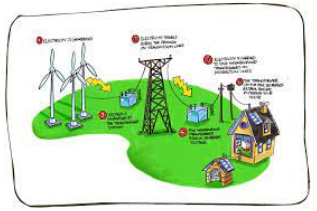
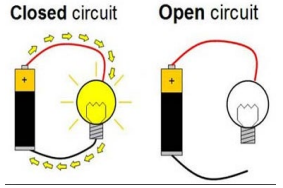
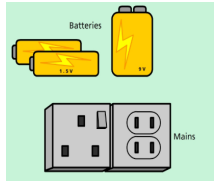
Science

Year 4 Knowledge Organiser: Autumn 1

What is electricity?







Essential vocabulary	
Electrical circuit	The electrical current that runs around a circuit.
electricity	The flow of tiny particles called electrons.
mains electricity	Electricity that comes from a plug.
cell	Another name for a battery.
positive	negative
conductor	Will allow electricity to pass through
insulator	Will not allow electricity to pass through.
bulb	A device made of rounded glass used to make electrical light.
symbol	A picture that represents an electrical component.

Question/Vocabulary	Essential Knowledge
What is electricity?	Electricity is the flow of an electric current through a material.
What are renewable energy sources?	Renewable energy is a source of electricity that will not run out. These include solar, nuclear, geothermal, hydro and wind.
What are non-renewable energy sources?	Non-renewable energy is a source of energy that will eventually run out and so will no longer be able to be used to make electricity. These include fossil fuels – coal, oil and natural gas.
What is a complete circuit?	Electricity can only flow around a complete circuit that has no gaps. There must be wires connected to both the positive and negative end of the power supply/battery.
How do switches 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.
What is a conductor?	A conductor of electricity is a material that will allow electricity to flow through it. Metals are good conductors.
When were Manchester and Llandudno built?	The two types of electrical current that supply appliances in our homes are mains electricity and battery electricity.

Bridging forwards: Year 6 – Electricity

Year 4 Knowledge Organiser: Electricity

Skills

Construct a range of circuits
Explore which materials can be used instead of wires to make a circuit
Classify the materials that were suitable/not suitable for wires
Explore how to connect a range of different switches and investigate how they function in different ways
Choose switches to add to circuits to solve particular problems such as a pressure switch for a burglar alarm
Apply their knowledge of conductors and insulators to design and make different types of switch
Make circuits that can be controlled as part of a DxT project

Essential Knowledge

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Electricity can only flow around a complete circuit that has no gaps. There must be wires connected to both the positive and negative end of the power supply/battery.
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.
A conductor of electricity is a material that will allow electricity to flow through it. Metals are good conductors.
The two types of electrical current that supply appliances in our homes are mains electricity and battery electricity.