







Science Knowledge Organiser- Electricity




Key Vocabulary	
electricity	The flow of an electric current through a material, e.g. from a power source through wires to an appliance .
appliances	A piece of equipment or a device designed to perform a particular job, such as a washing machine or mobile phone.
battery	A device that stores electrical energy as a chemical. Two or more cells joined together form a battery .
circuit	A pathway that electricity can flow around. It is based around wires and a power supply. Examples of components (parts) you can add in to a circuit are bulbs, switches, buzzers and motors.

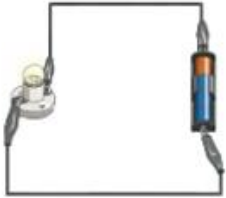
Components (Parts) Vocabulary		
<p>cell: Normally, we would call this a battery but scientifically, this is a cell. Two or more cells joined together form a battery.</p> 	<p>bulb: Lights up in a complete circuit.</p> 	<p>buzzer: Makes a noise in a complete circuit.</p> 
<p>wires: Used to connect the different components in the circuit together.</p> 	<p>motor: Produces movement in a complete circuit.</p> 	<p>switch: Used to turn other components in the circuit on or off.</p> 

Series Circuit

A **circuit** where the components are connected in a loop. **Electricity** flows through each component in a single pathway.




Complete Circuit




Electricity can flow. The components will work.

Incomplete Circuit


There is a break in the **circuit** that prevents the **electricity** from flowing. The components will not work.



Switches can be used to open or close a **circuit**. When off, a switch 'breaks' the **circuit** to stop the flow of **electricity**. When on, a switch 'completes' the **circuit** and allows the **electricity** to flow.



push button switch

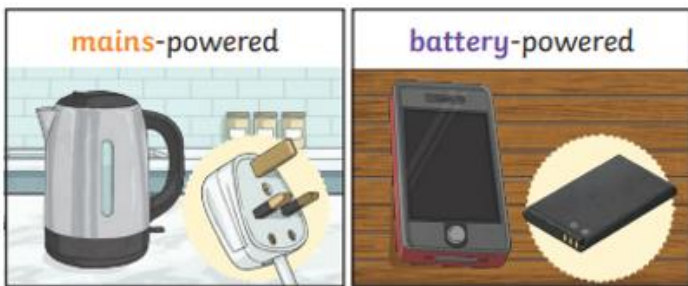




slide switch

Key Vocabulary	
mains electricity	Electricity supplied through wires to a building.
electrical conductor	A conductor of electricity is a material that will allow electricity to flow through it.
electrical insulator	Materials that are electrical insulators do not allow electricity to flow through them.

Appliances

Many everyday **appliances** rely on **electricity** for them to work. Some **appliances** use **mains electricity** (are plugged into a socket) and others have a **battery** to make them work. Examples of **mains-powered appliances** include toasters and televisions. **Battery-powered appliances** can include mobile phones and torches.



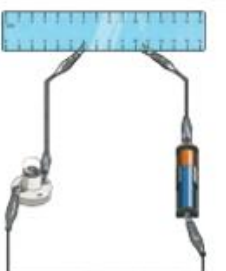


Key Knowledge	
Examples of Electrical Conductors	Examples of Electrical Insulators
	
water metal	wood plastic paper rubber glass fabric

To work **safely** with **circuit** components in the classroom:

- None of the equipment needs to use mains power, so do not put any of it in or near plugs.
- Report any damaged or broken equipment to your teacher. Do not use it.
- Only use equipment as instructed.
- Connect equipment correctly.
- Disconnect equipment after use and put it away neatly.

Materials can be tested in a **circuit** to see if they are **electrical conductors** or **electrical insulators**.

		
10p = metal = electrical conductors	test circuit	ruler = plastic = electrical insulators

Knowledge Organiser-RE-Year 4 Gospel (What type of world would Jesus have wanted?)



Vocabulary

gospel	The teachings of Jesus Christ.
disciple	One of the twelve in the inner circle of Christ's followers.
fishers of men	Fishers of men means that the disciples will be the ones to tell everyone else about Jesus and encourage them to follow him.
unconditional love	Love without conditions or limits.
moral	Concerned with the principles of right and wrong behaviour.
parable	A simple story used to illustrate a moral or spiritual lesson, as told by Jesus in the Gospels.
neighbour	According to Christ, any other human with whom we live or whom we meet.

Jesus' First Disciples



Jesus' first disciples were Andrew and Peter. He told them they were going to be 'fishers of men',

Knowledge Goals:

- Christians believe Jesus challenges everyone about how to live — he sets the example for loving God and your neighbour, putting others first.
- Jesus shows love and forgiveness to unlikely people.
- Christians try to be like Jesus — they want to know him better and better.
- Christians try to put his teaching and example into practice in lots of ways, from church worship to social justice.

The Good Samaritan

The parable of the Good Samaritan is a parable told by Jesus in the Gospel of Luke. It is about a traveller who is robbed, beaten, and left half-dead alongside the road. First, a priest and then a Levite comes by, but both avoid the man. Finally, a Samaritan happens upon the traveller. Samaritans and Jews despised each other, but the Samaritan helps the injured man. Jesus is described as telling the parable in response to the question from a lawyer, "And who is my neighbour?". In response, Jesus tells the parable, the conclusion of which is that the neighbour figure in the parable is the man who shows mercy to the injured man—that is, the Samaritan.



Computing Knowledge organiser:

Investigating weather

Algorithm	A sequence of instructions which, when followed, solve a problem.
Automated machine	Works without the need for human interaction, after being programmed to carry out a specific job.
Calculate	To use mathematics to discover, prove or solve something.
Climate	The weather conditions you would normally expect in a location.
Device	Equipment created for a certain purpose or job.
Forecast	To predict what might happen or occur as the result of something in the future (for example, weather forecasts).
Log data	A record of information that has been collected by a person or a computer, while monitoring something.
Predict	To make an educated guess, as to what might happen or occur as the result of something in the future.
Record	To log information in the present (for example data during a science experiment), to look back on it in the future.
Sensor	A tool or device that is designed to monitor, detect and respond to changes for a specific purpose, such as a smoke alarm, which will ring if smoke is detected in the air.
Source	Where something comes from, for example milk is a source of calcium.
Spreadsheet	A file where you can input, sort and analyse data across a series of cells.
Temperature	How hot or cold something is.
Weather	The current condition of the atmosphere around the world, such as the temperature, rain, wind, clouds and sunshine.

Key facts

Kapow
Primary

A weather station uses a system of sensors to monitor the atmosphere:



Weather satellites collect and send data back down to Earth, after monitoring the atmosphere from space.






Using a green screen when recording, means that the subject (person, animal, object) can be separated from the backdrop and put in front of another background.





Knowledge Organiser- Anglo Saxons and Vikings-History (year 4)

Key Vocabulary	Definition
Anglo-Saxon	People who came from the Germany to live in England during the 5 th century.
Viking	People who travelled from Northern Europe to other regions including England. The Vikings raided and traded with other regions.
Kingdom	A country or place ruled by a King or Queen.
Raid	An unexpected attack where an enemy comes to steal and/or destroy.
Trade	Buying and selling goods or services.
Invasion	To enter a country or a place by force with the intent of taking over.
Mercia	An Anglo-Saxon Kingdom in England, once ruled by a King called Offa who made coins for trading.
Wessex	An Anglo-Saxon Kingdom in England, once ruled by Alfred the Great.
Pagan	A word used to describe people who believe in many Gods and Goddesses, often relating to the natural world. During Anglo-Saxon times people believed many different things.
Danelaw	The area of northern and eastern England ruled by the Vikings.
Danegeld	Money, or goods, paid by the Anglo-Saxons to the Vikings to stop them invading more places.

King Alfred	King Canute	Edward the Confessor
		

Additional Kings:

King Athelstan (King Alfred's Grandson)	King Ethelred II (also known as 'the unready')
	

Timeline





Mechanical Systems - Slingshot car

Aesthetic	How an object or product looks.
Air resistance	The level of drag on an object as it is forced through the air.
Chassis	The body of a car.
Design	To make, draw or write plans for something.
Design criteria	A set of rules to help designers focus their ideas and test the success of them.
Function	The purpose of an object (for example a chair needs to hold a person when sitting down); or how the product works (for example a torch needs to provide light in a dark space).
Graphics	Images which are designed to explain or advertise something.
Kinetic energy	The energy that causes an object to move.
Mechanism	The parts of an object that move together as part of a machine.
Net	A flat 2D shape, that can become a 3D shape once assembled.
Structure	Something that has been made and put together and can usually stand on its own (eg a building, a bridge, a chair).

Key facts

Front view



Bird's-eye view



Side view



Did you know?



Some of the first toy cars were made in 1901, that's over 100 years ago!

Which vehicle has the least air resistance?



