

Next Generation Middle School Science Standards:

PS2.A: Forces and Motion

The motion of an object is determined by the sum of the forces acting on it: if the total force on the object is not zero, its motion will change. The greater the mass of the object, the greater the force needed to achieve the same change in motion. For any given object, a larger force causes a larger change in motion. (MS-PS2-2)

PS2.B: Types of Interactions

Gravitational forces are always attractive. There is a gravitational force between any two masses, but it is very small except when one or both of the objects have large mass—e.g., Earth and the sun. (MS-PS2-4)

Forces that act at a distance (electric, magnetic, and gravitational) can be explained by fields that extend through space and can be mapped by their effect on a test object (a charged object, or a ball, respectively). (MS-PS2-5)

PS3.A: Definitions of Energy

Motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed. (MS-PS3-1)

A system of objects may also contain stored (potential) energy, depending on their relative positions. (MS-PS3-2)

PS3.B: Conservation of Energy and Energy Transfer

When the motion energy of an object changes, there is inevitably some other change in energy at the same time. (MS-PS3-5)

PS3.C: Relationship Between Energy and Forces

When two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object. (MS-PS3-2)



The Gravity Force Car Investigation is produced by:

The Science Center of Inquiry
13225 N Verde River Drive, #104
Fountain Hills, AZ 85268
(602) 684-5380

www.thesciencecenter.org