How can I be an electricity apprentice?

St Julie Catholic Primary School – Science		
Topic: Electricity	Year: 6	Strand: Physics

What should I already know?

- Identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts
- 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
- Know the difference between a conductor or an insulator

Key vocabulary	
circuit	A complete path that an electric current can flow around. It flows from the battery, through wires and devices before returning to the battery. If the circuit is not complete the electric current cannot flow.
circuit symbol	A symbol used to represent various electronic components or functions in a diagram of a circuit.
circuit diagram	A visual representation of an electrical circuit using symbols to represent the electrical components.
cell	A single electrical energy source.
battery	A device consisting of one or more cells.
switch	An electrical component that can make or break an electrical circuit. When a switch is open (off), there is a gap in the circuit and electricity cannot flow around the circuit.
voltage	Volts are a measure of the energy of a flow of electricity. Mains electricity carries a voltage of 210-240 volts. A typical cell in school has 1.5 volts.

By the end of this topic I will:

Know that adding more cells to a complete circuit will make a bulb brighter, a motor spin faster or a buzzer make a louder sound.
Know that if you use a battery with a higher voltage, the same thing happens.
Know that adding more bulbs to a circuit will make each bulb less bright.
Know that using more motors or buzzers, each motor will spin more slowly and each buzzer will be quieter.
Know that turning a switch off (open) breaks a circuit so the circuit is not complete and electricity cannot flow.
Know that any bulbs, motors or buzzers will then turn off as well.
Know that you circuit symbols can be used to draw simple circuit diagrams.

Significant scientists

Nicholas Tesla (1856-1943)

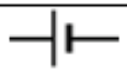
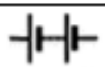
Nicholas Tesla was a Serbian-American engineer and physicist. He invented the first alternating current (AC) motor and developed AC generation and transmission technology. He worked for Thomas Edison when he first moved to New York.

Scientific skills

In investigations I will:

- recognising and control variables.
- decide what observations or measurements to make over time and for how long.

STICKY KNOWLEDGE

cell	
battery	
wire	
bulb	
buzzer	
motor	
switch	

Adding more cells to a circuit makes a bulb brighter: