

How are forces used in every day life?

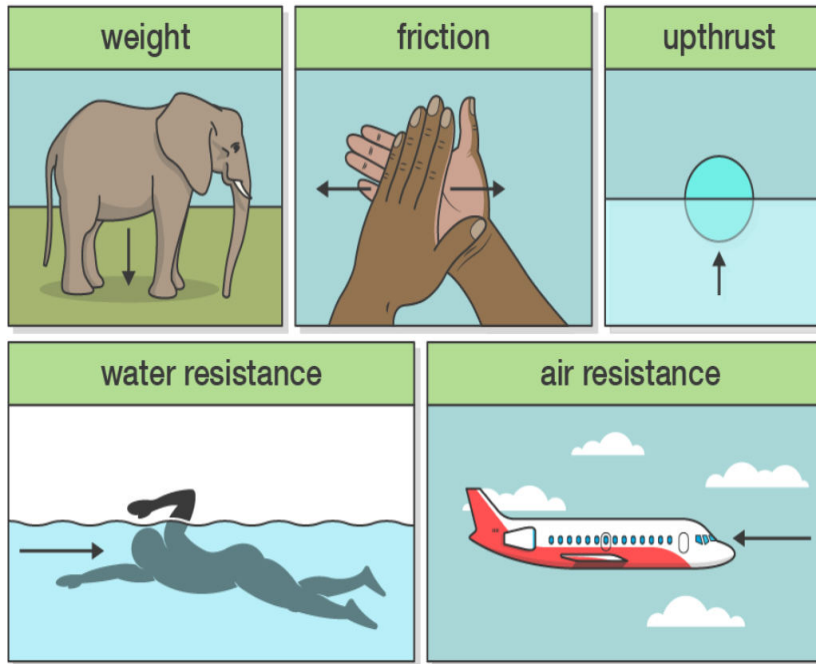
Isaac Newton

Isaac Newton changed the way we understand the universe. In 1687, he discovered the laws of gravity and motion and used mathematics to prove his theory. We now measure gravity in Newtons (N) because of this.



The 3 Laws of Motion

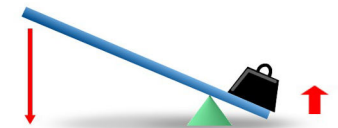
1. Any object in motion will continue to move in the same direction and speed unless forces act on it.
2. The greater the mass of an object, the more force it will take to accelerate the object.
3. For every action, there is an equal and opposite reaction.



Force	A push, pull or twist on an object that can cause it to accelerate, slow down, remain in place, or change shape.
Friction	The resistance of motion when one object rubs against another, slowing it down.
Air resistance	The air that pushes against falling or moving objects which slows them down
Gravity	A force that pulls things downwards to the centre of the Earth and prevents things floating into the atmosphere.
Water resistance	A type of friction (a force) which can slow things down moving through water.
Upthrust	The name of the force that pushes an object up, e.g. force which keeps things afloat in water.

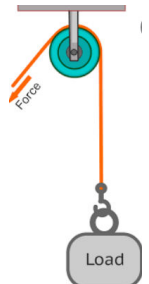
Levers

Can be used to make a small force lift a heavy load. A lever always rests on a pivot.



Pulleys

Can be used to make a small force lift a heavy load. The more wheels in a pulley, the less force is needed.



Gears and cogs

Can be used to change the speed, force or direction of a motion. They turn in opposite

