

# Science Intention Map

## Upper Key Stage Two



UKS2 Intention Map 2023 - 2024

**Placing learning at the heart of everything we do.**



# Living Things & Their Habitats

(Beast Creator)



## Learning Intentions

Week 1	<p>Who was Thomas Fairchild?</p> <ul style="list-style-type: none"> <li>• Report and present findings from enquiries.</li> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments</li> </ul>
Week 2	<p>What is sexual reproduction in plants?</p> <ul style="list-style-type: none"> <li>• Plan different types of scientific enquiries to answer questions.</li> <li>• Report and present findings from enquiries.</li> </ul>
Week 3	<p>What is asexual reproduction in plants?</p> <ul style="list-style-type: none"> <li>• Plan different types of scientific enquiries to answer questions.</li> <li>• Report and present findings from enquiries.</li> </ul>
Week 4	<p>How do mammals reproduce?</p> <ul style="list-style-type: none"> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>
Week 5	<p>What is metamorphosis and which animals go through it?</p> <ul style="list-style-type: none"> <li>• Report and present findings from enquiries including causal relationships.</li> </ul>
Week 6	<p>Can you compare the life cycles of different animals?</p> <ul style="list-style-type: none"> <li>• Report and present findings from enquiries including causal relationships.</li> </ul>

## The Laboratory



**Thomas Fairchild**

## National Curriculum

**Sc5-6/1.1 Sc5-6/1.6**  
**Sc5-6/1.7**

**Sc5/2.1a Sc5/2.1b**



## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>Find out about Thomas Fairchild and his work with plants.</li></ul>
Week 2	<ul style="list-style-type: none"><li>Describe the life process of reproduction in some plants and animals by exploring sexual reproduction in plants.</li></ul>
Week 3	<ul style="list-style-type: none"><li>Describe the life process of reproduction in some plants and animals by exploring asexual reproduction in plants.</li></ul>
Week 4	<ul style="list-style-type: none"><li>Describe the life cycle of a mammal.</li><li>Describe the life process of reproduction in some plants and animals by describing sexual reproduction in mammals.</li></ul>
Week 5	<ul style="list-style-type: none"><li>Describe the differences in the life cycles of an amphibian and an insect by exploring complete and incomplete metamorphosis.</li></ul>
Week 6	<ul style="list-style-type: none"><li>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird by describing and comparing different life cycles, including birds.</li></ul>

## Assessment

*. Describe and explain the process of reproduction in sexual and asexual plants – two diagrams with labels and an explanation.*

## Reference Units

How do worms reproduce?  
(LTI)



Why do birds lay eggs?  
(LTI)

Where do wild plants  
grow? (LTI)





# Living Things & Their Habitats

(Peasants, Princes & Pestilence)



## Learning Intentions

Week 1	<p>Who is Jade Goodall?</p> <ul style="list-style-type: none"> <li>• Report and present findings from enquiries.</li> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>
Week 2	<p>What is classification?</p> <ul style="list-style-type: none"> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> <li>• Use simple models to describe scientific ideas.</li> </ul>
Week 3	<p>How can we classify Vertebrates?</p> <ul style="list-style-type: none"> <li>• Record data and results of increasing complexity using classification keys.</li> </ul>
Week 4	<p>How can we classify Invertebrates?</p> <ul style="list-style-type: none"> <li>• Record data and results of increasing complexity using classification keys.</li> </ul>
Week 5	<p>How can we use a key to determine the species of an animal?</p> <ul style="list-style-type: none"> <li>• Record data and results of increasing complexity using classification keys.</li> </ul>
Week 6	<p>How can we classify plants?</p> <ul style="list-style-type: none"> <li>• Record data and results of increasing complexity using classification keys.</li> </ul>

## The Laboratory



**Jane Goodall**

## National Curriculum

**Sc5-6/1.3 Sc5-6/1.5**  
**Sc5-6/1.6 Sc5-6/1.7**

**Sc6/2.1a Sc6/2.1b**



## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>Understand who Jane Goodall is and her contributions to the study of animals.</li></ul>
Week 2	<ul style="list-style-type: none"><li>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.</li></ul>
Week 3	<ul style="list-style-type: none"><li>Give reasons for classifying animals (Vertebrates) based on specific characteristics.</li></ul>
Week 4	<ul style="list-style-type: none"><li>Give reasons for classifying animals (Invertebrates) based on specific characteristics.</li></ul>
Week 5	<ul style="list-style-type: none"><li>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.</li></ul>
Week 6	<ul style="list-style-type: none"><li>Give reasons for classifying plants based on specific characteristics.</li></ul>

## Assessment

*Create a classification key.*

## Reference Units

Why are things classified? (LTI)





# Earth & Space

(Stargazer)



## Learning Intentions

## The Laboratory



**Galileo**

## National Curriculum

*Sc5-6/1.3 Sc5-6/1.5  
Sc5-6/1.7*

*Sc5/4.1a Sc5/4.1b*

*Sc5/4.1c Sc5/4.1d*

Week 1	<p>Who was Galileo?</p> <ul style="list-style-type: none"> <li>• <i>Report and present findings from enquiries.</i></li> <li>• <i>Identify scientific evidence that has been used to support or refute ideas or arguments.</i></li> </ul>
Week 2	<p>What shape are the sun, Earth and moon?</p> <ul style="list-style-type: none"> <li>• <i>Identify scientific evidence that has been used to support or refute ideas or arguments.</i></li> </ul>
Week 3	<p>Can you name the planets in our solar system?</p> <ul style="list-style-type: none"> <li>• <i>Present findings from enquiries</i></li> <li>• <i>Record data using diagrams and labels.</i></li> </ul>
Week 4	<p>How do the planets in our solar system move?</p> <ul style="list-style-type: none"> <li>• <i>Present findings from enquiries</i></li> <li>• <i>Identify scientific evidence that has been used to support ideas.</i></li> <li>• <i>Use simple models to explain scientific ideas.</i></li> </ul>
Week 5	<p>What do we know about the moon?</p> <ul style="list-style-type: none"> <li>• <i>Record data using diagrams and labels.</i></li> <li>• <i>Identify scientific evidence that has been used to support ideas.</i></li> </ul>
Week 6	<p>Why do we have day and night?</p> <ul style="list-style-type: none"> <li>• <i>Identify scientific evidence that has been used to support ideas.</i></li> </ul>





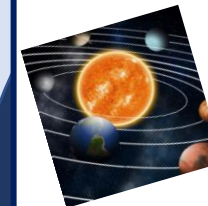
## Knowledge Intentions

## Assessment

*Draw and order the planets in our solar system, explaining how they move and orbit the sun.*

## Reference Units

Week 1	<ul style="list-style-type: none"><li>• <i>Explain who Galileo was and his discoveries.</i></li></ul>
Week 2	<ul style="list-style-type: none"><li>• <i>Describe the sun, Earth and moon as approximately spherical bodies.</i></li></ul>
Week 3	<ul style="list-style-type: none"><li>• <i>Describing the movement of the Earth, and other planets, relative to the Sun in the solar system by learning the order of the planets and how they move in the solar system.</i></li></ul>
Week 4	<ul style="list-style-type: none"><li>• <i>Describe the movement of the Earth and other planets relative to the sun in the solar system.</i></li></ul>
Week 5	<ul style="list-style-type: none"><li>• <i>Describe the movement of the moon relative to the Earth.</i></li><li>• <i>Explain the moon's phases.</i></li></ul>
Week 6	<ul style="list-style-type: none"><li>• <i>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</i></li></ul>



Earth & Space

How does the moon move?



How do we know the Earth is round?



# Electricity

(A Childs War)



## Learning Intentions

Week 1	<p>Who is Hertha Ayrton?</p> <ul style="list-style-type: none"> <li>Report and present findings from enquiries.</li> <li>Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>
Week 2	<p>How do we stay safe around electricity?</p> <ul style="list-style-type: none"> <li>Identify scientific evidence that has been used to support or refute ideas or arguments</li> </ul>
Week 3	<p>What are the circuit symbols?</p> <ul style="list-style-type: none"> <li>Record data and results of increasing complexity using scientific diagrams and labels.</li> </ul>
Week 4	<p>What is voltage and what affect does it have?</p> <ul style="list-style-type: none"> <li>Plan a scientific enquiry to answer questions, including recognising and controlling variables where necessary.</li> <li>Take measurements, using a range of scientific equipment, with increasing accuracy and precision</li> <li>Record data and results of increasing complexity using scientific diagrams and labels and tables.</li> <li>Reporting and presenting findings from enquiries.</li> </ul>
Week 5	<p>What affects the brightness of a bulb?</p> <ul style="list-style-type: none"> <li>Plan a scientific enquiry to answer questions, including recognising and controlling variables where necessary.</li> <li>Record data and results of increasing complexity using scientific diagrams and labels and tables.</li> <li>Reporting and presenting findings from enquiries.</li> </ul>
Week 6	<p>How can you make the buzzer louder?</p> <ul style="list-style-type: none"> <li>Plan a scientific enquiry to answer questions, including recognising and controlling variables where necessary.</li> <li>Use previous test results to make predictions.</li> <li>Record data and results of increasing complexity using scientific diagrams and labels and tables.</li> <li>Reporting and presenting findings from enquiries.</li> </ul>

## The Laboratory



**Hertha Ayrton**

## National Curriculum

Sc5-6/1.1 Sc5-6/1.2

Sc5-6/1.3 Sc5-6/1.4  
Sc5-6/1.6 Sc5-6/1.7

Sc6/4.2a Sc6/4.2b Sc6/4.2c





## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>Find out who Hertha Ayrton was and her discoveries of the electrical Arc.</li></ul>
Week 2	<ul style="list-style-type: none"><li>Understand how to stay safe when using electricity.</li></ul>
Week 3	<ul style="list-style-type: none"><li>Use recognised symbols when representing a simple circuit in a diagram.</li></ul>
Week 4	<ul style="list-style-type: none"><li>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</li></ul>
Week 5	<ul style="list-style-type: none"><li>Compare and give reasons for variations in how components function, including the brightness of bulbs.</li></ul>
Week 6	<ul style="list-style-type: none"><li>Compare and give reasons for variations in how components function, including the loudness of buzzers.</li></ul>

## Assessment

*Create different circuits with a variety of components and record diagrams using correct symbols.*

## Reference Units



Electrical Circuits & Components (CP)



Can fruit light a bulb? (LT1)



## Animals Including Humans

(Time Traveller)



### Learning Intentions

### The Laboratory



**Andrew Steele**

Week 1	<b>Who is Andrew Steele?</b> <ul style="list-style-type: none"><li>• <i>Report and present findings from enquiries.</i></li><li>• <i>Identify scientific evidence that has been used to support or refute ideas or arguments.</i></li></ul>
Week 2	<b>What is the life cycle of a human?</b> <ul style="list-style-type: none"><li>• <i>Identify scientific evidence.</i></li><li>• <i>Present findings in different ways.</i></li></ul>
Week 3	<b>How do babies grow and develop?</b> <ul style="list-style-type: none"><li>• <i>Identify scientific evidence.</i></li><li>• <i>Present findings in different ways.</i></li></ul>
Week 4	<b>What changes occur during puberty?</b> <ul style="list-style-type: none"><li>• <i>Identify scientific evidence.</i></li><li>• <i>Present findings in different ways.</i></li></ul>
Week 5	<b>What changes take place in old age?</b> <ul style="list-style-type: none"><li>• <i>Identify scientific evidence.</i></li><li>• <i>Present findings in different ways.</i></li></ul>
Week 6	<b>Can we compare the gestation period of different animals?</b> <ul style="list-style-type: none"><li>• <i>Identify scientific evidence.</i></li><li>• <i>Present findings in different ways.</i></li></ul>

### National Curriculum

**Sc5-6/1.6 Sc5-6/1.7**

**Sc5/2.2a**



## Knowledge Intentions

## Assessment

*Create a booklet that describes the eight stages of human development.*

## Reference Units

Human Reproduction  
& Aging



*Do we slow down as we older?*



# Evolution & Inheritance (1D)



## Learning Intentions

Week 1	<p>Who was Rosalind Franklin?</p> <ul style="list-style-type: none"> <li>• Report and present findings from enquiries.</li> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>
Week 2	<p>What is inheritance?</p> <ul style="list-style-type: none"> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>
Week 3	<p>How are animals adapted to their environments?</p> <ul style="list-style-type: none"> <li>• Plan a scientific enquiries to find out how different animals are adapted to their environments.</li> <li>• Report and present findings from enquiries.</li> </ul>
Week 4	<p>What is the theory of evolution?</p> <ul style="list-style-type: none"> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>
Week 5	<p>What do fossils tell us?</p> <ul style="list-style-type: none"> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>
Week 6	<p>Can we investigate the variation within our class?</p> <ul style="list-style-type: none"> <li>• Plan a scientific enquiry to investigate the variation within the class.</li> <li>• Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</li> <li>• Report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.</li> </ul>

## The Laboratory



**Rosalind  
Franklin**

## National Curriculum

**Sc5-6/1.1 Sc5-6/1.3**  
**Sc5-6/1.6 Sc5-6/1.7**

**Sc6/2.3a Sc6/2.3b Sc6/2.3c**



## Knowledge Intentions

### Assessment

*An investigation into variation.*

### Reference Units

Week 1	<ul style="list-style-type: none"><li>• <i>Find out about Rosalind Franklin and her work with DNA.</i></li></ul>
Week 2	<ul style="list-style-type: none"><li>• <i>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</i></li><li>• <i>Understand the difference between inherited variation and environmental variation.</i></li></ul>
Week 3	<ul style="list-style-type: none"><li>• <i>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</i></li></ul>
Week 4	<ul style="list-style-type: none"><li>• <i>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</i></li></ul>
Week 5	<ul style="list-style-type: none"><li>• <i>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</i></li></ul>
Week 6	<ul style="list-style-type: none"><li>• <i>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</i></li><li>• <i>Understand the difference between inherited variation and environmental variation.</i></li></ul>



*Evolution & Inheritance (CP)*

*How does inheritance work? (LTI)*

