



Science Knowledge Organiser

This is physics. Physics is the study of matter and the forces (pushes or pulls) that act on it.

Forces

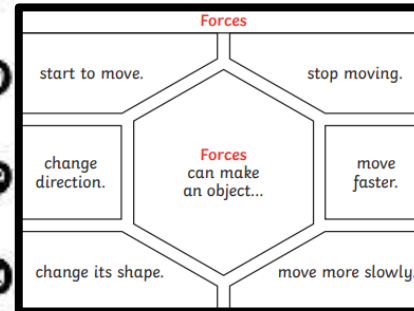
Key Vocabulary

- force
- gravity
- friction
- air resistance
- water resistance
- streamlined
- mechanisms

Prior Knowledge

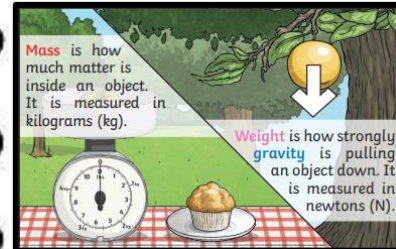
- I can compare how things move on different surfaces.
- I know that some forces need contact between two objects but magnetic forces can act at a distance.
- I know how magnets attract or repel each other; attract some materials and not others.
- I can group materials on the basis of whether they are attracted to a magnet and identify some magnetic materials.
- I know that magnets have 2 poles.

Key Knowledge



Forces in Action

Water resistance and air resistance are forms of friction. Friction is sometimes helpful and sometimes unhelpful. For example, air resistance is helpful as it stops the skydiver hitting the ground at high speed. Friction on a bike chain can make the bike harder to pedal so it is unhelpful.



Scientists

Isaac Newton is famously thought to have developed his theory of gravity when he saw an apple fall to the ground from an apple tree.



Sir Isaac Newton



Galileo

Pulleys	Gears/Cogs	Levers
Pulleys can be used to make a small force lift a heavier load. The more wheels in a pulley, the less force is needed to lift a weight .	Gears or cogs can be used to change the speed, force or direction of a motion. When two gears are connected, they always turn in the opposite direction to each other.	Levers can be used to make a small force lift a heavier load. A lever always rests on a pivot.