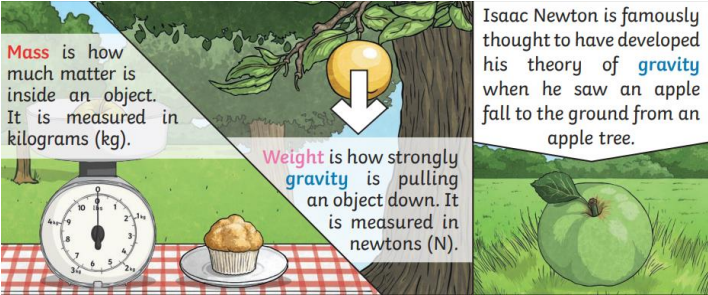
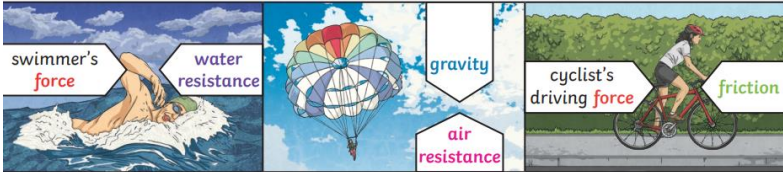
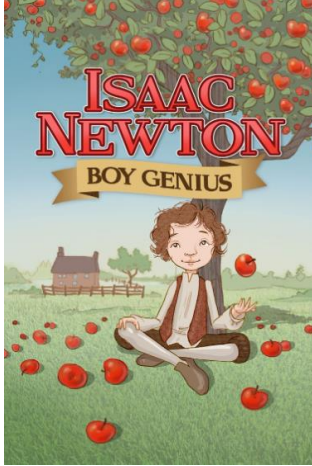




Key Facts	Diagram/Investigations	
<p>Forces can make an object: Start to move, stop moving, change direction, move faster, change it's shape, slow down. Water resistance and air resistance are forms of friction.</p>  <p>Mass is how much matter is inside an object. It is measured in kilograms (kg).</p> <p>Weight is how strongly gravity is pulling an object down. It is measured in newtons (N).</p> <p>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.</p>	<p>Identifying forces in action – feel the force. Investigate what makes a parachute effective. Cogs, Gears and Pulleys investigation Investigation into streamlining Weighing in air and water.</p> <p>Examples of forces in action:</p>  <p>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.</p>	
Key Learning:	Prior Learning:	Books to support/ Enrichment Opportunities:
<p>Why do unsupported objects fall towards the Earth (forces of gravity)? What are the effects of air resistance, water resistance and friction on moving surfaces? That some mechanicalness, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p>It will be helpful if children have studied materials and their properties in earlier year groups, including transparency, magnetism and states of matter in Y3 and Y4.</p>	

Subject Specific Vocabulary	
Key word	Definition
Forces	Pushes or pulls
Gravity	A pulling force exerted by the Earth (or anything else that has a mass).
Weight	The measure of the force of gravity on an object.
Mass	A measure of how much matter (or 'stuff') is inside each 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.
upthrust	A force that pushes object up, usually in water.