# Science Key Content Summer MTP 2021-2022

| | | Theme | Key Concepts | Assessment |
|---|---|---|---|---|
| EYFS | Unit of work | **Bears and Beasts** | **The Earth spins on its axis**<br>**Organisms require a supply of energy and materials** | Assessment will be supported by Development Matters documentation through observations. |
| | Key Content | I can explore the natural world | | |
| | | I can describe what I see, hear and feel whilst outside | | |
| | | I understand the effect of changing seasons on the natural world | | |
| | WS and SO Concepts | **Written and Oral Expression**: I can use some basic scientific vocabulary | | |
| | | **Continuity and Change**: I can observe what changes and what stays the same | | |

| | Summer 1 | Key Concepts | Prior Learning | At the end of this unit of work Children will know: | 5 Key Questions |
|---|---|---|---|---|---|
| YEAR 1 | Unit of work<br><br>Plants Seasonal Changes | **Organisms require a supply of energy and materials**<br><br>**The Earth spins on its axis** | • Variety of plant-related experiences:<br>• Using sense, looking, smelling and tasting, planting and growing things<br>• Aware of obviously different leaves and flowers | • The names of some common varieties of wild and garden plants, including trees and begin to make simple comparisons<br>• The simple names of parts of a plant that most plants have in common<br>• How to observe and describe a variety of very different examples e.g. flowers of contrasting sizes, shapes, roots of different types and structure<br>• Different kinds of trees and that some are deciduous and some evergreen | Name these common plants.<br><br>What evidence is there that there are two different type of tree?<br><br>How can we describe these plants?<br><br>deciduous<br><br>Do plants all flower at the same of year? |

| | | | | | | |
|---|---|---|---|---|---|---|
| YEAR 1 | Suggested lessons | Quick Quiz:<br>Name the four seasons of the year.<br>This series of lessons is intended to be taught during the summer months, when are large variety of plants are flowering. Encourage children to recognise that many plants flower at other times of the year, not just during the summer. Children look closely at garden plants around the school, including flowering plants, learn their names and make simple comparisons.<br>(OCW P – L3 and PD L3) | Quick Quiz:<br>Name these flowering plants around school.<br>Children look closely at wild plants growing locally, learn their names and make simple comparisons.<br><br>(PD – L2) | Quick Quiz:<br>Name these flowering plants found locally.<br>Children make observations of a variety of familiar wild and garden flowering plants and group flowers according to given, or their own, criteria.<br><br>(PD – L3) | Quick Quiz:<br>Match the sense to the body part.<br>Children observe the root systems of a variety of plants, comparing and contrasting their different structures. Encourage children to recognise how the roots anchor the plant in the soil.<br><br>(PD – L4) | Quick Quiz:<br>What are fish covered in?<br>What are bird covered in?<br>Children learn that trees are plants, collect evidence about trees in their local environment and make comparisons.<br><br>(PD – L5) |
| | Key Content | I can recognise that different plants will flower at different times of year<br>I can name and compare garden plants | | | | |

| | | |
|---|---|---|
| | | I can name and compare wild plants |
| | | I can group and classify flowers against criteria |
| | | I can name the basic structure of a plant and am beginning to understand the purpose of the roots |
| | | I can name, describe and compare trees within my local environment |
| | **WS and SO Concepts** | I can perform simple tests, involving observations and the gathering and recording of data<br>**Continuity and Change**: I can observe what changes and what stays the same with flowering plants<br>**Similarity and Difference:** I can make comparisons and note differences |
| | | I can perform simple tests, involving observations and the gathering and recording of data<br>**Similarity and Difference:** I can make comparisons and note differences |
| | | I can identify and classify according to simple criteria<br>**Similarity and Difference:** I can make comparisons and note differences |
| | | I can perform simple tests, involving observations and the gathering and recording of data<br>**Similarity and Difference:** I can make comparisons, note differences, find patterns and draw conclusions |
| | | I can perform simple tests, involving observations and the gathering and recording of data<br>**Similarity and Difference:** I can make comparisons, note differences, find patterns and draw conclusions |

| Summer 2 | Key Concepts | Prior Learning | At the end of this unit of work Children will know: | 5 Key Questions |
|---|---|---|---|---|
| **Unit of work**<br><br>**Seasonal Changes**<br><br>**Animals, including Humans** | **The Earth spins on its axis**<br><br>**Organisms require a supply of energy and materials**<br>**Genetic Information** | • Children will have observed seasonal changes in autumn, winter and spring<br>• Identifying and name a variety of common animals including fish, amphibians, reptiles, birds and mammals<br>• How to describe and compare the structure of common animals | • In further detail about carnivores, herbivores and omnivores and be able to compare animals' diets<br>• Different domestic animals and their diets<br>• Which animals can be found in grassy areas of gardens and why<br>• Which animals can be found in shaded areas of gardens and why<br>• A variety of minibeasts<br>• Which animals found around and in ponds and why | Match the animal to their home.<br><br>Why do X live in shaded areas?<br><br>Why do you think a pond is a good place to live for an animal?<br><br>carnivore<br><br>What is similar and different between herbivores and omnivores? |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Suggested lessons** | Quick Quiz:<br>What do a plant's roots do?<br>In the school grounds or locality, make observations of the changing natural world as they carry out seasonal 'scavenger hunts'. Children then consider the | Quick Quiz:<br>Name two features of a reptile.<br>Name a feature of a mammal.<br>In this lesson, children explore animals' diets in further detail from Sp1 – L5.<br><br>(LAA – L6) | Quick Quiz:<br>Match herbivore, carnivore, omnivore to the correct animal.<br>Children will identify and describe and compare different animals found in the home. They will think about what those animals need and they will begin to sort them based on what they eat. | Quick Quiz:<br>How are fish and amphibians similar?<br>Children will think about animals they might find in grassy areas of gardens. They will think about why the animals might be there, e.g. if they're hiding from predators, looking for food or both. They | Quick Quiz:<br>Why are some animals found in grassy areas?<br>Children will explore animals that can be found in shaded areas of gardens, including hedges, trees and under plant pots. They will think about how animals use plants and other garden features for shelter and | Quick Quiz:<br>Provide the children with a table with a list of materials and they need to tick the properites.<br>Children will find out about ponds and the animals and plants that can found in and around them. They will also be encouraged to think about a pond as a source of food and |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | evidence that they have collected during the hunt.<br><br>(OCW SS – L2&3) | | | will be introduced to the terms predator and shelter as they explore simple food chains. | spend time identifying a range of minibeasts. | water for lots of animals including mammals, reptiles and birds. |
| | **Key Content** | I can make observations of the school grounds during different seasons of the year | | | | | |
| | | I can name carnivores, herbivores and omnivores | | | | | |
| | | I can find out about animals that are found in our homes | | | | | |
| | | I can observe and identify animals that are found in grass | | | | | |
| | | I can observe and identify animals that are found in shaded areas | | | | | |
| | | I can observe and identify animals that are found in and around ponds | | | | | |
| | **WS and SO Concepts** | I can use observations and ideas to suggest answers to questions<br>**Continuity and Change:** I can observe seasonal changes and what stays the same | | | | | |
| | | I can identify and classify according to simple criteria<br>**Similarity and Difference:** I can make comparisons and note differences | | | | | |
| | | I can identify and classify according to simple criteria<br>**Similarity and Difference:** I can make comparisons and note differences | | | | | |
| | | I can use observations and ideas to suggest answers to questions<br>**Similarity and Difference:** I can find patterns and draw conclusions | | | | | |
| | | I can use observations and ideas to suggest answers to questions<br>**Similarity and Difference:** I can make comparisons and note differences | | | | | |
| | | I can use observations and ideas to suggest answers to questions<br>**Written and Oral Expression:** I can use scientific terminology | | | | | |
| **YEAR 2** | **Summer 1** | **Key Concepts** | **Prior Learning** | **At the end of this unit of work Children will know:** | | **5 Key Questions** | |
| | **Unit of work**<br><br>**Plants** | **Organisms require a supply of energy and materials** | • Identify simple common plants and name their parts<br>• Plants need water and sunlight | • That plants grow from bulbs or seeds<br>• Sequence of germination<br>• How to compare and contrast requirements of germinating seeds with those of mature plants to main healthy growth | |  What do plants grow from?<br>  What will this plant need to make it healthy? Use a picture stimulus of an unhealthy plant to support<br>  Which of these seeds will produce the tallest plant and why? Use picture of a variety of different seeds.<br>  germination<br>  Classify and describe these seeds. | |
| | **Suggested lessons** | Quick Quiz:<br>What are the three basic neds of animals?<br>List some different habitats.<br>Children use their observations to describe and identify seeds. | | Quick Quiz:<br>What do plants grow from?<br>Circle the images of sunflower seeds and poppy seeds. | Quick Quiz:<br>How can we keep healthy?<br>Children follow on from investigations set up in L2 and L3 | Quick Quiz:<br>Which groups of animals lay eggs?<br>Children investigate the connection between the size of a seed and the | Quick Quiz:<br>Which group of animals give birth to live young?<br>Which hgroup of animals are covered in feathers? |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Children consider what they need to find out about seeds and growing plants. They start to plant a series of seeds that they will observe over the next few weeks, plan some bulbs to observe as a class and begin a class book to record their investigations<br><br>(TAG – L1 and L2) | Children learn more about how to plant seeds.<br><br>(TAG – L3) | which investigated seed germination and bean germination.<br><br>(TAG – L4) | height of the plant that it grows into.<br><br>(TAG – L5) | Children compare a healthy and an unhealthy plant considering how to care for plants properly.<br><br>(TAG - L6) |

| | |
|---|---|
| **Key Content** | I can describe and identify a range of seeds<br>I can ask questions about seeds and growing plants |
| | I understand how to plant seeds |
| | I can describe what happens to a seed when it grows |
| | I can identify patterns between the size of seeds and the height of the plant it grows into |
| | I can compare a healthy and an unhealthy plant |
| **WS and SO Concepts** | I can group and classify things and I can find things out secondary sources of information<br>**Similarity and Difference:** I can make comparisons and note differences<br>**Significance:** I can identify significant information and explanations about plants |
| | I can carry out simple comparative tests<br>**Responsibility:** I can work safely and fairly |
| | I can gather and record data to help me answer questions<br>I can observe changes over time<br>**Written and Oral Expression:** I can present and interpret data<br>**Continuity and Change:** I can observe what changes and what stays the same |
| | I notice patterns<br>**Similarity and Difference:** I can find patterns |
| | I can gather and record data to help me answer questions<br>I can observe change over time<br>**Continuity and Change:** I can observe what changes and what stays the same |

| Summer 2 | Key Concepts | Prior Learning | At the end of this unit of work Children will know: | 5 Key Questions |
|---|---|---|---|---|
| **Unit of work**<br><br>**Plants,**<br><br>**Animals, including Humans (Growing Up)** | **Organisms require a supply of energy and materials**<br><br>**Genetic Information** | • Humans needs food, water and air to survive along with warmth and shelter<br>• Difference between living and non-living things | • The sequence of the human life cycle, initially considering how they have changed since birth<br>• Further changes that happen as a human baby grows and develops into and through adulthood<br>• To consider growth, changes in physical appearance, movement, feeding and diet, self-care, the move from dependency and independence and parenthood (briefly)<br>• The stages of the human life cycle are baby, toddler, child, teenager, adult and elderly person | Write the stages of the human life cycle in the correct order<br><br>Why is growth important?<br><br>Why do you become more independent when you grow up?<br><br>adulthood<br><br>What changes occurred with germinating seeds? |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | **Suggested lessons** | Quick Quiz: Name the five different common animal groups.<br>Where do worms live?<br>Where does a bird live?<br>Children will review their seed diaries and complete their observations of the germinating seeds.<br><br>(TAG – L7) | Quick Quiz:<br>What is 'germination'?<br>Hwo do you plant seeds?<br>Children will review their bean seeds, which in Sp1 L3 they planted at different depths and in different orientations, have grown. They will summarise their learning about growing plants from seeds and bulbs they've grown during the unit.<br><br>(TAG – L8&9) | Quick Quiz:<br>How do you care for a plant properly?<br>Children will observe how one particular animal changes over time.<br><br>(OCW – L4) | Quick Quiz:<br>Explain how a frog changes over time.<br>What is a baby cat called?<br>What is ta baby dog called?<br>Children compare a doll and a baby and identify the potential needs of a baby.<br><br>(GU – L1) | Quick Quiz:<br>What are the needs of a baby?<br>List 4 animals that are found in the sea.<br>Children draw on a range of information sources to identify the changes that have occurred as they have grown from a baby into a child.<br><br>(GU – L2) | Quick Quiz:<br>Note down properties of the materials shown below. (Provide pictures)<br>Children learn about the stages of human life using secondary sources of information.<br><br>(GU – L3) |
| | **Key Content** | I can make observations and describe germinating seeds | | | | | |
| | | I can reflect and summarise what I have learnt about the growth of my own seeds and bulbs | | | | | |
| | | I can describe how one particular animal changes over time | | | | | |
| | | I can identify the needs of a baby | | | | | |
| | | I can describe the changes as a baby grows into a child | | | | | |
| | | I can describe the changes of human life | | | | | |
| | **WS and SO Concepts** | I can observe change over time<br>**Continuity and Change:** I can observe what changes and what stays the same | | | | | |
| | | I can gather and record data to help me answer questions<br>I can carry out simple comparative tests and communicate my ideas about what I find out<br>**Responsibility:** I can work safely<br>**Written and Oral Expression:** I can present and interpret data and draw conclusions | | | | | |
| | | I can observe change over time<br>**Continuity and Change:** I can observe what changes and what stays the same | | | | | |
| | | I can group and classify<br>**Similarity and Difference:** I can draw conclusions | | | | | |
| | | I can find things out using secondary sources of information<br>**Continuity and Change:** I understand what changes and what stays the same | | | | | |
| | | I can find things out using secondary sources of information<br>**Significance:** I can discuss significant discoveries and theories about human life | | | | | |
| > | **Summer 1** | **Key Concepts** | **Prior Learning** | **At the end of this unit of work Children will know:** | | **5 Key Questions** | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Unit of work**<br><br>**Plants** | **Organisms require a supply of energy and materials**<br><br>**Evolution** | • Names of the main parts of a plant<br>• Plants grow from bulbs or seeds<br>• The functions of the main parts of plants and how these related to their appearance and structure<br>• Absorption and transport of water and nutrients | • The role of the leaf in making food for the plant<br>• Parts of the flower and their roles in plant reproduction and the stages of the life cycle of a flowering plant | | | Label the main stages of the life cycle of a plant<br><br>Why are leaves important?<br><br>Which part of the flower is the most important in plant reproduction and why?<br><br>pollination<br><br>Are all flowers the same inside?<br>Prove picture stimulus of two dissected flowers. Assess children's use of vocabulary to describe the parts. |
| | **Suggested lessons** | Quick Quiz:<br>Label the main parts of a plant on the diagram below.<br>Children present the main stages in the life cycle of a flowering plant as a sequenced diagram.<br><br>(HDYGG – L7) | Quick Quiz:<br>What do plants grow from?<br>Which part of the life cycle of a flowering plant is missing?<br>Children will dissect a flower in order to make a close observation of the different parts. The will also compare different flowers.<br><br>(HDYGG – L8) | Quick Quiz:<br>Name the three different types of rock.<br>What is friction?<br>Name the two poles of a magnet?<br>Opposite poles _____.<br>Children model the process of insect pollination.<br><br>(HDYGG – L9) | Quick Quiz:<br>How do insects pollinate?<br>Which insects help pollination the most?<br>Children use their observations of seeds to make model seeds suited to different methods of seed dispersal.<br><br>(HDYGG – L10) | Quick Quiz:<br>What are the properties of roots?<br>What are the functions of leaves?<br>Children use their ongoing observations from the investigation started in Sp2 to draw conclusions.<br><br>(HDYGG – L11) | Quick Quiz:<br>Give me the different methods of seed dispersal.<br>What happens to a deciduous tree in winter?<br>Children will design flowering plants, labelling ad annotating their drawings.<br><br>(HDYGG - L12) |
| | **Key Content** | I can explain the main stages of the life cycle of a flowering plant<br>I can investigate and describe the different parts of a flower<br>I can describe the part that insects play in the life cycle of a flowering plant<br>I understand and can describe how seeds are dispersed<br>I can investigate what would happen if a plant lost its leaves<br>I can label and annotate a diagram of a flowering plant | | | | | |
| | **WS and SO Concepts** | I can record findings and present data using simple scientific language, written and oral explanations and diagrams<br>**Written and Oral Expression:** I can use scientific terminology and explain processes<br>I can identify differences, similarities or changes related to simple scientific ideas and processes<br>**Similarity and Difference:** I can make comparisons, note differences and draw conclusions | | | | | |

| | | |
|---|---|---|
| | | I can record findings and present data using simple scientific language, written and oral explanations and diagrams<br>**Written and Oral Expression:** I can use scientific terminology and explain processes |
| | | I can identify differences, similarities or changes related to simple scientific ideas and processes<br>**Similarity and Difference:** I can make comparisons, note differences and draw conclusions |
| | | I can record findings and present data using simple scientific language, written and oral explanations and diagrams<br>**Written and Oral Expression:** I can use scientific terminology and explain processes |
| | | I can record findings and present data using simple scientific language, written and oral explanations and diagrams<br>**Written and Oral Expression:** I can use scientific terminology and explain processes |

| **Summer 2** | **Key Concepts** | **Prior Learning** | **At the end of this unit of work Children will know:** | **5 Key Questions** |
|---|---|---|---|---|
| **Unit of work**<br><br>**Animals, including Humans** | **Organisms require a supply of energy and materials** | • Importance of eating the right amounts of different types of food | • The food we eat provides us with the nutrition that our bodies require to remain healthy<br>• The range of nutrients that humans need to consume in the correct amounts and the role that these nutrients play in keeping our bodies healthy<br>• Humans and some other animals have skeletons and muscles for support, protection and movement | List the different nutrition food groups<br><br>Why are skeletons and muscles important?<br><br>Which is more important: muscle or skeleton?<br>nutrients<br><br>Why are some animal invertebrate? |

| **Suggested lessons** | | | | | | |
|---|---|---|---|---|---|---|
| | Quick Quiz::<br>Which sense matches the ese body parts?<br>What do living things need in order to surive?<br>Children will explore different types of food, sorting them into different categories and planning meals.<br><br>(AB – L2) | Quick Quiz:<br>List the different food categories.<br>Give two examples of forces.<br>Children will use what they have learnt about nutrition in a different context by exploring what Sarah Outen, the British adventurer, eats when on expedition to remain healthy. They will learn about the challenges Sarah faces in choosing food that contains all the nutrition she needs without taking | Quick Quiz:<br>What is the purpose of the stem in a plant?<br>Why are bees helpful for plant survival?<br>Children will research animals that have skeletons inside their bodies (vertebrates) and some will compare them to animals that don't (invertebrates).<br><br>(AB – L4) | Quick Quiz:<br>Tick the animals which are vertebrates.<br>Children will learn about some of the muscles in the body and how these help you to move your skeleton.<br><br>(AB – L6) | Quick Quiz:<br>Tick the animals which are invertebrates.<br>Children will plan an investigation to see whether features of a person's body affect their performance in certain activities. They will plan how to answer some scientific questions of their choice. They will carry out the investigation and analyse the result in the next lesson.<br><br>(AB – L7) | Quick Quiz: Give an example of sedimentary, igneous and metamorphic rock.<br>How can humans stay healthy?<br>Children will carry out and analyse the results of the investigation planned in the previous lesson. They will explore the correlation between a person's physical characteristics and their performance in a certain activity.<br><br>(AB – L8) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | up too much room or being too heavy.<br><br>(AB – L3) | | | | |
| | **Key Content** | I can sort different types of foods into different categories | | | | | |
| | | I can describe and explain. the food an adventurer needs to stay healthy | | | | | |
| | | I can explain and describe the differences between a vertebrate and an invertebrate | | | | | |
| | | I can describe and explain the uses of some muscles in the human body and how they support the movement of our skeleton | | | | | |
| | | I am beginning to understand how the structure of the body affects how well we can do things | | | | | |
| | | I can compare a person's physical characteristics and their performance in certain activities | | | | | |
| | **WS and SO Concepts** | I can identify differences, similarities or changes related to simple scientific ideas and processes<br>**Similarity and Difference:** I can make comparisons and note differences | | | | | |
| | | I can gather, record, classify and present data in a variety of different ways to help answer questions<br>**Similarity and Difference:** I can draw conclusions<br>**Written and Oral Expression**: I can use scientific terminology when presenting data | | | | | |
| | | I can use straightforward scientific evidence to support my findings<br>**Similarity and Difference**: I can note differences<br>**Significance:** I can use significant discoveries and theories to support my findings | | | | | |
| | | I can gather, record, classify and present data in a variety of different ways to help answer questions<br>**Similarity and Difference:** I can draw conclusions<br>**Written and Oral Expression**: I can use scientific terminology when presenting data | | | | | |
| | | I can ask relevant questions and use different types of scientific enquiry to answer them, including comparative and fair tests<br>**Similarity and Difference:** I can find patterns<br>**Responsibility:** I can work safely and fairly | | | | | |
| | | I can use results to draw simple conclusions, suggest improvements and ask new questions<br>**Similarity and Difference**: I can draw conclusions<br>**Written and Oral Expression:** I can evaluate, draw conclusions and ask objective questions | | | | | |
| **YEAR 4** | **Summer 1** | **Key Concepts** | **Prior Learning** | **At the end of this unit of work Children will know:** | | **5 Key Questions** | |
| | **Unit of work**<br><br>**Animals, including Humans** | **Genetic Information**<br><br>**Organisms require a supply of energy and materials**<br><br>**Evolution** | • Use of a key to classify<br>• Five common animal groups: fish, amphibians, reptiles, birds and mammals<br>• Basic food chains and terms predator, prey and producer | • A key is common way to structure identification charts<br>• Classification is assigning an item to a group based on common characteristics<br>• Animals are classified into a hierarchy of subgroups<br>• Vertebrates are animals with backbones as part of an internal skeleton (fish, amphibians, reptiles and bird)<br>• How to identify and explain<br>• Invertebrates are animals that do not have an internal skeleton | | Label the different parts of this food chain. Provide diagram.<br><br>Is this animal a predator, prey or both? Use picture of animal skull.<br><br>What happens if there's a break in a food chain?<br>vertebrate/ invertebrate<br><br>Why must be look after animal habitats to protect food chains? | |
| | **Suggested lessons** | Quick Quiz:<br>What is a solid? | Quick Quiz: | Quick Quiz: | Quick Quiz:<br>What is a habitat? | Quick Quiz: | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | What is a liquid?<br>What is a gas?<br>Children learn the characteristics of the five vertebrate groups. By the end of the lessons they will be able to identify and explain why an animal is a fish, amphibians, reptile, bird or mammal.<br><br>(WAI – L3) | Label the different stages of the water cycle missing in the diagram below.<br>Children classify common land invertebrates into groups. By the end of the lesson they will know the characteristics of six groups of invertebrates and be able to assign animals to those groups.<br><br>(WAI - L4) | Which vertebrate are these animals and why?<br>This is the first of two lessons about food chains in this module and builds on. work done in Y2. Children will apply their understanding of food chains in the Human Impact module lesson 5. Children will create food chains and webs for different habitats. By the end of the lesson they will be able to construct and interpret a variety of food chains.<br><br>(WDATFG – L6) | Do habitats stay the same over the course of the year?<br>Name an animal you might find in a woodland habitat.<br>Children will use evidence from animal skills to identify the correct position of an animal in a food chain. By the end of the lesson, the children will understand about producers and consumers and they will be able to identify which animals are predators, prey or both. They will understand that a food chain shows what different animals eat in a habitat and that the arrow show the flow of energy.<br><br>(WDATFG – L7) | Add arrows to these food chains to show the flow of energy.<br>Are green plants consumers or producers?<br>Children will use keys to identify pond and seashore animals. By the end of the lesson, children will be able to identify an animal using a key and ask yes/no questions to distinguish between animals.<br><br>(WAI – L1) |
| | **Key Content** | I can identify and explain why an animal is a fish, amphibian, reptile, bird or mammal | | | | |
| | | I can identify the characteristics of a range of invertebrates | | | | |
| | | I can construct and interpret a variety of food chains | | | | |
| | | I can create a food chain showing what different animals eat in a habitat using arrows to show the flow of energy | | | | |
| | | I can observe and identify animals and sort them according to my own classifications | | | | |
| | **WS and SO Concepts** | I can identify differences, similarities or changes related to simple scientific ideas and processes<br>**Similarity and Difference:** I can make comparisons and note differences | | | | |
| | | I can identify differences, similarities or changes related to simple scientific ideas and processes<br>**Similarity and Difference:** I can make comparisons and note differences | | | | |
| | | I can ask relevant questions and use different types of scientific enquiry to answer them including comparative and fair tests<br>**Responsibility:** I understand the impact of breaks in food chains and how they can become unsustainable | | | | |
| | | I can identify differences, similarities or changes related to simple scientific ideas and processes<br>**Similarity and Difference:** I can make comparisons, note differences and find patterns | | | | |
| | | I can make careful observations<br>I can record and present findings using simple scientific language, written and oral presentations and keys<br>**Similarity and Difference**: I can make comparisons and note differences<br>**Continuity and Change:** I observe what changes and what stays the same with aquatic life<br>**Written and Oral Expression:** I can present findings | | | | |
| | **Summer 2** | **Key Concepts** | **Prior Learning** | **At the end of this unit of work Children will know:** | | **5 Key Questions** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Unit of work**<br><br>**Electricity** | **Energy** | • Experiences of electricity in everyday lives<br>• Building and investigating simple circuits to make things work at home or in EYFS | • Electrical appliances distinguishing between those which are powered by mains and battery<br>• Electricity can be used to produce light, sound, heat and movement<br>• The production of light, sound and movement by making simple series circuits with cells, wires, bulbs, buzzers and motors and the names of components | | Name the two forms of electrical power.<br><br>Is this circuit correct? Why? Provide image of a simple series circuit.<br><br>Which materials make good electrical conductors? Explain. electricity<br><br>Why are switches useful in a simple series circuit? | |
| | **Suggested lessons** | Quick Quiz:<br>List three changes of state processes. Melting is where solids become…..<br>Children will learn about different sources and uses of electricity. They will know that electrical items can be powered by mains electricity and batteries and that electricity can be used to produce light, sound, heat and movement.<br>(SO – L1) | Quick Quiz:<br>What are the properties of a solid? What are the properties of liquids? What are the properties of gases?<br>Children explore making circuits using different components. By the end of this lesson, children will know the names of common components and will be able to make and draw complete circuits.<br><br>(SO – L2) | Quick Quiz:<br>Identify the functions of the follow parts of plants: flowers, leaves, stem<br>Children will learn more about how electricity flows in a complete circuit and use a model to explain their observations. Children will be able to use a model to explain how a simple circuit works.<br><br>(SO – L3) | Quick Quiz:<br>What can electricity be used to produce? Name the two forms of electrical power<br>Children will be able to recognise correct and incorrect circuits and identify some simple things to look for and try if a circuit does not work.<br><br>(SO – L4) | Quick Quiz:<br>Name the common components<br>Children will make and use toggle and press switches. They will know that a switch is a controlled break which stops electricity flowing to all parts of the circuit.<br><br>(SO – L5) | Quick Quiz:<br>Fill in the gaps:<br>Magnets ____ or ____ objects<br>How is sound produced?<br>What is darkness?<br>Children will test materials to see whether they are electrical conductors or insulators and record information in tables, Venn diagrams and Carroll diagrams. They will be able to identify common conductors and insulators and interpret information presented in different ways.<br>(SO – L6) |
| | **Key Content** | I can name different sources of electricity | | | | | |
| | | I can name the common component parts of an electrical circuit | | | | | |
| | | I can describe how simple circuit works | | | | | |
| | | I can recognise correct and incorrect circuits | | | | | |
| | | I understand that a switch stops electricity flowing to all parts of an electrical circuit | | | | | |
| | | I can describe what makes a good conductor and insulator | | | | | |
| | **WS and SO Concepts** | I can identify differences, similarities or changes related to simple scientific ideas and processes<br>**Similarity and Difference:** I can make comparisons and note differences | | | | | |
| | | I can record and present findings using simple scientific language, drawings and diagrams<br>**Written and Oral Expression:** I can use scientific terminology | | | | | |

| | | |
|---|---|---|
| | | I can record and present findings using simple scientific language, drawings and diagrams<br>**Written and Oral Expression:** I can use scientific terminology and explain processes |
| | | I can record and present findings using simple scientific language, drawings and diagrams<br>**Written and Oral Expression:** I can use scientific terminology and explain processes |
| | | I can record and present findings using simple scientific language, drawings and diagrams<br>**Written and Oral Expression:** I can use scientific terminology, explain processes and draw conclusions |
| | | I can record and present findings using simple scientific language, diagrams and tables<br>**Written and Oral Expression:** I can use scientific terminology, present and interpret data and draw conclusions |

| YEAR 5 | Summer 1 | Key Concepts | Prior Learning | At the end of this unit of work Children will know: | 5 Key Questions |
|---|---|---|---|---|---|
| | **Unit of work**<br><br>**Living Things and their Habitats (Life Cycles)**<br><br>**Animals, including Humans** | **Genetic Information**<br><br>**Organisms require a supply of energy and materials** | • Life cycles of plants<br>• Life cycles of caterpillars to butterflies | • Life cycles of some familiar and less familiar mammals, amphibians, insects and birds<br>• To compare and contrast different life cycles, identifying common features and explaining key differences<br>• The incredible journeys some animals undertake to complete their life cycles<br>• The different ways in which humans are supporting some endangered animals to increase their population numbers | What is the life cycle of a frog?<br><br>What evidence is there of some insects undertaking incredible journeys to complete their life cycle?<br><br>How are humans supporting endangered animals to increase their population numbers?<br><br>life cycles<br><br>Make comparisons and note differences between the life cycles of a frog and a butterfly. |

| Suggested lessons | | | | | |
|---|---|---|---|---|---|
| | Quick Quiz: Name the following processes:<br>Solid turning to liquid<br>Liquid turning to a gas<br>Gas turning to a liquid<br>Liquid turning to a solid<br>Children are introduced to the life cycles of four significant types of animals: mammals, amphibians, insects and birds. They compare and contrast different animal cycles, | Quick Quiz:<br>Incomeplte or complete circuit?<br>Children learn about the life cycles of a variety of amphibians, identifying some common characteristics including the process of metamorphosis.<br><br>(CoL – L3) | Quick Quiz:<br>Note the basic steps of the life cycles of amphibians and birds<br>What is metamorphosis?<br>Children learn about the life cycles of a variety of insects, identifying some common characteristics.<br><br>(CoL – L4) | Quick Quiz:<br>What are the common characteristics of the life cycle of a bird and mammals?<br>Children learn about the life cycles of a variety of birds, identifying some common characteristics.<br><br>(CoL – L5) | Quick Quiz:<br>Identify two ways humans are having a positive impact on the environment.<br>Identify two ways humans are having a negative impact on the environment.<br>Children invent their own animal, describe in detail each stage of its life cycle and explain how this will ensure its long-term success.<br>Children also find out ways in which humans are using science to help endangered animals complete their life cycles.<br><br>(CoL – L6 and 7) |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | identifying common features and differences.<br><br>(CoL – L1) | | | | |
| | **Key Content** | I can compare and contrast different animal life cycles identifying common features and differences | | | | |
| | | I can identify some common characteristics in the life cycles of amphibians | | | | |
| | | I can identify some common characteristics in the life cycles of insects | | | | |
| | | I can identify some common characteristics in the life cycles of birds | | | | |
| | | I can demonstrate and apply my understanding of animal life cycles<br>I can describe and explain how humans are using science to help endangered animals to complete their life cycles | | | | |
| | **WS and SO Concepts** | I can report and present findings from enquiries including conclusions, explanations, data and diagrams<br>**Similarity and Difference:** I can make comparisons and note differences<br>**Written and Oral Expression:** I can describe and explain patterns using scientific terminology | | | | |
| | | I can report and present findings from enquiries including conclusions, explanations, data and diagrams<br>**Written and Oral Expression:** I can describe and explain patterns and processes using scientific terminology | | | | |
| | | I can report and present findings from enquiries including conclusions, explanations, data and diagrams<br>**Written and Oral Expression:** I can describe and explain patterns and processes using scientific terminology | | | | |
| | | I can report and present findings from enquiries including conclusions, explanations, data and diagrams<br>**Written and Oral Expression:** I can describe and explain patterns and processes using scientific terminology | | | | |
| | | I can identify scientific evidence that has been used to support or refute ideas or arguments<br>**Significance:** I can discuss scientific laws, models and theories on life cycles<br>**Responsibility:** I can discuss how science can solve problems and ensure sustainability | | | | |

| **Summer 2** | **Key Concepts** | **Prior Learning** | **At the end of this unit of work Children will know:** | **5 Key Questions** |
|---|---|---|---|---|
| **Unit of work**<br><br>**Living Things and their Habitats (Reproduction)** | **Genetic Information**<br><br>**Organisms require a supply of energy and materials** | • Functions of different parts of flowering plants<br>• Some stages of the human life cycle | • Plants can reproduce through asexual reproduction<br>• How specific mammals, birds, insects and amphibians reproduce<br>• The complete human life cycle, including puberty | List all of the stages of the human life cycle<br><br>True or false? All plants produce seeds.<br>How was plant reproduction evident around school?<br><br>asexual reproduction<br><br>Note the similarities and differences between puberty in boys and puberty in girls. |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Suggested lessons** | Quick Quiz:<br>What are the functions of the | Quick Quiz:<br>What are the functions of the | Quick Quiz:<br>What is fertilisation?<br>What is pollination? | Quick Quiz: | Quick Quiz:<br>Identify the properties of these common materials. | Quick Quiz: |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | following organs in the digestive system: teeth, saliva, oesophagus<br>Children revise work about the part that flowers play in the life cycle of flowering plants. They learn about the role of the flower, its parts and their function and the processes of pollination and fertilisation.<br><br>(RiPaA – L1) | following organs in the digestive system: liver, stomach, rectum<br>Children further develop their understanding of the role of flower in the reproductive cycle of plants.<br><br>(RiPaA – L2) | Why are flowers so important?<br>Children learn about asexual reproduction – the ways that plants can produce new plants from different parts of the parent plant rather than producing seeds.<br><br>(RiPaA – L3) | Where do plants come from? List three ways.<br>Children identify a variety of plants in the school ground to look for evidence of plant reproduction e.g. flowers, seed heads, berries and fruits on plants.<br><br>(OCW – L1) | Children identify the stages of the human life cycle, including puberty and pregnancy and compare lengths of gestation for different mammals.<br><br>(RiPaA – L6) | Draw the arrows in these food chains to show the flow of energy<br>Match the images to the correct terms of 'predator' and 'prey'<br>Children learn about t the life cycle stage of puberty in girls and in boys.<br><br>(RiPaA – L7-8) |
| | **Key Content** | I can explain the part that flowers play in the life cycle of a flowering plant | | | | | |
| | | I understand the role a flower plays in the reproductive cycle of plants | | | | | |
| | | I can describe and explain asexual reproduction in plants | | | | | |
| | | I can observe plant reproduction around school | | | | | |
| | | I can describe the and explain the key stages of the cycles of humans | | | | | |
| | | I understand the life cycle stage of puberty in boys and girls | | | | | |
| | **WS and SO Concepts** | I can report and present findings from enquiries including conclusions and explanations<br>**Written and Oral Expression:** I can use scientific terminology and explain processes<br>**Similarity and Difference:** I can make comparisons, note differences and draw conclusions | | | | | |
| | | I can identify scientific evidence that has been used to support or refute ideas or arguments<br>**Responsibility:** I understand how plant reproduction can be sustainable<br>**Similarity and Difference:** I can make comparisons, note differences and draw conclusions | | | | | |
| | | I can report and present findings from enquiries including conclusions and explanations<br>**Written and Oral Expression:** I can use scientific terminology and explain processes<br>**Similarity and Difference:** I can make comparisons, note differences and draw conclusions | | | | | |
| | | I can report and present findings from enquiries including conclusions and explanations<br>**Written and Oral Expression:** I can use scientific terminology, describe and explain patterns and explain processes | | | | | |
| | | I can report and present findings from enquiries including conclusions and explanations<br>**Written and Oral Expression:** I can use scientific terminology and explain processes<br>**Similarity and Difference:** I can make comparisons, note differences and draw conclusions | | | | | |
| | | I can report and present findings from enquiries including conclusions and explanations<br>**Written and Oral Expression:** I can use scientific terminology, describe and explain patterns and explain processes<br>**Similarity and Difference:** I can make comparisons, note differences and draw conclusions | | | | | |
| | **Summer 1** | **Key Concepts** | **Prior Learning** | **At the end of this unit of work Children will know:** | | **5 Key Questions** | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| YEAR 6 | **Unit of work**<br><br>**Animals, including Humans** | **Genetic Information**<br><br>**Organisms require a supply of energy and materials** | • Humans need water, food and air to survive<br>• Muscular, skeletal and digestive systems | • The main parts of circulatory system: heart, blood vessels and blood and how these work together to deliver oxygen and nutrients to every part of the body<br>• How the heart works<br>• The main components of blood<br>• Function o the different types of blood vessels<br>• How water is transported through the body and develop understanding of the importance of water to human health | | | Label this diagram of the heart.<br><br>True or false? The heart is love-heart shaped. Explain.<br><br>Is all blood the same?<br><br>circulation<br><br>Explain how the different blood vessels work. |
| | **Suggested lessons** | Quick Quiz:<br>How do materials change states through freezing, melting and boiling?<br>What do humans need to survive?<br>Children begin their investigations of the human circulatory system, first revising knowledge of the digestive, muscular and skeletal systems.<br><br>(BP – L1) | Quick Quiz:<br>What are the purposes of the following systems: digestive, muscular, skeletal?<br>Children make a model of the heart to illustrate how the different parts fit and work together.<br><br>(BP – L2) | Quick Quiz:<br>How does light travel?<br>What is 'darkness'<br>List 4 light sources<br>What is the colour of light?<br>Children make 'blood soup' as an illustrative practical activity to help them find out about the different parts of blood enable it to carry oxygen, waste gases, nutrients and water and note down in books.<br><br>(BP – L4) | Quick Quiz:<br>Note down the key stages in the life cycle of a human<br>How are shadows formed?<br>Children create concept sentences and maps to present their findings about valves, veins, arteries and capillaries.<br><br>(BP – L5) | | |
| | **Key Content** | I can recall the key parts of the digestive, muscular and skeletal systems<br>I can create a model of the heart to illustrate how the different parts fit and work together<br>I can describe how the different parts of blood enable it to carry oxygen, waste gases, nutrients and water<br>I can explore how valves and blood vessels function within the heart | | | | | |
| | **WS and SO Concepts** | I record data and results using scientific diagrams and labels<br>**Written and Oral Expression:** I can use scientific terminology**,** present and interpret data and explain processes<br>I draw conclusions, explain and evaluate my methods and findings, communicating these in a variety of ways<br>**Written and Oral Expression:** I can use scientific terminology**,** present and interpret data and explain processes<br>I draw conclusions, explain and evaluate my methods and findings, communicating these in a variety of ways<br>**Written and Oral Expression:** I can use scientific terminology**,** present and interpret data and explain processes | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | I record data and results using scientific diagrams and labels<br>**Written and Oral Expression:** I can use scientific terminology to present and interpret data | | | |
| | **Summer 2** | **Key Concepts** | **Prior Learning** | **At the end of this unit of work Children will know:** | **5 Key Questions** |
| | **Unit of work**<br><br>**Animals, including Humans** | **Genetic Information**<br><br>**Organisms require a supply of energy and materials** | • Types of food that humans and other animals need in order to stay alive<br>• Functions of muscles and skeleton | • What constitutes as a healthy diet through exploring food groups and how the body uses them<br>• The effects of exercise on the body and develop their understanding of the circulatory and respiratory systems as they investigate as the effects of exercise on the pulse and recovery rate<br>• How drugs can help us and cause harm | Name the four main good groups.<br><br>True or false? Fatty foods are bad for you. Explain.<br><br>How are some drugs useful but others harmful?<br>balanced diet<br><br>How have diets changed over time and how have they impacted health? |
| | **Suggested lessons** | Quick Quiz:<br>What does these electrical symbols represent?<br>Children revise their learning about how humans obtain nutrition from different types of food they eat.<br><br>(BH – L1) | Quick Quiz:<br>List the major food groups.<br>What are the functions of teeth, saliva, intestines and anus?<br>Children examine food packaging labels to identify the food groups that different types of food contain, using their existing knowledge of the four main food groups.<br><br>(BH – L2) | Quick Quiz:<br>Complete or incomplete circuits?<br>What is the purpose of a switch?<br>Children investigate historical cases of diet affecting health, including scurvy and the work of scientist James Lind.<br><br>(BH – L4) | Quick Quiz:<br>Match major food group to its purpose<br>Children explore the impact of exercise on the body. They learn they can measure their pulse rate to find out how hard their heart is working. They measure their resting heart rate and collect data to investigate what happens when they exercise.<br><br>(BH – L5) | Quick Quiz:<br>Reversible or irreversible?<br>What does electricity produce?<br>Children explore the impact of drugs on the way the body functions. They also investigate the risk posed to health by smoking. They explore the laws associate with smoking and the short- and long-term health risks associated with smoking<br><br>(BH – L7-8) |
| | **Key Content** | I understand how humans obtain nutrition from the different types of food they eat | | | |
| | | I can investigate food packing labels to identify different food groups | | | |
| | | I can investigate historical cases of diet affecting health and can explain how the results have impacted our diet today | | | |
| | | I can explore the impact of exercise on the body | | | |
| | | I can explore the impact of drugs on the way the body functions | | | |
| | | I draw conclusions, explain and evaluate my methods and findings, communicating these in a variety of ways | | | |

| | | |
|---|---|---|
| | **WS and SO Concepts** | **Written and Oral Expression:** I can use scientific terminology and describe and explain patterns |
| | | I can identify scientific evidence that has been used to support or refute ideas or arguments<br>**Similarity and Difference:** I can make comparison, find patterns, note differences and draw conclusions<br>**Significance:** I understand the importance of nutrition |
| | | I can identify scientific evidence that has been used to support or refute ideas or arguments<br>**Significance:** I can discuss the work of important scientists |
| | | I use a range of scientific equipment to take accurate and precise measurements or readings, with repeat readings where appropriate<br>**Responsibility:** I can work safely and responsibly |
| | | I draw conclusions, explain and evaluate my methods and findings, communicating these in a variety of ways<br>**Written and Oral Expression:** I can use scientific terminology, describe and explain patterns and draw conclusions |