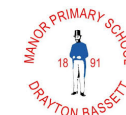


Manor Primary School Knowledge Organiser –UKS2 Science



Topic: Victorians

Phase: UKS2

Strand: Electricity

What should I already know?

From the LKS2 electricity. Topic you should be able to:

- identify common appliances that run on electricity.
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
- recognise some common conductors and insulators, and associate metals with being good conductors.

At the end of the unit, I will be able to:

- Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
- Use recognised symbols when representing a simple circuit in a diagram

We are MANOR! As Scientists we will...

Manners

Develop a respect and understanding for the natural world, its people, animals and plants. Share ideas, celebrate good work, value others' contributions, or discussions and debates.

Aspiration

Learn by being challenged in a series of well-designed scientific enquiry and investigation tasks linked to meaningful contexts and develop a knowledge of scientists and careers to broaden our horizons. Be aspirational in developing scientific knowledge and conceptual understanding through biology, chemistry and physics.

Nurture

To recognise that we live in a wonderful world made up of many different people and living things. We will develop an appreciation and respect for the diverse world and environment in which we live, showing care and compassion for the environment around us.

Open-Mindedness

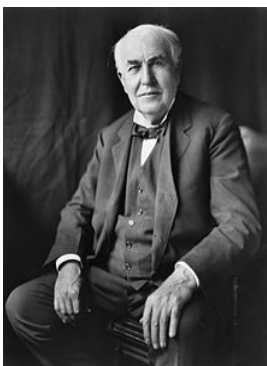
We will be open-minded so that we can conduct experiments or observe what is happening in order to see patterns that might emerge or to gain new knowledge. We will use our curiosity and learn to wonder why something behaves a certain way.

Resilience

Engage confidently with the science curriculum and learn that anything is possible and failure is not something to fear but to learn from. We will develop our scientific enquiry and investigation skills with patience and care, repeating investigations to check the accuracy of results.

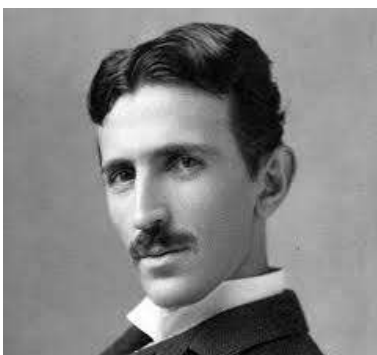
Famous Scientists who worked with electricity

Thomas Edison



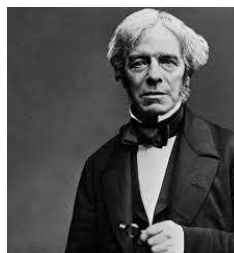
Edison is credited with the invention of the lightbulb, movie camera and alkaline storage batteries.

Nikola Tesla



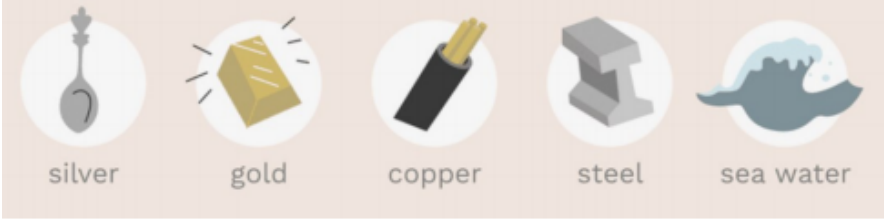
Tesla found a more efficient way to use electricity called alternating current. He is credited with allowing electricity to be used in homes safely. The famous electric car company now uses his name

Michael Faraday



Faraday is the inventor of the first electric motor. He also found that magnets can create electricity

Useful diagrams



Electric conductors:

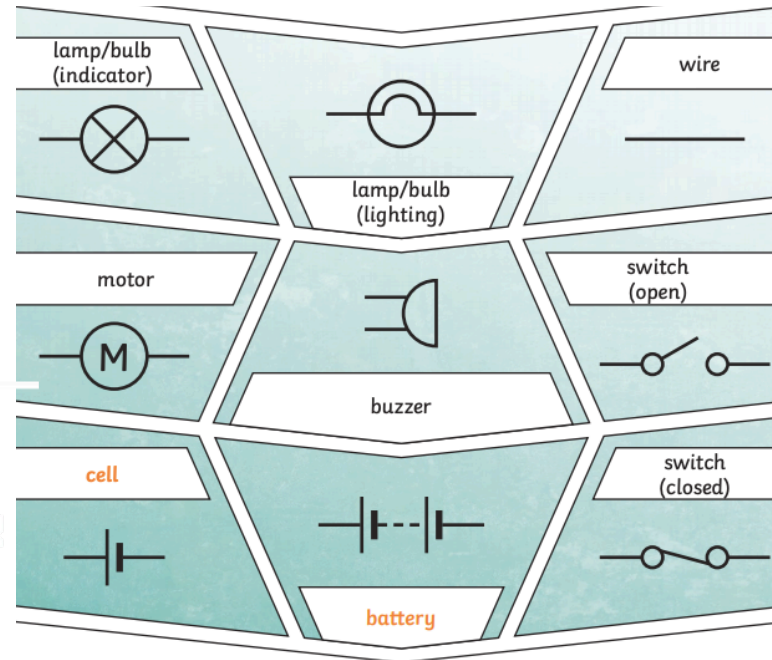


Electric insulators:

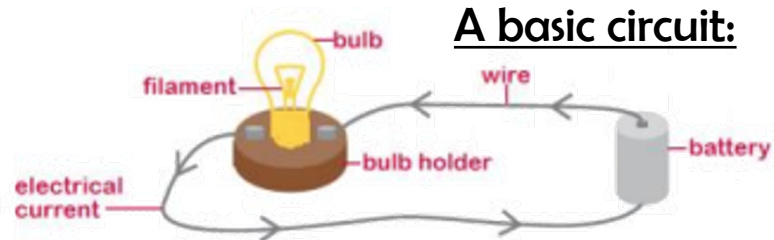
Almost all devices we use daily use electricity to power them



Components of a circuit and their symbols



A basic circuit:



Vocabulary

battery	A container consisting of one or more cells that is used for generating current
bulb	A glass bulb which provides light by passing an electrical current through a filament
Buzzer	An electrical device that makes a buzzing noise and is used for signalling (for example, in a burglar alarm)
Circuit	A complete and closed path around which a circulating current can flow
conductor	A material or device which allows heat or electricity to carry through
current	A flow of electricity which results from the ordered directional movement of electrically charged particles
electricity	A form of energy resulting from the existence of charged particles
filament	A conducting wire or thread with a high melting point which forms part of an electric bulb
insulator	A material or device which reduced or blocks electricity or heat.
motor	A machine powered by electricity that supplies motive power for a vehicle or other moveable device
Static electricity	A stationary electric charge, typically produced by friction, which causes sparks or crackling or the attraction of dust
switch	A device for making and breaking the connection in a circuit
voltage	The force that makes electricity move through a wire

Electricity Quiz

Use the Knowledge Organiser and research to answer these questions.

Question		Answer
1	Who was credited with the invention of the light bulb?	
2	What is the symbol for a lightbulb in a circuit?	
3	Name 3 electric insulators	
4	What is the definition of electricity?	
5	Which of the famous scientists were English?	