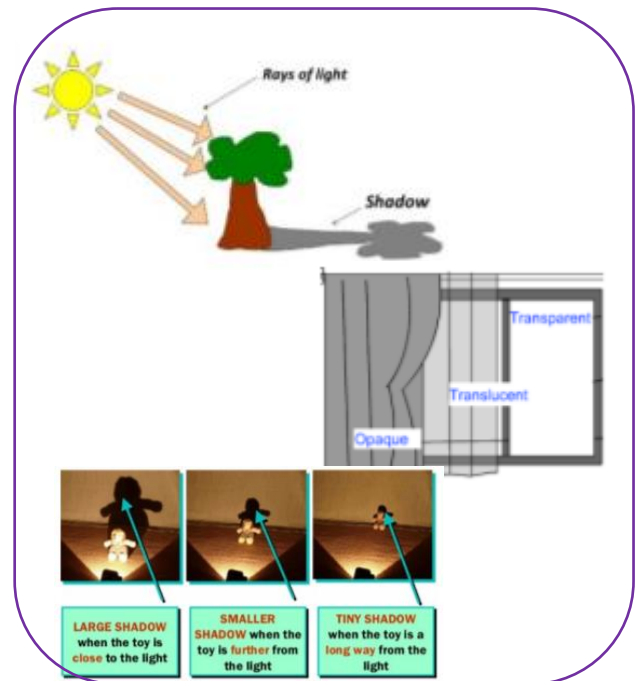


# Autumn 1 Light: Physics

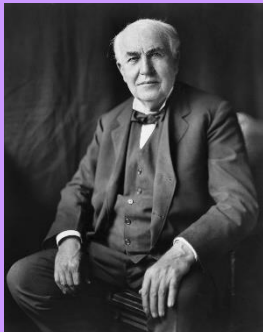


What? (key knowledge)		How does light travel and shadows	
What is light and dark?		What are not sources of light?	The Moon is not a source of light even though we can see it in the dark.
What is a light source?	A light source is something that emits light by burning, electricity or chemical reactions		How does light travel?
Why do we need light?	We need light so that we are able to see in the dark.	How are shadows formed?	When light is blocked by an opaque object, a dark shadow is formed.
What is darkness?	Dark is the absence of light		How do we see objects?

<b>angle</b>	the direction from which you look at something
<b>dark</b>	the absence of light
<b>emits</b>	to emit a sound or light means to produce it
<b>light</b>	a brightness that lets you see things
<b>opaque</b>	if an object or substance is opaque, you cannot see through it
<b>reflects</b>	sent back from the surface and not pass through it
<b>shadows</b>	a dark shape on a surface that is made when something stands between a light and the surface
<b>source</b>	where something comes from
<b>translucent</b>	if a material is translucent, some light can pass through it
<b>transparent</b>	If an object or substance is transparent, you can see through it



**Influential Scientist:**  
**Thomas Edison**



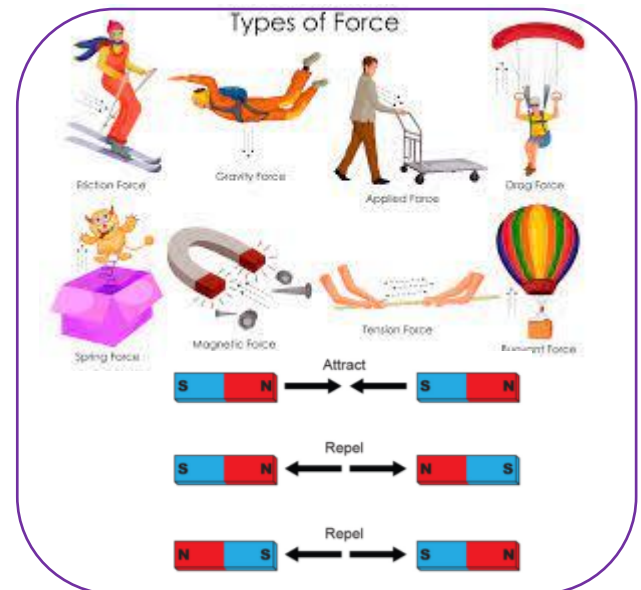
He is best known for inventing 'domestic' lightbulbs to go in houses

# Autumn 2-Forces and Magnets: Physics

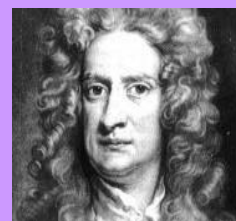


What? (key knowledge)		Magnets		
<b>Forces</b>		<b>How do magnets work?</b>	Magnets produce an area of force around them called a magnetic field which attract or repel objects	
<b>What are forces?</b>	Forces are pushes and pulls		<b>Which materials are magnetic?</b>	
<b>What do forces do?</b>	They make objects start to move, speed up, slow down or even stop.			Objects that are magnetic, are attracted to magnets. Iron and steel are magnetic.
<b>What is friction?</b>	Friction is a force that holds back the motion of an object		<b>What are the magnetic poles?</b>	The ends of a magnet are called poles. One end is called the north pole and the other end is called the south pole.
<b>How do different surfaces affect the motion of an object?</b>	Some surfaces create more friction than others which means that objects move across them slower			<b>How do poles work?</b>

<b>attract</b>	causes an object to move towards another object
<b>friction</b>	a force between two surfaces that are sliding, or trying to slide, across each other
<b>force</b>	the pulling or pushing effect that something has on something else
<b>gravity</b>	the force which causes things to drop to the ground
<b>magnet</b>	a piece of iron which attracts magnetic materials towards it
<b>motion</b>	changing position or moving from one place to another
<b>opposite</b>	something which is completely different in a particular way
<b>pull</b>	move something towards you
<b>push</b>	move something away from you
<b>surface</b>	the flat top part of something or the outside of it



## Influential Scientist: Isaac Newton



The famous story of an apple falling to the ground from a tree illustrates how Newton's work on gravity was inspired by things he observed in the world around him.


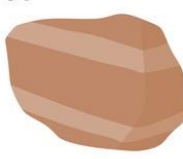

# Spring 1 - Rocks: Chemistry



What? (key knowledge)		Geology	
<b>Rocks</b>		<b>How are metamorphic rocks formed?</b>	When some igneous and sedimentary rocks are heated and squeezed (pressured), they form metamorphic rocks.
<b>What are the different types of rock?</b>	The three types of naturally formed rock are igneous, sedimentary and metamorphic.	<b>What are fossils?</b>	Fossils are the remains of prehistoric life.
<b>How are igneous rocks formed?</b>	When molten magma cools, igneous rocks are formed.	<b>What do fossils show?</b>	Fossils tell us about the Earth and about life that existed hundreds of thousands and millions of years ago.
<b>How are sedimentary rocks formed?</b>	Over millions of years, layers of this sediment builds up forming sedimentary rocks.	<b>What is soil?</b>	Soil is made from pieces of rock, minerals, decaying plants and water.


bedrock	The solid rock in the ground which supports all the soil above it.
decaying	Gradually being destroyed by a natural process.
magma	Molten rock that is formed in very hot conditions inside the earth.
mineral	Something that is formed naturally in rocks and in the earth.
palaeontology	The study of fossils as a guide to the history of life on Earth.
permeable	If a substance is permeable, something such as water or gas can pass through it or soak into it.
porous	Something that is porous has many small holes in it, which water and air can pass through
sediment	Solid material that settles at the bottom of a liquid, especially earth and pieces of rock that have been carried along and then left somewhere by water, ice, or wind.

**Types of Rock**

Igneous
Sedimentary
Metamorphic

SOIL LAYERS



ORGANIC MATTER

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SURFACE SOIL

-----

SUBSOIL

-----


PARENT ROCK

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BEDROCK

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Influential Scientist:  
**Mary Anning**



Mary Anning was a famous fossil hunter and collector from the 19th century.