



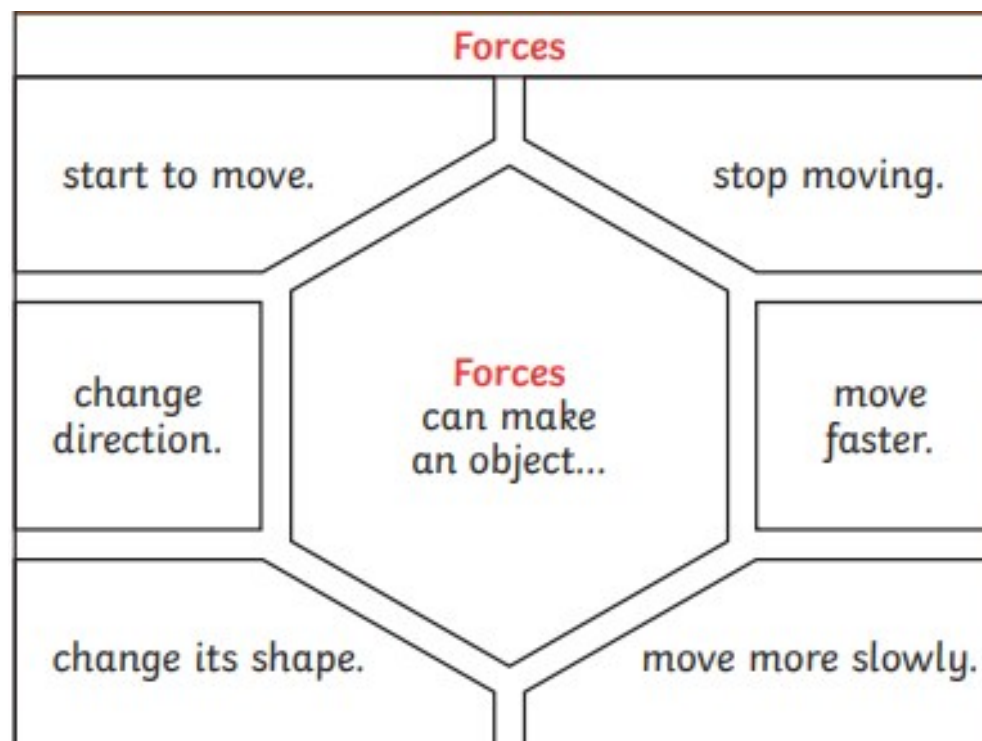
Year 5 Knowledge organiser

Summer 1—Forces

Vocabulary

forces	Pushes or pulls.
gravity	A pulling force exerted by the Earth (or anything else which has mass).
Earth's gravitational pull	The pull that Earth exerts on an object, pulling it towards Earth's centre. It is the Earth's gravitational pull which keeps us on the ground.
weight	The measure of the force of gravity on an object.
mass	A measure of how much matter (or 'stuff') is inside an object.

friction	A force that acts between two surfaces or objects that are moving, or trying to move, across each other.
air resistance	A type of friction caused by air pushing against any moving object.
water resistance	A type of friction caused by water pushing against any moving object.
buoyancy	An object is buoyant if it floats. This is because the weight of the object is equal to the upthrust .
streamlined	When an object is shaped to minimise the effects of air or water resistance .
mechanism	Mechanisms are simple machines with moving parts that change input forces and movement into a set of useful output forces. Examples of mechanisms are pulleys, gears and levers.
upthrust	A force that pushes objects up, usually in water.



Isaac Newton



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.



Examples of **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.