Knowledge Organiser

Subject: Science Unit: Electricity

Overview:

During this sequence of learning, pupils will identify common appliances that run on electricity, construct simple circuits, recognise that switches open and close a circuit, identify whether or not a lamp will light up within a circuit and identify common conductors and insulators.

What should I already know?

- An object is made from a material.
- A metal is a material from which objects are made.
- Energy comes in different forms and cannot be created or destroyed, only changed from one form to another.

What will I know by the end of the unit?

- Electrical energy is one of many forms of energy.
- Static electricity is a type of electricity caused by an imbalance of charged particles.
- Current electricity is the flow of electrons around a circuit.
- Electrical current flows well through some materials which are known as conductors.
- Electrical current flows poorly through some materials known as insulators.
- Conductors have free electrons which move when electrical current flows through the conductor.
- Metals are good electrical conductors.
- More than one cell lined up to work together is called a battery.
- Electrical current can flow if there is a complete circuit.
- Wires that contain a conductor inside them can allow an electrical current to pass through them.
- When electrical current flows through a circuit, components that are within that circuit are able to work such as a buzzer which makes a sound or a bulb that lights up.
- A switch functions by completing or breaking a circuit.
- Exposure to high levels of electricity can be dangerous.
- How to construct a simple circuit using different components.
- Electricity flows very well through water and therefore it is very important to be careful when around water and electricity.

Vocabulary:

conductor	A material that allows electricity to flow through it easily.
insulator	A material that does not allow electricity to flow through easily.
circuit	A complete path of an electric current.
electron	A particle with a negative charge of energy.
battery	An electric cell that provides an electric current.
cell	A tiny unit that is a basic building block of living things.
current electricity	The flow of an electric charge.
static electricity	Electricity that consists of isolated stationary charges.
negative terminal	The bottom of a battery where the electricity flows back to.
positive terminal	The top of a battery where the electricity flows from.
chemical reaction	A process where one or more substances are converted to different substances.
emit	To give off or out e.g. emit light.