Activity "Administrivia": Grade Levels 6-8

Key Concepts:
Ramps, speed, mathematical formulas, velocity, force, gravity, balanced and unbalanced forces, Newton's First Law, potential and kinetic energy, Americans with Disabilities Act

Process Skills utilized in lesson:
Observing, making inferences, formulating hypotheses, collecting and analyzing data, applying formulas, drawing conclusions, graphing

Previous learning assumed:
Groups skills, collecting data, making observations and inferences, identifying variables, making hypotheses, graphing, applying a formula

Relevant TEKS

Middle School Health
6.6(A)
(6) Influencing factors. The student understands how factors in the environment influence individual and community health. The student is expected to:
(A) identify factors that affect an individual's physical, emotional, and social health such as school climate and safety measures.

7.11, 8.11(C)
(11) Personal/interpersonal skills. The student understands, analyzes, and applies healthy ways to communicate consideration and respect for self, family, friends, and others. The student is expected to:
(C) describe strategies to show respect for individual differences including age differences;

Middle School Science
6.2, 7.2, 8.2:(C,D,E)
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:
(C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers;
(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns; and
(E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.

6.3, 7.3, 8.3:(A,C)
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:
(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of
scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;
(C) identify advantages and limitations of models such as size, scale, properties, and materials.

6.4, 7.4, 8.4:(A)
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:
(A) use appropriate tools to collect, record, and analyze information, including meter sticks and calculators.

6.8(A,B,C,D,E)
(8) Force, motion, and energy. The student knows force and motion are related to potential and kinetic energy. The student is expected to:
(A) compare and contrast potential and kinetic energy;
(B) identify and describe the changes in position, direction, and speed of an object when acted upon by unbalanced forces;
(C) calculate average speed using distance and time measurements;
(D) measure and graph changes in motion; and
(E) investigate how inclined planes and pulleys can be used to change the amount of force to move an object.

8.6(A,B,C)
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:
(A) demonstrate and calculate how unbalanced forces change the speed or direction of an object's motion;
(B) differentiate between speed, velocity, and acceleration; and
(C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.