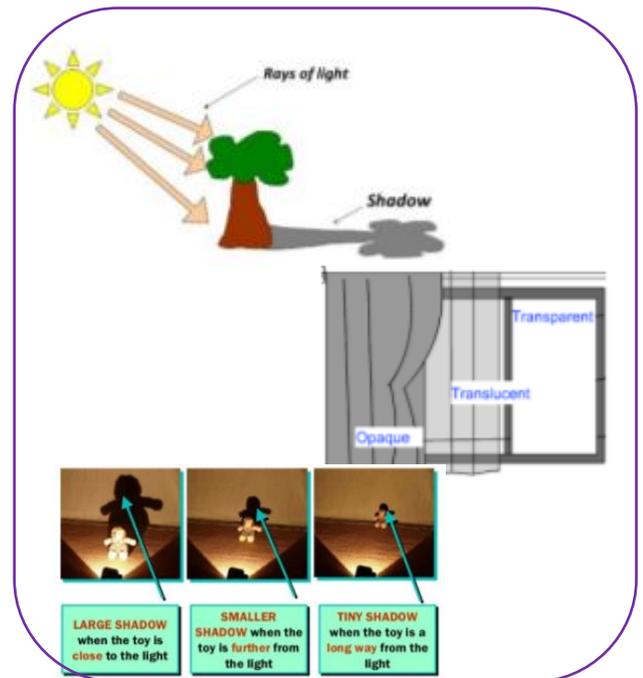


Autumn 1 Light: Physics

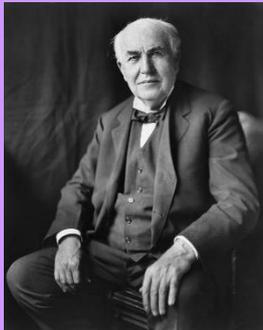


What? (key knowledge)		How does light travel and shadows	
What is light and dark?		What are not sources of light?	The Moon is not a source of light even though we can see it in the dark.
What is a light source?	A light source is something that emits light by burning, electricity or chemical reactions		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?

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



Influential Scientist:
Thomas Edison



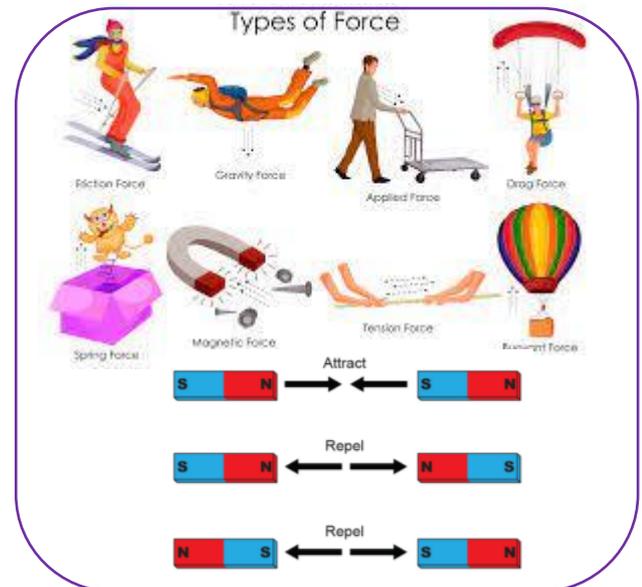
He is best known for inventing 'domestic' lightbulbs to go in houses

Autumn 2-Forces and Magnets: Physics



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

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



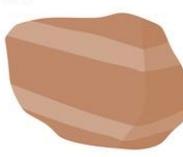
What? (key knowledge)		Geology	
Rocks		How are metamorphic rocks formed?	When some igneous and sedimentary rocks are heated and squeezed (pressured), they form metamorphic rocks.
What are the different types of rock?	The three types of naturally formed rock are igneous, sedimentary and metamorphic.	What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

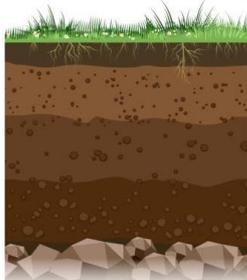


Sedimentary



Metamorphic

SOIL LAYERS



ORGANIC MATTER

SURFACE SOIL

SUBSOIL

PARENT ROCK

BEDROCK

Influential Scientist:

Mary Anning



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