

# Science Intention Map

## Lower Key Stage Two



Intention Map 2024 - 2025

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



# Electricity

(I am Warrior)



## Learning Intentions

Week 1	<p><i>Who was Nikola Tesla?</i></p> <ul style="list-style-type: none"> <li>• Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
Week 2	<p><i>What common Appliances run on electricity?</i></p> <ul style="list-style-type: none"> <li>• Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>• Make systematic and careful observations.</li> </ul>
Week 3	<p><i>Can you name the electrical components?</i></p> <ul style="list-style-type: none"> <li>• Record findings using simple scientific language and labelled diagrams.</li> </ul>
Week 4	<p><i>Can you make a working circuit?</i></p> <ul style="list-style-type: none"> <li>• Set up simple practical enquiries.</li> <li>• Make systematic and careful observations.</li> <li>• Record findings using simple scientific language and labelled diagrams.</li> </ul>
Week 5	<p><i>What makes a circuit complete?</i></p> <ul style="list-style-type: none"> <li>• Set up simple practical enquiries.</li> <li>• Make systematic and careful observations.</li> <li>• Record findings using simple scientific language and labelled diagrams.</li> <li>• Identify changes related to simple scientific ideas.</li> <li>• Make simple predictions and draw conclusions.</li> </ul>
Week 6	<p><i>What conducts electricity?</i></p> <ul style="list-style-type: none"> <li>• Make simple predictions and draw conclusions.</li> <li>• Set up simple practical enquiries.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams and tables.</li> </ul>

## The Laboratory



**Nikola Tesla**

## National Curriculum

- Sc3-4/1.1a Sc3-4/1.1b  
 Sc3-4/1.1c Sc3-4/1.1e  
 Sc3-4/1.1f Sc3-4/1.1g  
 Sc3-4/1.1h Sc3-4/1.1i
- Sc4/6.1a Sc4/6.1b  
 Sc4/6.1c  
 Sc4/6.1d Sc4/6.1e



## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>• Explain who Nikola Tesla was and his contributions to the studies of electricity.</li></ul>
Week 2	<ul style="list-style-type: none"><li>• Identify common appliances that run on electricity.</li></ul>
Week 3	<ul style="list-style-type: none"><li>• Identify and name circuit components, including cells, wires, bulbs, switches and buzzers.</li></ul>
Week 4	<ul style="list-style-type: none"><li>• Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</li></ul>
Week 5	<ul style="list-style-type: none"><li>• 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.</li><li>• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</li></ul>
Week 6	<ul style="list-style-type: none"><li>• Recognise some common conductors and insulators, and associate metals with being good conductors.</li></ul>

## Assessment

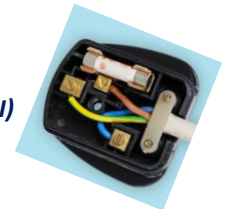
*Construct a working circuit.*

## Reference Units



*Electrical Circuits & Conductors (CP)*

*How do plugs work? (SI)*



*What conducts electricity? (SI)*



# States of Matter (Potions)



## Learning Intentions

Week 1	Who was Alexander Fleming? <i>Ask relevant questions and use different types of scientific enquiries to answer them.</i> <ul style="list-style-type: none"> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
Week 2	What are the properties of a solid, liquid and gas? <ul style="list-style-type: none"> <li>Make careful observations.</li> <li>Ask relevant questions and use different types of scientific enquiries to answer them.</li> </ul>
Week 3	Solid, liquid or gas? <ul style="list-style-type: none"> <li>Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>Use straightforward scientific evidence to answer questions or to support their findings.</li> </ul>
Week 4	What happens when we mix bicarbonate of soda and vinegar? <ul style="list-style-type: none"> <li>Make predictions.</li> <li>Set up simple practical enquiries.</li> <li>Make systematic and careful observations.</li> </ul>
Week 5	How does water change state? <ul style="list-style-type: none"> <li>Make systematic and careful observations.</li> <li>Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</li> </ul>
Week 6	How does heating and cooling change the state of matter? <ul style="list-style-type: none"> <li>Set up simple practical enquiries, comparative and fair tests.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</li> <li>Make predictions and draw conclusions.</li> </ul>

## The Laboratory



**Alexander Fleming**

## National Curriculum

- Sc3-4/1.1a Sc3-4/1.1b  
 Sc3-4/1.1c Sc3-4/1.1e  
 Sc3-4/1.1f Sc3-4/1.1g  
 Sc3-4/1.1i  
 Sc4/4.1a Sc4/4.1b  
 Sc4/4.1c



## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>Explain who Alexander Fleming was and his discovery of antibiotics.</li></ul>
Week 2	<ul style="list-style-type: none"><li>Explain the properties of a solid (holds its shape), a liquid (forms a pool, takes shape of container) and a gas (escape from unsealed container).</li></ul>
Week 3	<ul style="list-style-type: none"><li>Compare and group materials together, according to whether they are solids, liquids or gases.</li></ul>
Week 4	<ul style="list-style-type: none"><li>Work scientifically to investigate gases.</li></ul>
Week 5	<ul style="list-style-type: none"><li>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius.</li></ul>
Week 6	<ul style="list-style-type: none"><li>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius.</li></ul>

## Assessment

*Explain the properties of solids, liquids and gases.*

## Reference Units



*States of matter (CP)*

*Are all liquids runny? (SI)*





# The Water Cycle

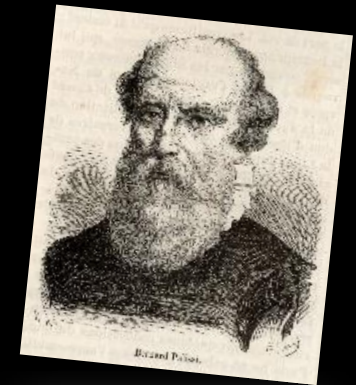
(Misty Mountain Sierra)



## Learning Intentions

Week 1	<p>Who was Bernard Palissy?</p> <ul style="list-style-type: none"> <li>• Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
Week 2	<p>What is the water cycle?</p> <ul style="list-style-type: none"> <li>• Ask relevant questions and using different types of scientific enquiries to answer them.</li> <li>• Make systematic and careful observations.</li> </ul>
Week 3	<p>Can you observe what happens in the water cycle?</p> <ul style="list-style-type: none"> <li>• Set up simple practical enquiry.</li> <li>• Make careful observations.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams.</li> </ul>
Week 4	<p>What affects the rate of evaporation?</p> <ul style="list-style-type: none"> <li>• Set up simple practical enquiries, comparative and fair tests.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</li> <li>• Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</li> <li>• Make predictions and draw conclusions.</li> </ul>
Week 5	<p>Why does it flood?</p> <ul style="list-style-type: none"> <li>• Ask relevant questions and use different scientific enquiries to answer them.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</li> <li>• Use results to draw simple conclusions</li> </ul>
Week 6	<p>How can landscapes change?</p> <ul style="list-style-type: none"> <li>• Ask relevant questions and use different scientific enquiries to answer them.</li> <li>• Identify differences, similarities or changes related to simple scientific ideas and processes.</li> </ul>

## The Laboratory



**Bernard Palissy**

## National Curriculum

- Sc3-4/1.1a Sc3-4/1.1b  
 Sc3-4/1.1d Sc3-4/1.1e  
 Sc3-4/1.1f Sc3-4/1.1h  
 Sc4/4.1c



## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>• Explain who Bernard Palissy was and his discovery of the water cycle.</li></ul>
Week 2	<ul style="list-style-type: none"><li>• Identify the part played by evaporation and condensation in the water cycle.</li></ul>
Week 3	<ul style="list-style-type: none"><li>• Identify the part played by evaporation and condensation in the water cycle by observing the water cycle in action.</li></ul>
Week 4	<ul style="list-style-type: none"><li>• Associate the rate of evaporation with temperature.</li></ul>
Week 5	<ul style="list-style-type: none"><li>• Explain how flooding may occur due to water flowing over/ being absorbed by different materials.</li></ul>
Week 6	<ul style="list-style-type: none"><li>• Explain how landscapes may change due to human/ natural changes.</li></ul>

## Assessment

*Draw and label the stages of the water cycle.*

## Reference Units

*Why does it flood? (SI)*



*How fast does water flow? (SI)*

*Where does water go? (SI)*





## Living things & Their habitats

(Traders & Raiders)



### Learning Intentions

Week 1	<p>Who was Carl Linnaeus?</p> <ul style="list-style-type: none"> <li>Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
Week 2	<p>How can living things be grouped?</p> <ul style="list-style-type: none"> <li>Gather, record, classify and present data in a variety of ways to help in answering questions by using a range of methods to sort and group living things.</li> </ul>
Week 3	<p>How can we classify vertebrates?</p> <ul style="list-style-type: none"> <li>Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>Identifying differences, similarities or changes related to simple scientific ideas and processes by identifying vertebrates by their similarities and differences.</li> </ul>
Week 4	<p>Can you use a key to identify invertebrates?</p> <ul style="list-style-type: none"> <li>Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>Using straightforward scientific evidence to answer questions by explaining how they have identified an invertebrate.</li> <li>Set up simple practical enquiry.</li> <li>Make careful observations.</li> </ul>
Week 5	<p>Can you create your own classification key?</p> <ul style="list-style-type: none"> <li>Gather, record, classify and present data in a variety of ways to help in answering questions by creating tables and keys showing the characteristics of living things.</li> </ul>

### The Laboratory



**Carl Linnaeus**

### National Curriculum

Sc3-4/1.1a Sc3-4/1.1b  
 Sc3-4/1.1d Sc3-4/1.1e  
 Sc3-3/1.1f Sc3-4/1.1g  
 Sc3-4/1.1h Sc3-4/1.1i  
 Sc4/2.1a Sc4/2.1b





## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>• Explain who Carl Linnaeus was and his work with classification.</li></ul>
Week 2	<ul style="list-style-type: none"><li>• Recognise that living things can be grouped in a variety of ways.</li></ul>
Week 3	<ul style="list-style-type: none"><li>• Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li></ul>
Week 4	<ul style="list-style-type: none"><li>• Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li></ul>
Week 5	<ul style="list-style-type: none"><li>• Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li></ul>

## Assessment

*Use a classification scheme to identify and group living things.*

## Reference Units

*Grouping & Classifying (CP)*





# Animals including humans

(Bottoms, Burps & Bile)



## Learning Intentions

Week 1	<p>Who was William Beaumont?</p> <ul style="list-style-type: none"> <li>Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
Week 2	<p>What are the different types of teeth and their functions?</p> <ul style="list-style-type: none"> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
Week 3	<p>What damages our teeth?</p> <ul style="list-style-type: none"> <li>Set up simple practical enquiries, comparative and fair tests.</li> <li>Make predictions.</li> <li>Make systematic and careful observations.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams.</li> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
Week 4	<p>What are the parts of the digestive system?</p> <ul style="list-style-type: none"> <li>Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>Use straightforward scientific evidence to answer questions or to support their findings.</li> </ul>
Week 5	<p>What happens during digestion?</p> <ul style="list-style-type: none"> <li>Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>Use straightforward scientific evidence to answer questions or to support their findings.</li> </ul>
Week 6	<p>What journey does food take?</p> <ul style="list-style-type: none"> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>

## The Laboratory



**William Beaumont**

## National Curriculum

**Sc3-4/1.1a Sc3-4/1.1b**  
**Sc3-4/1.1c Sc3-4/1.1d**  
**Sc3-4/1.1e Sc3-3/1.1f**  
**Sc3-4/1.1g Sc3-4/1.1h**  
**Sc3-4/1.1i**  
**Sc4/3.1a Sc4/3.1b**



## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>Explain who William Beaumont was and his research on the digestive system.</li></ul>
Week 2	<ul style="list-style-type: none"><li>Identify the different types of teeth in humans and their simple functions.</li></ul>
Week 3	<ul style="list-style-type: none"><li>Explain what can damage teeth and the importance of looking after them.</li></ul>
Week 4	<ul style="list-style-type: none"><li>Identify the basic parts of the digestive system in humans and explain their function.</li></ul>
Week 5	<ul style="list-style-type: none"><li>Explain how food is digested either chemically or mechanically.</li><li>Explain how nutrients are absorbed from food as it passes through the small intestine.</li></ul>
Week 6	<ul style="list-style-type: none"><li>Describe the simple functions of the basic parts of the digestive system in humans.</li></ul>

## Reference Units

*Design a poster that explain how the digestive system works.*

## Reference Units



*What is spit for? (SI)*

*Food & the digestive system? (CP)*



*How does toothpaste Protect teeth? (SI)*



## Changes on environment & habitats (1066)



### Learning Intentions

Week 1	<p>Who is Greta Thunberg?</p> <ul style="list-style-type: none"> <li>Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
Week 2	<p>How do natural changes to environments pose dangers to living things?</p> <ul style="list-style-type: none"> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>Use straightforward scientific evidence to answer questions or to support their findings.</li> </ul>
Week 3	<p>How do human changes pose dangers to living things?</p> <ul style="list-style-type: none"> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>Use straightforward scientific evidence to answer questions or to support their findings.</li> </ul>
Week 4	<p>What changes and dangers are there in the local environment?</p> <ul style="list-style-type: none"> <li>Set up simple practical enquiries.</li> <li>Make careful observations.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</li> </ul>
Week 5	<p>What species are becoming endangered?</p> <ul style="list-style-type: none"> <li>Ask relevant questions and using different types of scientific enquiries to answer them.</li> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>

### The Laboratory



**Greta Thunberg**

### National Curriculum

Sc3-4/1.1a Sc3-4/1.1b

Sc3-4/1.1e Sc3-3/1.1f Sc3-4/1.1i

Sc4/2.1c



## Knowledge Intentions

Week 1	<ul style="list-style-type: none"><li>• Explain who Greta Thunberg is and her work with climate change.</li></ul>
Week 2	<ul style="list-style-type: none"><li>• Recognise that environments can change and that this can sometimes pose dangers to living things.</li></ul>
Week 3	<ul style="list-style-type: none"><li>• Recognise that environments can change and that this can sometimes pose dangers to living things.</li></ul>
Week 4	<ul style="list-style-type: none"><li>• Identify changes in the local environment.</li></ul>
Week 5	<ul style="list-style-type: none"><li>• Recognise that environments can change and that this can sometimes pose dangers to living things.</li></ul>

## Assessment

*Design a poster on how we can look after our planet.*

## Reference Units



*How does pollution affect habitats? (SI)*