

**Gravity** is a pulling force that acts between any two objects with mass. The greater the mass of the objects and the closer they are to each other, the stronger the gravitational pull between them.

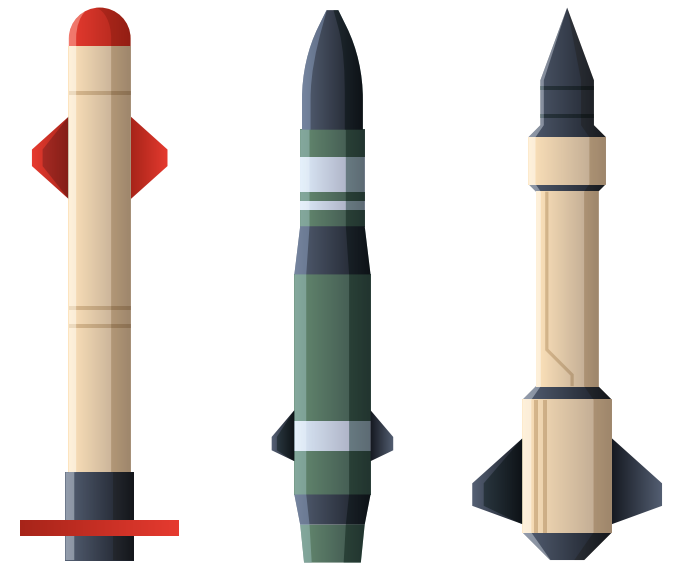


**Friction** is a contact force between two surfaces that opposes motion and causes a slowing effect. Rougher surfaces and more weight increase friction.

**Air resistance**, a type of friction, is the force that opposes an object moving through the air. The greater the object's surface area and the faster it moves, the greater the air resistance.



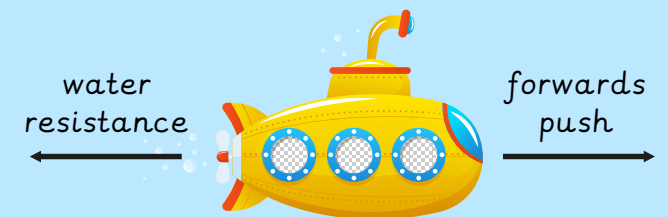
**Streamlining** involves designing objects to move through air or water more easily by making their shape smooth and sleek to reduce resistance from air or water.



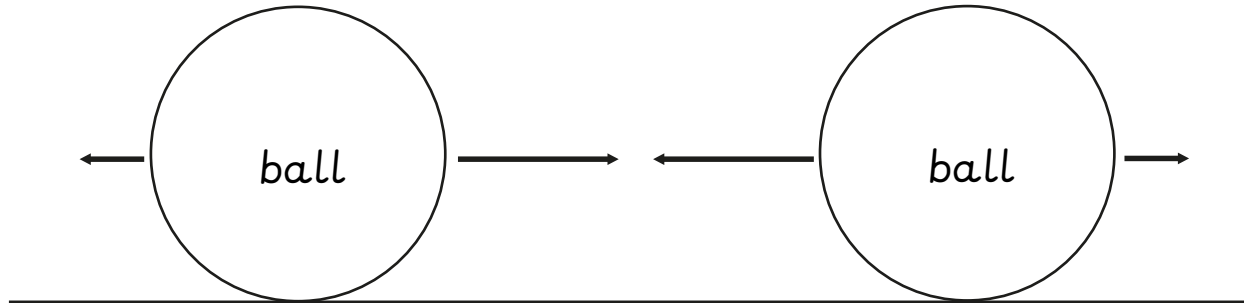
Sir Isaac Newton (1643-1727) was an English scientist who discovered the laws of gravity.



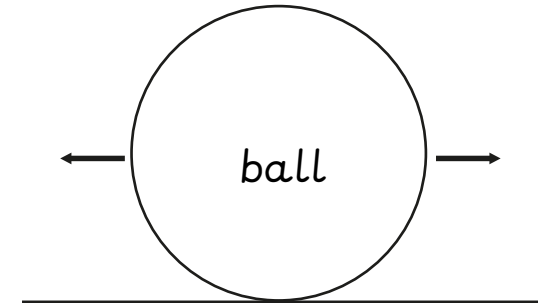
**Water resistance**, a type of friction, is the force that opposes an object moving through water. The greater the object's surface area and the faster it moves, the greater the water resistance.



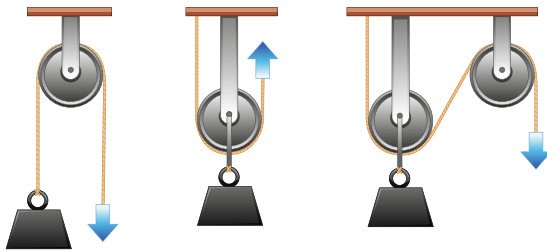
When forces are **unbalanced** (unequal), change will happen: changing speed, shape, direction, starting or stopping moving.



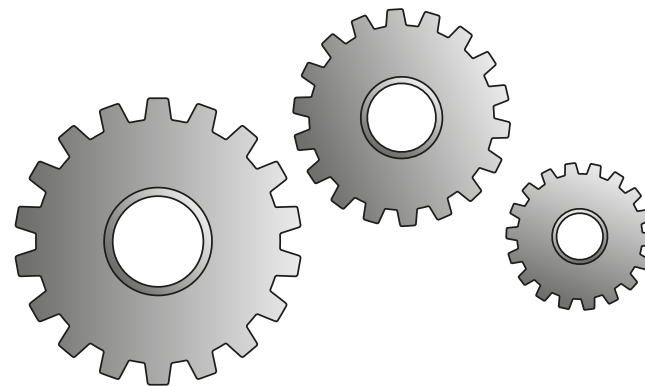
When forces are **balanced** (equal), an object will either be stationary or moving at a steady speed.



A **pulley** is a wheel with a groove around it for a rope, making it easier to lift heavy things by pulling down on the rope.



A **gear** is a wheel with teeth that fits into another gear to change the speed or direction of movement.



A **lever** is a stiff bar that moves around a pivot to lift a load more easily.

