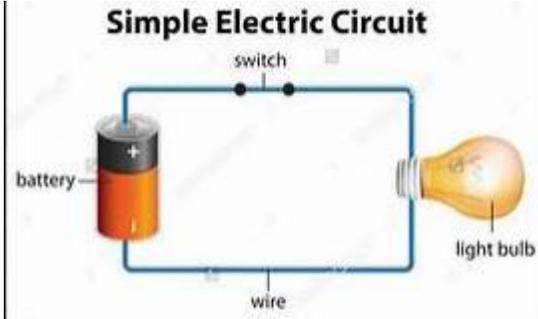


Year 4 Knowledge Organiser Electrical - Torches

Key Knowledge

How to make a simple electrical circuit.



What is an Insulator? An insulator is a material which does not easily allow heat and/or electricity to pass through it. Here are examples of good insulators

- Plastic
- Wood
- Rubber
- Glass

What is a Conductor? An electrical conductor is a material that allows electricity to pass through it easily. Most metals, including

- Iron
- Copper
- Steel

are great electrical conductors. These metals are also good conductors of heat, which is why they are used to make cooking pans and appliances

Key Knowledge

What is electricity?
Electricity is an energy. This energy can be used to power electrical items such as toasters, kettles, cookers, televisions and computer tablets.
Electrical energy is caused by electrons (the particles in atoms) moving about to make a current.
What is a battery? A battery is a source of energy which provides a push - a voltage - of energy to get the current flowing in a circuit.
How can we create electricity?
Electricity can be created in a variety of ways such as:

- burning fossil fuels (oil, gas, coal) at power stations,
- using wind power generated by wind turbines,
- using solar power generated by the sun,
- using water power (sometimes called hydropower) generated by running or falling water

Vocabulary

- Battery
- Conductor
- Insulator
- Circuit
- Battery
- Switch
- Reflector
- Housing
- Electrons
- Energy
- Particles
- Atoms

Key Knowledge

What is a particle? - The extremely tiny parts (substances) that scientists believe everything is made up of.
What is an atom?
The atom is the basic building block for all matter in the universe. Atoms are extremely small and are made up of a few even smaller particles.

Electrical - Torches	
Identifying electrical products and explaining why they are useful and helping to make a working switch	
I can identify the features of a torch, how it works and describing what makes a torch successful.	
I can create suitable designs which fit both the success criteria and my personal design criteria.	
I can create a functioning torch with a switch according to their design criteria	
I can evaluate what was good about my design and how I could improve it.	