
Glossary
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accelerate to change an object's speed (SRB)

analyze to study and examine (IG)

black box a system in which structure and behavior are not completely understood (SRB)

bob a mass at the end of a pendulum (SRB, IG)

catapult a type of leaf spring (IG)

coil spring the type of spring used in a spring scale (IG)

collaboration the sharing of ideas and solutions when working together (IG)

collide to come into contact with another object (IG)

collision when one object hits another object (IG)

compress to bend (IG)

conceptual model an idea that describes or explains an object, a system, or an action that is not yet completely understood (SRB)

concussion a brain bruise (SRB, IG)

consensus group agreement reached through observation, discussion, and the testing of ideas and evidence (IG)

construct an idea which takes the form of a description or explanation of an object, system, or action that is not yet completely understood (IG)

controlled experiment a scientific test where only one variable can change (SRB, IG)

controlled variable any variable that is not allowed to change in an experiment (SRB)

cosmology the study of the structure and evolution of the universe (SRB)

cycle a set of events or actions that repeats (SRB, IG)

data information collected and recorded as a result of observation (SRB)

dependent variable what you find out as a result of doing an experiment (SRB, IG)

design the way something is put together (IG)

energy the ability to do work (SRB, IG)

engineer a scientist who designs ways to accomplish a goal or solve a problem (SRB, IG)

evidence data used to support claims. Evidence is based on observations and scientific data. (SRB)

experiment an investigation designed to find out how variables affect outcomes (IG)

flip stick the flexible part of the flipper system which serves as the spring (IG)

flipper base the part of the flipper system that holds that flip stick in place (IG)

flipper system a model catapult used to exert a force on a mass (IG)

force a push or a pull that acts on an object (SRB, IG)

friction a force acting between surfaces passing each other; friction acts to resist motion (IG)

gravity the natural force that pulls objects toward each other. On Earth, all objects are pulled toward the center of Earth. (SRB, IG)

independent variable the variable you control the value of in an experiment (SRB, IG)

kinetic energy energy that matter has because of its motion (SRB, IG)

leaf spring a type of catapult in which the release of energy causes any object resting on one end of the lever to fly into the air, like a diving board (IG)

load the weight or resistance that a simple machine moves (SRB)

mass the amount of material in something (SRB)

model an explanation or representation of an object, system, or process that cannot be easily studied (SRB, IG)

momentum a measure of the motion of an object, using mass and speed (SRB, IG)

motion a change in the position of an object (SRB, IG)

multiple trials an experiment that is conducted several times to improve the accuracy of the data (IG)

newton (N) the standard unit for measuring force in the metric system (SRB, IG)

observation the act of noticing the properties of an object or event with one or more of the five senses (sight, hearing, touch, smell, and sometimes taste) (SRB)

observe to watch and study (IG)

oceanographer a scientist who studies the chemistry and geology of the ocean (SRB)

pendulum an arm with a mass on one end that is free to swing back and forth in response to gravity (SRB, IG)

period the length of time it takes a pendulum to complete a cycle (SRB)

potential energy energy that matter has because of its position (SRB, IG)

predict to make an estimate or approximation about a future event based on information or experience (IG)

prediction an estimate of a future event based on data or experience (SRB)

property something you can observe about an object or a material (SRB)

revise to update after reexamination (IG)

siphon a tube that moves liquid out of a container by gravity, provided the outflow end is lower than the intake end (IG)

solar system the Sun, the planets, and other objects that orbit the Sun (SRB)

solvent a substance capable of dissolving other substances (solutes) (SRB)

speed the measure of an object's change in position over time (SRB, IG)

spring scale tool used to measure the strength of unknown forces in newtons (IG)

standard a model established to compare the effect of changing a variable in an experiment (IG)

stationary not moving (IG)

system two or more objects that work together in a meaningful way (SRB, IG)

technology any method of modification of the natural world done to satisfy human needs or desires (SRB)

tool any device used to achieve a specific purpose (SRB)

transfer of energy what happens when objects collide and energy is transferred from the object with more energy to the object with less energy (IG)

two-coordinate graph a plot of the relationship between an independent variable on the x-axis and a dependent variable on the y-axis (SRB, IG)

variable anything you can change in an experiment that might affect the outcome (SRB, IG)

velocity the measure of an object's speed in a certain direction (SRB)

work the use of a force to move an object (SRB, IG)

x-axis the horizontal number line of a two-coordinate graph (SRB)

y-axis the vertical number line of a two-coordinate graph (SRB)