

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Unit of study: Electricity | | | | |
| Lesson | Learning Objective | Science content | Learning Outcomes | Key Knowledge/Skills |
| 1 | Can I recognise scientific circuit symbols? | Can they identify and name the basic parts of a simple electric circuit? (cells, wires, bulbs, switches, buzzers)? | Can I state what electricity is?  Can I state what a conductor is?  Can I state what an insulator is?  Can I give examples of a conductor and insulator?  Can I recognise different electrical circuit symbols? | Children need to remember what electricity is from year 3/4.  Children need to know what a conductor and an insulator are and give different examples for each.  Children need to learn and match up the different pictures, circuit symbols and pictures of the components together. |
| 2 | Can I recognise and draw scientific circuit symbols? | Can they identify and name the basic parts of a simple electric circuit? (cells, wires, bulbs, switches, buzzers)?  Can they use recognised symbols when representing a simple circuit in a diagram? | Can I recognise different electrical circuit symbols?  Can I draw a simple circuit using the correct symbols?  Can I state if a circuit will work or not from looking at a circuit diagram?  Can I state what needs to be fixed to make a circuit work? | Children to know and identify the different symbols of a circuit.  Children to draw a simple circuit using the correct symbols.  Children to identify whether a circuit will work or not.  Children to know how to make a circuit work if it doesn’t already. |
| 3 | Can I observe and explain the effects of differing voltages in a circuit? | Can they identify and name the basic parts of a simple electric circuit? (cells, wires, bulbs, switches, buzzers)?  Can they use recognised symbols when representing a simple circuit in a diagram?  Can they compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers, the on/off position of switches?  Can they explain how to make changes in a circuit?  Can they explain the impact of changes in a circuit?  Can they explain the effect of changing the voltage of a battery?  Can they vary one factor whilst keeping the others the same in an experiment?  Can they explain why they do this? Can they plan and carry out an investigation by controlling variables fairly and accurately?  Can they make a prediction with reasons?  Can they use information to help make a prediction?  Can they use test results to make further predictions and set up further comparative tests? | Can I understand that we measure electricity in volts?  Can I draw a circuit diagram?  Can I make a prediction using my knowledge of volts?  Can I make set up an investigation?  Can I test my prediction? | Children to know that different batteries have different volts.  Children to know that the higher the voltage, the more powerful it is. E.g., the bulb will be brighter/buzzer will be louder. |
| 4 and 5 | Can I plan an investigation?  Can I understand variations in how components function? | Can they explore different ways to test an idea, choose the best way, and give reasons?  Can they vary one factor whilst keeping the others the same in an experiment?  Can they explain why they do this? Can they plan and carry out an investigation by controlling variables fairly and accurately?  Can they make a prediction with reasons?  Can they use information to help make a prediction?  Can they use test results to make further predictions and set up further comparative tests?  Can they present a report of their findings through writing, display and presentation? | Can I set up a fair test?  Can I make a prediction?  Can I compare my results?  Can I repeat my results?  Can I use my results to answer other questions? | Children to understand that the longer the piece of wire, the dimmer the bulb will be as it takes longer for the volts to pass through the circuit. This is the same with a motor and buzzer too. |
| 6 | Can I research and find out about a famous scientist? | Can they present a report of their findings through writing, display and presentation? | Can I research a famous inventor/scientist and state why they are famous?  Can I state how their invention helped the world? | Children to know that Steve Jobs revolutionised the personal computer for office use (laptops) and creating the iPod and iPhone – which helped change the mobile phone industry and improve communications around the world. |