

Forces

Strand: Physics



Key vocabulary	
Attract	Objects move towards each other.
Friction	The resistance of motion when one object rubs against another.
Force	The pulling or pushing effect that something has on something else.
Gear	A part of a machine that causes another part to move.
Gravity	The force which causes things to drop to the ground.
Lever	A tool to lift or pry things open.
Motion	The activity of changing position or moving from one place to another.
Pulley	A simple machine that makes lifting something easier.
Repel	Gives out a force that pushes the other pole (magnet) away.
Resistance	A force which slows down a moving vehicle or object.
Streamlined	When an object has a shape that allows it to move quickly or efficiently through air or water.

Did you know?

Surface resistance is the force on objects moving across a surface, such as an ice-skater skating on ice.

Any kind of force is really just a push or a pull.

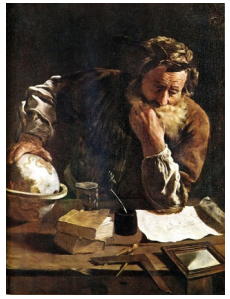
Magnetic force is an invisible force created by electrons. Magnetic force controls magnetism and electricity.

Significant People



Isaac Newton
(Physicist)

Archimedes
(Physicist)



Sticky knowledge

- Unsupported objects fall towards the Earth because the force of gravity is acting between the object and the Earth.
- The size of the gravitational force is pretty much the same all over the Earth.
- Air resistance is a contact force caused by air and the object moving through it.
- Air resistance acts in the opposite direction to which the object is moving.
- To travel faster through the air, things need to be streamlined.
- To travel slower through the air, you need a larger surface area.
- Water resistance is a contact force caused by fluids and the object moving through it.
- Simple mechanisms which include levers, pulleys and gears turn small forces into bigger forces.
- A lever is a simple mechanism made from a long beam and a pivot or fulcrum. If you push with a small force on the long side of the lever, you produce a bigger force on the short side.
- A pulley is a rope running over a wheel which acts to change the direction of a force.
- Gears are wheels with teeth that fit together. When one wheel is turned, the other adjoining wheel turns too. If the gears are of different sizes, they can be used to increase the power of a turning force.

Exciting books



Useful websites

https://www.bbc.co.uk/bitesize/topics/znmmn39

https://spaceplace.nasa.gov/what-is-gravity/en/#:~:text=Gravity%20is%20the%20force%20by,in%20orbit%20around%20the%20sun.