



# Year 5 Forces Knowledge Organiser



## Essential Learning

- Forces can be indicated with arrows showing their direction with the stronger the force the larger the arrow.
- On Earth, gravity is the force pulling all objects towards the centre of the Earth.
- Air resistance is the opposing force to gravity and is caused when objects move through the air.
- Air resistance causes objects moving through air to slow down.
- Water resistance is the opposing force to movement or thrust of an object through water.
- Water resistance is an opposite force to gravity and a reason why some objects are buoyant.
- Water resistance causes objects moving through water to slow down.
- Friction is the force created by two objects, materials or surfaces rubbing together.
- Friction causes objects to slow down or stop through contact (this includes air resistance).
- Levers, pulleys and gears can allow smaller forces to have greater effect.

### What to talk to your child about:

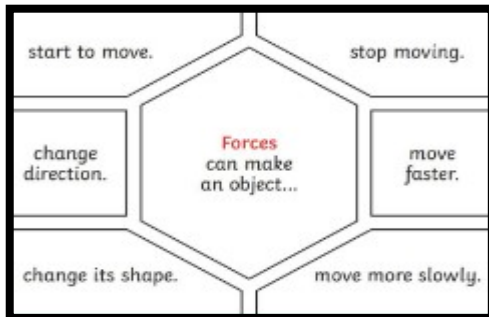
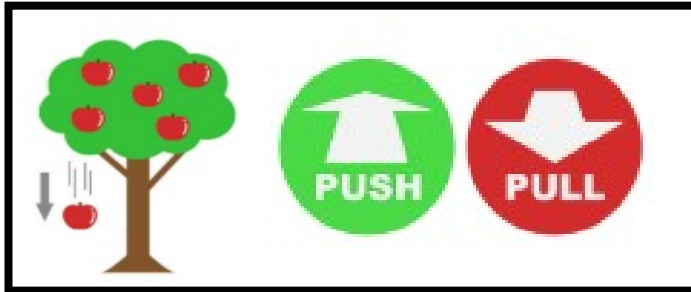
Why are arrows shown in different sizes when labelling forces?

What is gravity and how does it affect us on Earth?

Can you give an example of air or water resistance? What effect does this have on the object?

What is friction? What effect does it have on a moving object?

What are levers, pulleys and gears? What are they used for?



Vocabulary	
<b>accelerate</b>	To speed up.
<b>air resistance</b>	Air resistance is a type of friction between air and another material.
<b>decelerate</b>	To slow down.
<b>friction</b>	Friction is a force between two surfaces that are sliding, or trying to slide, across each
<b>force</b>	A force is a push or pull that causes a change in speed, direction or shape.
<b>gear</b>	A gear is a rotating part in a machine it has teeth cut around its circumference
<b>gravity</b>	Gravity is the name for a force that pulls everything down toward the centre of the Earth. Gravity also pulls any object with mass toward each other. E.g. the Earth and the Moon
<b>lever</b>	A lever is a bar with a balance point called the fulcrum.
<b>pulley</b>	A pulley is a simple machine that makes it easier to lift or move a heavy object.
<b>push</b>	A push is the force that moves an object
<b>pull</b>	A pull is the force of bringing an object closer.
<b>water resistance</b>	Water resistance is a type of friction between water and another material.