



Unit 2 Energy

Grade 6 Science

Unit Description:

During this unit, students will provide evidence that a change in an object's motion depends on the sum of the forces and the mass of the object. They will also construct and interpret graphical displays of data in order to describe the relationships between kinetic energy to the mass and the speed of an object. Students will also develop models to describe situations where the arrangement of objects interacting at a distance changes because of the different amounts of potential energy stored in the system.

Science Standards:

- 6-MS-PS2-2** Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.
- 6-MS-PS3-1** Construct and interpret graphical displays of data to describe the relationship of kinetic energy to the mass of an object and to the speed of an object.
- 6-MS-PS3-2** Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.

Enduring Understandings- Unit Anchor Phenomenon:

A relatively small catapult can bring down a castle.

Essential Questions- Reflective Summaries:

- How does the design of a catapult impact its ability to launch a projectile?
- How does a catapult transfer potential energy to kinetic energy to launch a projectile?
- What is the relationship between kinetic energy and potential energy?
- What factors will affect the amount of potential and kinetic energy within a closed system?
- How is a projectile's kinetic energy related to the mass of the object that it's launching?
- Design a catapult that launches the farthest and with the greatest accuracy.

