



Topic:

Electricity

Strand:

Physics

CULTURAL DIVERSITY
Enables our children to develop a growth mindset, by exposure to challenging experiences that allow our children to question and explore opportunities that will enable them to become confident and resilient in all areas of their lives.

Be Brilliant
Enables our children to develop a growth mindset, by exposure to challenging experiences that allow our children to question and explore opportunities that will enable them to become confident and resilient in all areas of their lives.

POSSIBILITIES
Allows our children to explore the world around them, knowing that the experiences they gain will enhance their lives and open doors to new adventures.

ADVENTURE
Exposes our children to a rich and diverse world that is full of colour, music, creativity and celebration. Providing our children with the opportunity to see a world beyond their own, that will inspire and influence their future choices.

Sequence of lessons

Outcome

Working Scientifically skills

1 *As Scientists we are learning about static electricity*
Describe what a static charge is, how to create a build up of static charge and how this can lead to sparks through the air

Children can identify previous knowledge and real life experiences, and understand static charge

Prediction
Observation

2 *As Scientists we are learning to draw circuits using recognised symbols.*
Explore the different symbols used for drawing components of a circuit and use these to build different ones to see if they work.

Children know the symbols for different components of circuits and can use them.

Problem solving
Prediction

3 *As Scientists we are learning about insulators and conductors*
Investigate what different materials we could use for insulators and conductors and their purpose in a circuit

Children know what insulators and conductors are and can describe how to test whether a material is an insulator or conductor

Pattern seeking
Prediction
Observation

4 *As Scientists we are investigating what happens in a circuit when we change the components*
Investigate what happens when we change the number of cells and bulbs in a circuit.

Children understand what happens to a circuit when the number of bulbs and cells is changed

Pattern seeking
Observation
Recording data

5 *As Scientists we are learning about how circuits are used in real life.*
Children will learn about mains and battery powered electricity and sort different appliances using our knowledge gained so far

Children can identify the types of circuits used for different appliances in the home and can show examples of these.

Problem solving
Communication

6 *As Scientists we are learning about switches and buzzers*
We will explore how to create a switch and introduce this to a circuit with a buzzer

Children to learn how to make a switch for their circuit and understand what happens when it introduced with a buzzer

Problem solving
Evaluation

Composite: Design and create a circuit for a game with requires a at least two of the elements taught in this unit.



Topic: Forces **Strand:** Physics


Sequence of lessons		Outcome	Working Scientifically skills
1	<u><i>As Scientists we are learning to explore our previous knowledge</i></u> Never heard the word, knowledge organiser quiz and knowledge harvest.	Children can identify previous knowledge that can support learning in this topic.	Asking questions
2	<u><i>As Scientists we are learning to identify forces.</i></u> Identify and label gravity and resistance forces, identifying balanced and unbalanced forces.	Children have labelled diagrams showing various balanced and unbalanced forces.	Research Asking questions
3	<u><i>As Scientists we are learning to identify and explain the effects of friction.</i></u> Discover different resistances and carry out an investigation to explore air resistance.	Children carry out an investigation, discovering the effects of resistance on objects.	Change over time Prediction
4	<u><i>As Scientists we are learning to identify and explain the effects of different resistances.</i></u> Discover different resistances and carry out an investigation to explore air resistance.	Children carry out an investigation, discovering the effects of gravity and air resistance.	Comparative testing Observing and measuring
5	<u><i>As Scientists we are learning about how mechanisms can allow a small force to have a larger effect.</i></u> Explore levers and pulleys, investigating their effect.	Children carry investigate how levers and pulleys work and can explain the effect on forces.	Comparative testing Communicating results
6	<u><i>As Scientists we are learning to discover the effect of gears on forces.</i></u> Investigate gears and how they work.	Children have explored gear ratios and know how this helps people to ride a bicycle.	Pattern-seeking Recording data


Composite
Children interview each other on opposing forces




Topic: Living things and their habitats

Strand: Biology

Be Brilliant  **CULTURAL DIVERSITY**
Enables our children to develop a growth mindset, by exposure to challenging experiences that allow our children to question and explore opportunities that will enable them to become confident and resilient in all areas of their lives.

Believe  **POSSIBILITIES**
Allows our children to explore the world around them, knowing that the experiences they gain will enhance their lives and open doors to new adventures.

Be brave  **ADVENTURE**
Exposes our children to a rich and diverse world that is full of colour, music, creativity and celebration. Providing our children with the opportunity to see a world beyond their own, that will inspire and influence their future choices.

Sequence of lessons		Outcome	Working Scientifically skills
1	<u><i>As Scientists we are learning to explore our previous knowledge</i></u> Never heard the word, knowledge organiser quiz and knowledge harvest.	Children make links with what they have learned previously.	Asking questions
2	<u><i>As Scientists we are learning about life cycles in animals and plants.</i></u> Children research life cycles of select animals and plants.	Children know what a life cycle is and can explain chosen examples.	Research Asking questions
3	<u><i>As Scientists we are learning how animals change over time.</i></u> Children observe how insects, butterflies, a mammal, etc change over time by having them in class and recording their growth.	Children can explain what happens to certain animals as they grow.	Observation over time. Observation. Recording data
4	<u><i>As Scientists we are learning how animals change over time.</i></u> Children observe how insects, butterflies, a mammal, etc change over time by having them in class and recording their growth.	Children know how types of animals change over time.	Observation over time Observation Recording data
5	<u><i>As Scientists we are learning to set up tests to investigate the types of reproduction in plants.</i></u> Plant a variety of plants from cuttings, seeds and bulbs and grow them over time to explore the ways plants can reproduce..	Children can identify ways that plants can reproduce.	Classification Setting up tests
6	<u><i>As Scientists we are learning about reproduction in plants.</i></u> Explore the plants from the previous lesson to find out how they have grown.	Children know how plants reproduce.	Research / Pattern-seeking Observation Recording data

Composite
Care for a class pet or grow plants to get fruit.