



# Ettington Primary School

## Knowledge organiser

### Forces

Year 5

#### Vocabulary

**Forces**- changes the motion of an object. Pushes and pulls in a particular direction.

**Gravity**- a force which pulls things towards the centre of the Earth. Discovered by Sir Isaac Newton.

**Earth's gravitational pull**- pull that Earth exerts on an object pulling it towards the Earth's centre.

**Weight**- The measure of the force of gravity on an object.



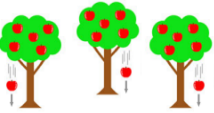

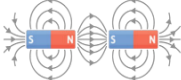

**Mass**- a measure of how much matter (stuff) is inside an object.

**Air resistance**- resistance or drag, acts against gravity on falling objects.

**Water resistance**- type of force that uses friction to slow things down that are moving through water.

**Resistance**- a force between surfaces that are touching.

A force is a push or pull in a particular direction. There are different types of forces:

<p><b>Friction</b></p>  <p>Friction is a force between two surfaces that are sliding across each other. Friction works against the movement and acts in the opposite direction.</p>	<p><b>Water Resistance</b></p>  <p>Water Resistance is a type of force that uses friction to slow things down that are moving through water (or any other type of fluid).</p>	<p><b>Gravity</b></p>  <p>Gravity is a force that pulls any object with mass toward each other. We experience gravity by being pulled down to the Earth.</p>
<p><b>Air Resistance</b></p>  <p>Air resistance is a type of friction between the air and another object. The force acts in the opposite direction to the object moving through the air.</p>	<p><b>Magnetism</b></p>  <p>Magnetism is a force of attraction or repulsion between objects made of certain metals (iron, nickel, cobalt, steel).</p>	<p><b>Upthrust</b></p>  <p>Upthrust is a force exerted on an object that is floating in a liquid or a gas, which makes it rise or move upward.</p>



My **WEIGHT** on Earth is around 560N



My **WEIGHT** on the moon is around 90N



My **MASS** is always 56kg!!

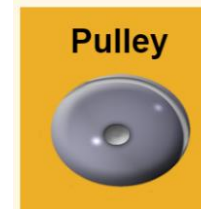
The weight of an object is caused by gravity pulling down on it. Objects with more mass have a greater weight, as the force of gravity pulls them down more strongly.



Studied speed and velocity, gravity and free fall. He invented thermoscope and military compasses. He measured time using pendulums



Levers can be used to make a small force lift a heavier load. A lever always rests on a pivot.



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. They turn in opposite directions when connected.



