Unit 3
Energy

Grade 6
Science

Unit Description:

Students will continue their progress of interpreting graphs based on kinetic energy relationships by connecting this learning to the concept of Newton's Third Law of Motion. Students will also provide evidence that a change in an object's motion depends on the sum of the forces and the mass of the object.

Science Standards:

6-MS-PS2-1	Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.
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 relationships of kinetic energy to 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 as a distance changes, different amounts of potential energy are stored in the system.

Enduring Understandings- Unit Anchor Phenomenon:

Woodpeckers bang their heads against trees and don't get concussions. 60% of NFL football players have had at least one concussion colliding with other players.

Essential Questions- Reflective Summaries:

- Develop and use a model to describe the relationship of kinetic energy to the mass and the speed of football players.
- Describe how the change in a football player's motion depends on the mass and the sum of the forces acting on the player.
- Apply Newton's Third Law to design a solution to overcome the problem of concussions in football games.