



St John Fisher RC Primary School

Year 4 Knowledge Organiser – Spring Two - Science

What we will be learning

I know:

Electricity

Lesson 1-4

I know:

- Some common appliances that use electricity.
- How to build and draw series circuits.
- Electrical conductors are materials that allow electricity to flow through them easily.
- Electrical insulators do not allow electricity to flow through them easily.
- How to plan an investigation to see if a material is a conductor or an insulator.

Energy

Lesson 5 and 6

I know:

- Non-renewable energy sources will eventually run out, such as coal, oil and natural gas.
- Renewable energy sources are sources that will not run out.
- Coal is a non-renewable energy source.
- Solar panels are renewable energy source.

Key Knowledge:

Electricity involves electric circuits, which are paths for electricity to flow, consisting of components like batteries, wires, and devices such as bulbs. There are two main types of circuits: series circuits, where components are connected in a single loop, and parallel circuits, which have multiple paths for electricity. Understanding conductors, which allow electricity to flow, and insulators, which do not, is important for safety. Switches play a crucial role by controlling the flow of electricity, allowing us to turn devices on and off. Learning about voltage, the pressure that pushes electric current, and practicing electrical safety are essential for using electricity safely and effectively.

Key Facts to Remember

- An electric circuit is a path that electricity flows through. It includes a power source, like a battery, wires, and devices, such as bulbs or buzzers.
- Conductors are materials that let electricity pass through easily, like metal wires. Insulators, like rubber and plastic, do not allow electricity to flow.
- In a series circuit, all components are connected in one single loop, so if one part fails, the whole circuit stops. In a parallel circuit, components are connected across multiple paths, so if one part fails, others can still work.
- A switch is a simple device that can open or close a circuit, allowing you to turn things on or off. When the switch is closed, electricity flows; when it's open, it stops.
- Voltage is the pressure that pushes electricity through a circuit, while current is the flow of electric charge. More voltage means more power for devices!
- Always handle electricity carefully! Know that water and electricity don't mix, and never touch electrical devices with wet hands to stay safe.

Key Vocabulary and Glossary

Battery	A device that stores electrical energy and provides power to circuits
Circuit	A complete path through which electricity can flow, including components like wires and devices
Conductor	A material that allows electricity to pass through it easily, such as metals like copper
Current	The flow of electric charge through a circuit, measured in amperes (A)
Insulator	A material that does not allow electricity to flow through it, such as rubber or plastic
Series Circuit	A type of circuit where all components are connected in a single loop, so electricity flows through each component in turn
Switch	A device that can open or close a circuit, controlling the flow of electricity to a device
Voltage	The measure of electrical pressure that pushes electric current through a circuit.

