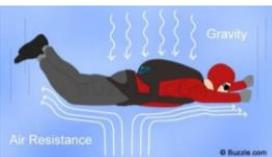
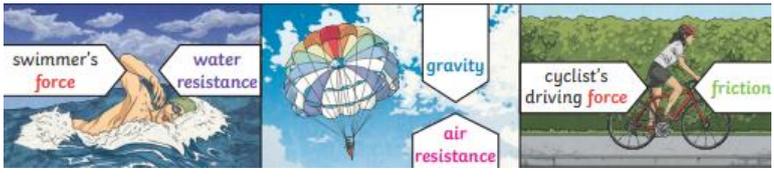
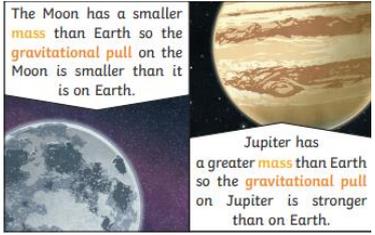
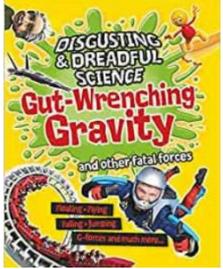
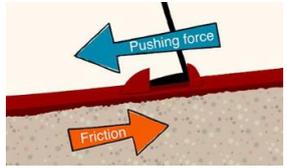


Science		Year 5	Topic: Forces																						
<p>Prior Knowledge</p> <p>That some forces need contact between two objects but magnetic forces can act at a distance. Know that magnets attract some objects but not others.</p> <p>The strength of the force determines how far and fast an object moves.</p> <p>Friction is the resistance of motion when there is contact between two surfaces.</p>  <p>How does friction vary between surfaces?</p>  <p>How do forces affect falling objects?</p>		<p>Knowledge and application</p> <p>Mass is how much matter is inside an object. It is measured in kg. 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. Weight is how strongly gravity is pulling an object down. It is measured in newtons (N).</p> <p>Water resistance and air resistance are forms of friction. Friction is sometimes helpful and sometimes unhelpful eg air resistance is helpful as it stops the skydiver hit the ground at high speed, Friction on a bike chain can make the bike harder to pedal so it is unhelpful.</p> 																							
<p>What will I know by the end of this topic?</p> <ul style="list-style-type: none"> • Be able to explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • Know what gravity is and its impact on our lives. • Gravity is the force that pulls objects to the centre of the Earth. • Identify and know the effect of air resistance. • Air resistance pushes up on the parachute, opposing the force of gravity. This makes the parachute land more slowly. • Identify and know the effect of water resistance. • Water resistance is the friction that is created between water and an object that is moving through it. • Identify and know the effect of friction. • To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect • Know who Isaac Newton and Galileo were. 		<p>Key Vocabulary</p> <table border="1"> <tr> <td>Newton</td> <td>Newton developed the theory of gravity and made breakthroughs in the area of optics, such as the reflecting telescope.</td> </tr> <tr> <td>Galileo</td> <td>Galileo developed the telescope to enable close observation of the night sky</td> </tr> <tr> <td>Friction</td> <td>Friction is a force between two surfaces that are sliding, or trying to slide, across each other.</td> </tr> <tr> <td>Gravity</td> <td>Gravity is a force which tries to pull two objects towards each other.</td> </tr> <tr> <td>Air resistance</td> <td>Air resistance is a type of friction between air and another material. e.g. when an aeroplane flies through the air.</td> </tr> <tr> <td>Water resistance</td> <td>If you go swimming, there is friction between your skin and the water particles.</td> </tr> <tr> <td>streamlined</td> <td>When an object is shaped to minimise the effects of air or water resistance.</td> </tr> <tr> <td>Earth's gravitational pull</td> <td>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.</td> </tr> <tr> <td>buoyancy</td> <td>An object is buoyant if it floats. This is because the weight of the object is equal to the upthrust.</td> </tr> <tr> <td>Upthrust</td> <td>A force that pushes objects up, usually in a fluid</td> </tr> <tr> <td>motion</td> <td>The action or process of moving or being moved</td> </tr> </table>		Newton	Newton developed the theory of gravity and made breakthroughs in the area of optics, such as the reflecting telescope.	Galileo	Galileo developed the telescope to enable close observation of the night sky	Friction	Friction is a force between two surfaces that are sliding, or trying to slide, across each other.	Gravity	Gravity is a force which tries to pull two objects towards each other.	Air resistance	Air resistance is a type of friction between air and another material. e.g. when an aeroplane flies through the air.	Water resistance	If you go swimming, there is friction between your skin and the water particles.	streamlined	When an object is shaped to minimise the effects of air or water resistance.	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.	buoyancy	An object is buoyant if it floats. This is because the weight of the object is equal to the upthrust.	Upthrust	A force that pushes objects up, usually in a fluid	motion	The action or process of moving or being moved
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