

## What will I know by the end of this unit?

- The amount of **cells** in a **circuit** affects the brightness of a bulb.
- The **voltage** of the cells can affect the brightness of a bulb.
- The difference between a series circuit and a parallel circuit.
- Adding or removing of a **components** in a circuit can affect the rest of the circuit.
- **Renewable energy** is an energy source that is not 'used up' such as solar power.
- **Non-renewable energy** is an energy source that is 'used up' such as **fossil fuels** like coal.

## Scientific Skills

- Ask questions about electricity.
- Research facts and information about the electricity.
- Explore and investigate adding or removing components in a circuit and explain the affect this has on the rest of the circuit.
- Explain why a circuit will or will not work using scientific language.
- Give reasons for variations in how components function, such as the brightness of bulbs, the loudness of buzzers and the on/off position of switches.
- Plan different scientific enquiries to answer questions.
- Make careful observations and take accurate measurements.
- Record data using scientific diagrams and labels, as well as using tables and graphs.
- Report and present what I have found out orally and in written forms.

# Electricity

Science

Year 6

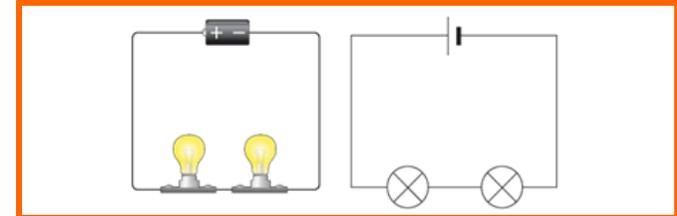
Topic: Electricity

Strand: Physics

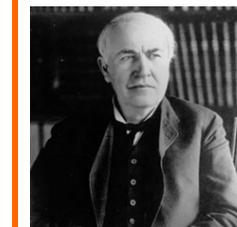
## What should I already know?

- common appliances that use electricity
- Components of a series circuit.
- A switch opens and closes a circuit.
- Electricity is dangerous and electricity should be used safely and appropriately.
- Know some common conductors and insulators of electricity.

## A series circuit



## Thomas Edison



**Thomas Edison** showed that when electric current flowed through wires, their resistance caused them to heat up to the point where they gave out light.

## Benjamin Franklin



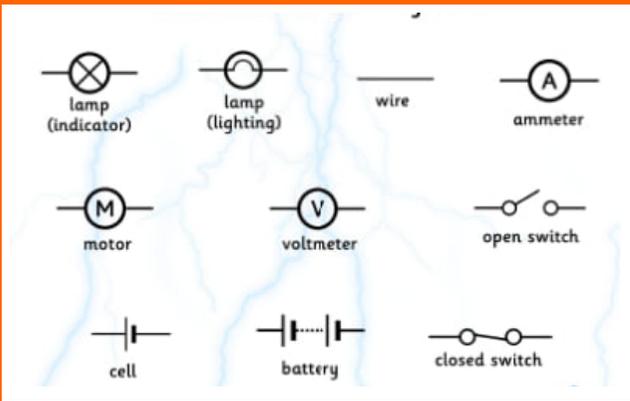
Most people give credit to Benjamin Franklin for discovering electricity.

Benjamin Franklin had one of the greatest scientific minds of his time.

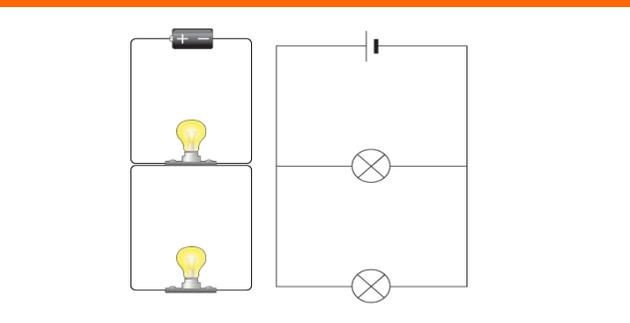
He was interested in many areas of science, made many discoveries, and invented many things, including bifocal glasses.



## Circuit symbols



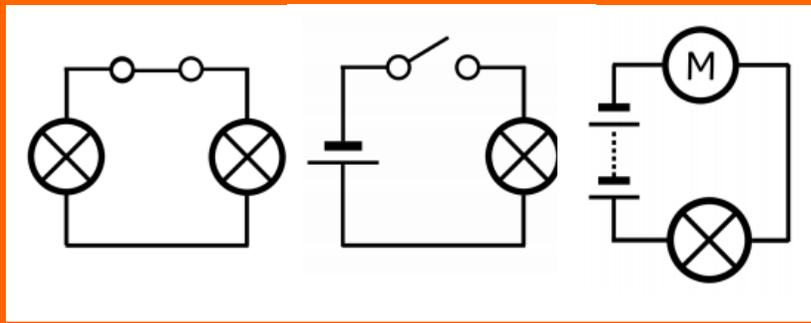
## A parallel circuit



## Subject Specific Vocabulary

<b>cell</b>	A device used to generate electricity.	<b>insulator</b>	A material that doesn't allow electricity to travel through it.
<b>circuit</b>	This is an electrical path that enables electricity to flow around.	<b>conductor</b>	A material that allows electricity to travel through it.
<b>voltage</b>	This is the force that makes the electricity travel through wires. It is measured in volts.	<b>Renewable energy</b>	This energy source that will never run out. These include solar power, wind power, hydro power and nuclear power
<b>components</b>	This is an electrical element such as a bulb, buzzer or motor that can be connected together to make a circuit.	<b>Non-renewable energy</b>	This energy source will eventually run out. It will no longer be able to be used to make electricity. These include fossil fuels such as coal, oil and natural gas.
<b>current</b>	This term is used to describe the movement or the flow of electricity around a circuit.	<b>Positive and negative charge</b>	Protons and electrons are the only two parts of the atom with an electric charge. Protons have a positive charge. Electrons have a negative charge .
<b>resistance</b>	The difficulty of passing the electrical current around the circuit.		
<b>electrons</b>	This is the smallest electrical charge.		

## Which circuit will work? Why? Why not?



If I wanted a buzzer to make a louder sound, would I need to lower or higher the amount of voltage?

