

Knowledge Organiser

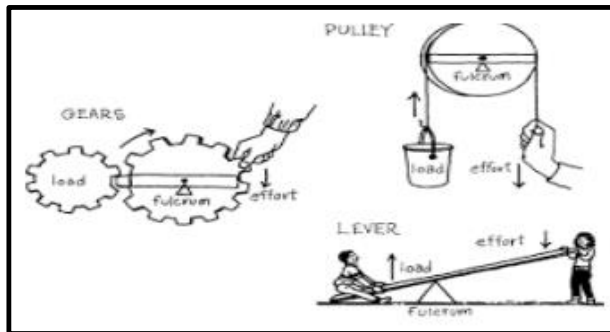
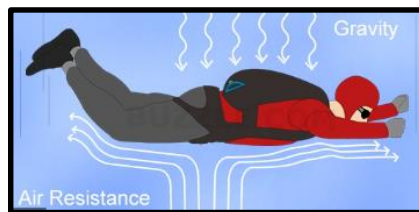
Year 5 ♦ Science ♦ Autumn: Forces



Key Vocabulary

Word	Meaning
force	A push or Pull.
gravity	A force exerted by all objects. The larger the object the , the greater the gravitational pull.
Earth	The planet we live on
Friction	The force between two surfaces, which are moving or trying to move past each other
Water resistance	Friction between water and an object moving through it.
Air resistance	. Friction between air and an object moving through it.
Mechanism	Machine or device which changes a small force into a bigger one
Simple machine	One or more Mechanisms
lever	A straight object resting on a pivot or fulcrum
pulley	A wheel with ropes looped over them
Gear	A tooth wheel which interlocks with another toothed wheel
Mass	How much matter is inside an object
Weight	The force of gravity on an object (N)

FORCE METER – is marked in Newtons and measures the weight of an object.



ISAAC NEWTON

Is considered by some as one of the most important scientists in history. One of his achievements was developing the theory of gravity. It is thought he developed the theory when he saw an apple fall from a tree.



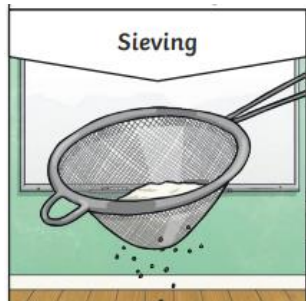
Key Learning

What do forces do?	A force is a push or a pull, which makes an object move, stop moving, speed up, slow down or change direction.
What is gravity?	Gravity is a force that acts at a distance. Everything is pulled to the Earth by gravity. This causes unsupported objects to fall
What is friction?	Friction is a force between 2 surfaces that are sliding or trying to slide across each other. Friction works in the opposite direction to which the object is moving. It slows down the moving object and also produces heat. It can be helpful in certain situations but not helpful in others.
What is air resistance?	It is friction between air and another material. Aeroplanes and cars are streamlined so that they can move through the air as easily as possible.
What is water resistance?	It is friction between water and another material. When you go swimming there is friction between your skin and the water particles.
Types of Mechanisms	
What is a mechanism?	A mechanism changes a small force into a larger force. The small force moves a longer distance and the resulting large force moves a smaller distance, e.g. bottle top remover. Pulleys, levers and gears are all mechanisms.
What is a pulley?	A pulley is used to reduce the amount of force needed to lift a load. The more wheels in a pulley the less force is needed to lift the weight.
What is a lever?	A lever is used to make a small force lift a lighter load. A lever is a straight object resting on a pivot or fulcrum.
What is a gear?	A gear is used to change speed, direction or force of a motion. When 2 gears are connected they always turn in the opposite direction to one another.

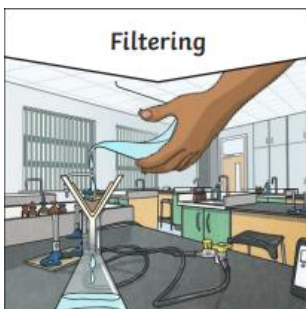
Ignite ♦ Grow ♦ Inspire



Separating Mixtures



Sieving: Smaller materials are able to fall through the holes in the sieve, separating them from larger particles.



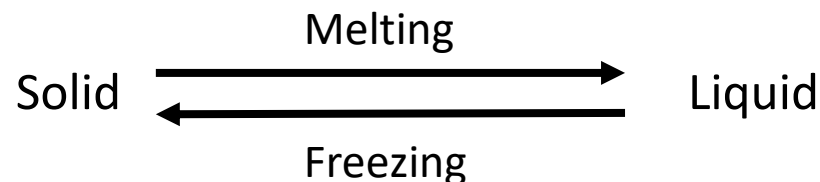
Filtering: The solid particles will get caught in the filter paper but the liquid will be able to get through.



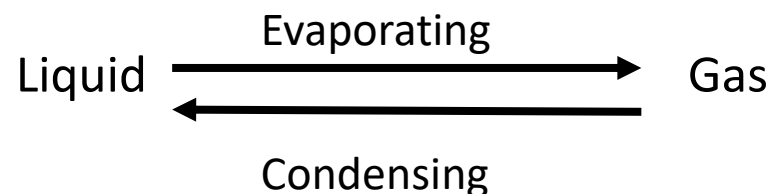
Evaporating: The liquid changes into a gas, leaving the solid particles behind.

Change of State

How to change from solid to liquid:



How to change from liquid to gas:



Extending your learning:

1. Conduct an experiment to see whether the following substances dissolve in water:
 1. Salt
 2. Sugar
 3. Coffee
 4. Sand
 5. Baking soda



Knowledge Organiser Revision Schedule

Here is the revision schedule for this half term's knowledge organiser. Please help your child to learn the specified section each week.

Week	Knowledge Organiser Section to Learn
Week 1 –	
Week 2 –	
Week 3 –	
Week 4 –	
Week 5 –	
Week 6 –	