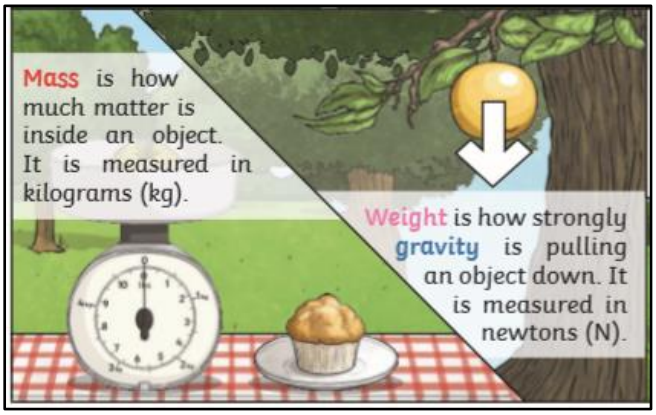
Leybourne Ss Peter & Paul CEP Academy - Knowledge Organiser

Science Topic: Forces	Year 5	Term 1

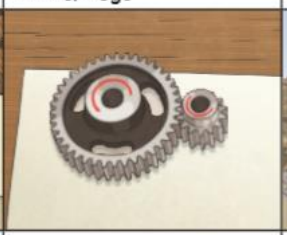
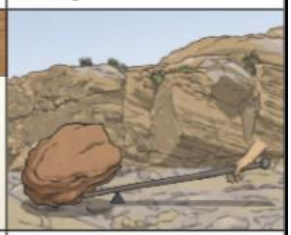
Key Knowledge
Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
Identify the effects of air resistance, water resistance and friction, that act between moving surfaces
Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect



Key Vocabulary	
air resistance	A type of friction caused by air pushing against any moving object
buoyancy	An upward force that a liquid applies to objects
Earth's gravitational pull	The pull that the Earth exerts on an object, pulling it towardsEarth's centre
forces	Pushes or pulls
friction	A forcethat acts between two surfaces or objects that are moving, or trying to move, across each other
gravity	A pulling force exerted by the Earth
mass	A measure of how much matter is inside an object
mechanism	Parts which work together in a machine. Eg: pulleys, gears and levers
streamlined	When an object is shaped to minimise the effects of air or water resistance
water resistance	A type of friction caused by water pushing against any moving object
weight	The measure of the force of gravity on an object

Examples of forces in action:

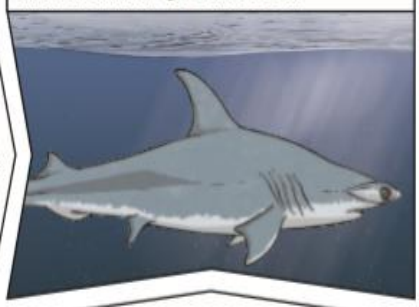
Water resistance and air resistance are forms of friction. Friction is sometimes helpful and sometimes unhelpful. For example, air resistance is helpful as it stops the skydiver hitting the ground at high speed. Friction on a bike chain can make the bike harder to pedal so it is unhelpful.

Pulleys	Gears/Cogs	Levers
		
Pulleys can be used to make a small force lift a lighter 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 lighter load. A lever always rests on a pivot.

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.

This shark is streamlined.

It has a pointed nose to cut through the water, and a smooth, low, curved back to allow the water to flow over and around it.



It does not create much water resistance so it can move through the water quickly.