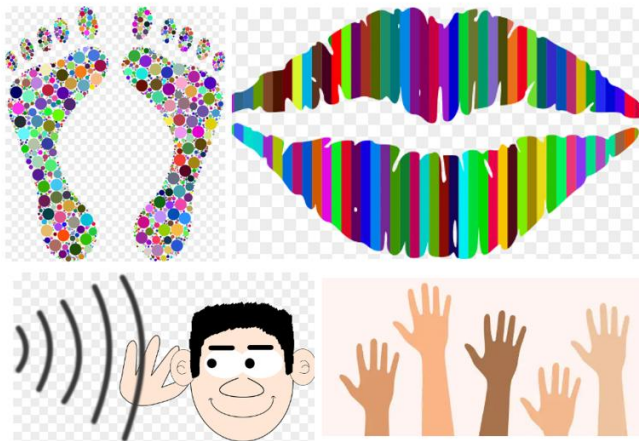


Year 1

## Autumn Term 1

What are the parts of the human body that we can see and what are they for?

What are the parts of the human body that we can see and what are they for?



### Key Question 1

What parts of the body do we already know and what more do we need to find out?



### Key Question 3

What are all the names of the parts of the body you can see here (waist to toes)



### Key Question 5

How far away can we hear an alarm?

### Key Question 2

What are all the names of the parts of the body you can see here (head to waist)



### Key Question 4

What are senses ?

### Key Question 6

How can we sort these foods using our sense of taste?

## In this unit children will

Key question	<u>Substantive knowledge</u>	<u>Disciplinary knowledge</u>
<b>1</b>	<p>Learning fundamental facts, concepts, and principles across various scientific topics relevant to young learners. This includes understanding basic concepts such as the properties of materials, characteristics of living things, and simple scientific processes like the lifecycle of plants and animals.</p> <ul style="list-style-type: none"> <li>Know the names of the most familiar visible parts of the body -Head arms hands legs feet toes fingers</li> <li>Know that there are other parts of the body within these main body parts that they are not yet familiar with</li> </ul>	<p>Introducing the methods, practices, and principles of scientific inquiry. This includes developing skills such as observation, prediction, measurement, and experimentation in a hands-on and age-appropriate manner. Through disciplinary knowledge, children learn how to think like scientists and engage with the natural world around them in a systematic and investigative way.</p> <ul style="list-style-type: none"> <li>Begin to engage in the scientific practice of identifying and naming different parts of the body.</li> <li>Through guided questioning and inquiry, students will begin to wonder about the names and functions of the parts of the body they are not yet familiar with. They will develop an interest in learning more about these parts in future lesson</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>Visible body parts head arms hands legs feet toes fingers</li> </ul>	
<b>2</b>	<ul style="list-style-type: none"> <li>Know the names of visible body parts from head to waist, - head, hair, eyes, nose, mouth, ears, chin, neck, shoulders, arms, elbows, hands, wrists, chest, and waist.</li> <li>Know the functions of the visible body parts. that the head contains the brain, which is like a control centre for the body. The brain helps us think, remember things, and make decisions. Know that eyes are for seeing, the nose is for smelling, the mouth is for eating and talking, and the hands are for holding and grasping object</li> </ul>	<ul style="list-style-type: none"> <li>Develop observation skills by closely examining their own bodies and those of their peers to identify visible body parts.</li> <li>Engage in activities such as labelling diagrams and matching games, and role-playing scenarios (hospital/doctors) to reinforce their ability to identify and name visible body parts accurately</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>Function visible body parts head, hair, eyes, nose, mouth, ears, chin, neck, shoulders, arms, elbows, hands, wrists, chest, and waist limbs</li> <li>Observation diagram grasping</li> </ul>	
<b>3</b>	<ul style="list-style-type: none"> <li>Know the names of visible body parts from waist to toes, including the waist, hips, legs, knees, ankles, feet, and toe</li> <li>Know the functions of the visible body parts. For example, they will learn that the legs are for walking and running, the knees help with bending and kneeling, and the feet are for standing and balancing.</li> </ul>	<ul style="list-style-type: none"> <li>Develop observation skills by closely examining their own bodies and those of their peers to identify visible body parts.</li> <li>Engage in activities such as labelling diagrams and matching games, and role-playing scenarios (hospital/doctors) to reinforce their ability to identify and name visible body parts accurately</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>Function visible body parts observation diagram waist, hips, legs, knees, ankles, feet, and toe bending balancing observe</li> <li></li> </ul>	
<b>4</b>	<ul style="list-style-type: none"> <li>Know the five senses: sight, hearing, taste, smell, and touch. Know which part of body is connected to each sense</li> <li>Know that we use sight to see colours and shapes, our sense of hearing to listen to sounds, our sense of taste to identify flavours, our sense of smell to detect scents, and our sense of touch to feel textures.</li> </ul>	<ul style="list-style-type: none"> <li>Develop observational skills by actively exploring their environment using each of the five senses. They will engage in hands-on activities that allow them to observe, listen, taste, smell, and touch different objects and materials.</li> <li>Communicate their observations and reflections about each sense.</li> <li>Begin to describe what they see, hear, taste, smell, and feel, and to reflect on how each sense helps them understand the world around them</li> </ul>

	<ul style="list-style-type: none"> <li>Senses sight, hearing, taste, smell, and touch see hear feel detect texture flavour</li> </ul>	
5	<ul style="list-style-type: none"> <li>Know and understand new vocabulary related to scientific investigation – test, equipment, prediction, method recordings, results distance, prediction,</li> <li>Know that sounds travel through space</li> <li>Know that the further you are away from a sound the quieter it sounds</li> </ul>	<ul style="list-style-type: none"> <li>Design and carry out a simple experiment to test a hypothesis, selecting appropriate measurement techniques, and record and present findings</li> <li>Collect data during the bell-ringing test, recording their observations, and organise the information in a meaningful way.</li> <li>Begin to analyse the results to draw conclusions about the relationship between distance and the ability to hear the bell.</li> <li>Begin to develop critical thinking skills by evaluating their own observations and conclusions, considering alternative explanations, and revising their initial hypotheses if necessary.</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>equipment, prediction, method recordings, results distance, prediction, conclusion travel further distance result</li> </ul>	
6	<ul style="list-style-type: none"> <li>Deepen their knowledge of the five senses (sight, hearing, taste, smell, touch) and their roles in gathering information about the world around them.</li> <li>Know about the sense of taste specifically, including the different taste sensations (sweet, sour, bitter, salty) and how taste receptors on the tongue detect these flavours.</li> <li>Know the vocabulary related to taste and food – sweet, sour, bitter, salty, taste buds</li> </ul>	<ul style="list-style-type: none"> <li>Engage in scientific inquiry by posing a question ("How can we sort these foods using our sense of taste?") and designing an experiment to find the answer.</li> <li>Collect data by tasting different foods and recording their observations about taste sensations and then draw conclusions about how foods can be sorted based on taste.</li> <li>Organise and present their findings in a meaningful way</li> </ul>



What are seasons?

Year 1  
**Autumn Term 2**  
What are seasons ?

**Key Question 1**

How many seasons are there and what are they called?



**Key Question 3**

What clothes will we need for a winter walk?

**Key Question 5**

Why does it get dark so early in the winter?



**Key Question 2**

How can we tell what season it is just by looking at our class tree?

**Key Question 4**

What signs of winter did we find on our winter woodland walk?

**Key Question 6**

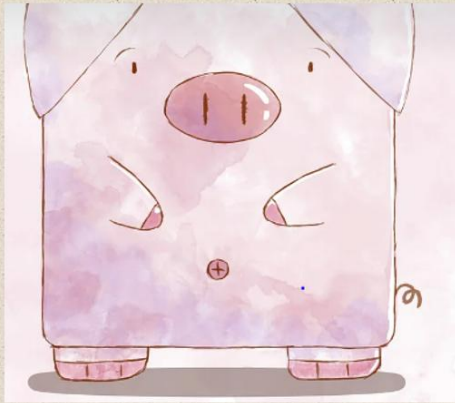
How could we find out which is the rainiest season?

Wh

## In this unit children will

Key question	<u>Substantive knowledge</u>	<u>Disciplinary knowledge</u>
<b>1</b>	<p>Learning fundamental facts, concepts, and principles across various scientific topics relevant to young learners. This includes understanding basic concepts such as the properties of materials, characteristics of living things, and simple scientific processes like the lifecycle of plants and animals</p>	<p>Introducing the methods, practices, and principles of scientific inquiry. This includes developing skills such as observation, prediction, measurement, and experimentation in a hands-on and age-appropriate manner. Through disciplinary knowledge, children learn how to think like scientists and engage with the natural world around them in a systematic and investigative way.</p>
	<ul style="list-style-type: none"> <li>○ To know there are four seasons: Spring, Summer, Autumn, and Winter.</li> <li>○ To know each season has unique characteristics (e.g., snow in winter, flowers in spring, falling leaves in autumn, sunny weather in summer).</li> <li>○ To know activities and items can be associated with each season (e.g., flowers with spring, snow with winter).</li> </ul>	<ul style="list-style-type: none"> <li>○ To sort and classify objects or pictures based on the season they represent.</li> <li>○ To observe sensory items and describe their features, linking them to seasons.</li> <li>○ To explain choices by answering questions about why an item or activity represents a particular season.</li> <li>○ To create visual representations of a season through drawing or collages, demonstrating understanding of its characteristics.</li> <li>○ To explore and discuss sensory elements to connect what they feel, see, and smell with seasonal concepts.</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>○ <b>Seasons:</b> Spring, Summer, Autumn, Winter Sunny, Rainy, Windy, Snowy, Warm, Cold</li> </ul>	
<b>2</b>	<ul style="list-style-type: none"> <li>○ To know that trees change during different seasons.</li> <li>○ To know what trees look like in each season (e.g., no leaves in winter, green leaves in summer, red/orange leaves in autumn, buds or blossoms in spring).</li> <li>○ To know the colors and features associated with trees in each season.</li> <li>○ To know that changes in trees are connected to the time of year and weather.</li> <li>○</li> </ul>	<ul style="list-style-type: none"> <li>○ To observe and describe how trees change across the seasons.</li> <li>○ To compare and contrast pictures of trees in different seasons.</li> <li>○ To explain why certain features of trees (e.g., no leaves, colored leaves, blossoms) are linked to specific seasons.</li> <li>○ To create a representation of a tree for each season using craft materials.</li> <li>○ To arrange images or drawings of trees in the correct seasonal order.</li> <li>○</li> </ul>
Key vocab	<p>Seasons: Spring, Summer, Autumn, Winter Tree Features: Leaves, Branches, Trunk, Root • Seasonal Changes: Buds, Blossoms, Green leaves, Red/orange leaves, Bare branches</p>	
<b>3</b>	<ul style="list-style-type: none"> <li>• To know that weather changes across seasons and influences the clothes we wear.</li> <li>• To know the scientific reason for wearing different types of clothing in different weather conditions (e.g., warm clothes help retain body heat in winter, light clothes help us stay cool in summer).</li> <li>• To know the features of clothing that suit different weather conditions (e.g., waterproof materials for rainy weather, thick materials for cold weather).</li> </ul>	<ul style="list-style-type: none"> <li>• To classify clothing items based on their suitability for specific seasonal weather conditions.</li> <li>• To observe and discuss the connection between clothing and weather conditions scientifically (e.g., warmth, breathability, protection from rain).</li> <li>• To explain how clothing choices help humans adapt to seasonal changes.</li> </ul>

		<ul style="list-style-type: none"> <li>To create and present a drawing that demonstrates an understanding of how clothing supports survival and comfort in different seasons.</li> </ul>
	Seasons: Spring, Summer, Autumn, Winter Weather: Sunny, Rainy, Snowy, Windy, Cold, Warm, Hot Temperature: Hot, Warm, Cold, Freezing	
4	<ul style="list-style-type: none"> <li>To know what signs of winter look like (e.g., bare branches, fallen leaves, frosty grass).</li> <li>To know that trees lose their leaves in winter.</li> <li>To know that some animals hibernate or migrate to warmer places during winter.</li> <li>To know what items represent winter in nature (e.g., leaves, branches, frost).</li> </ul>	<ul style="list-style-type: none"> <li>To observe and describe the changes in the environment during winter.</li> <li>To identify signs of winter in nature by collecting items during the walk (e.g., bare branches, leaves).</li> <li>To create a winter collage using collected items to represent what was observed in nature.</li> <li>To explain how animals adapt to winter, such as hibernating or migrating. <ul style="list-style-type: none"> <li>To recall and represent their winter walk experience through a drawing, expressing their observations.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>Winter, Signs of Winter, Trees, Bare branches, Frost, Leaves, Hibernate, Migration, Cold, Ice, Animals, Adapt, Survive, Season, Nature, Collection</li> </ul>	
5	<ul style="list-style-type: none"> <li>To know that in winter, the days are shorter and the nights are longer.</li> <li>To know that "daylight" refers to the time when the sun is visible and bright in the sky.</li> </ul>	<ul style="list-style-type: none"> <li>To describe the movement of the Earth around the sun in simple terms and how it causes changes in daylight.</li> </ul>
Key vocab	Winter, Daylight, Earth, Rotate, Orbit, Sun, Tilt, North Pole, Day, Night, Shorter days, Longer nights, Movement, Seasons.	
6	<ul style="list-style-type: none"> <li>To know that different seasons have different amounts of rainfall.</li> <li>To know that rainfall can be measured using a rain gauge.</li> <li>To know how to set up an investigation to compare rainfall in different seasons.</li> <li>To know how to make a prediction based on prior knowledge of seasons and weather patterns.</li> <li>To know that data can be collected and used to answer questions about the weather.</li> </ul>	<ul style="list-style-type: none"> <li>To set up an investigation to measure rainfall during each season.</li> <li>To make predictions about which season will have the most rainfall based on prior knowledge.</li> <li>To collect data using a rain gauge during each season.</li> <li>To analyze and record data to answer the question, "Which season has the most rainfall?"</li> <li>To create and interpret a simple bar graph to represent the results of the investigation.</li> </ul>
	Investigate data rainfall collect measure rain gage predict	



Year1

## Spring Term 1

Why was the third little pig's house the best house?

Why was the third little pig's house the best house?

1

### Key Question 1

What does the word material mean? (Hook day – STEM activity)



### Key Question 3

What are the properties of materials ?

### Key Question 5

How should we test what material would be the best roof for our den?







In this unit children will		
Key question	<u>Substantive knowledge</u> Learning fundamental facts, concepts, and principles across various scientific topics relevant to young learners. This includes understanding basic concepts such as the properties of materials, characteristics of living things, and simple scientific processes like the lifecycle of plants and animals	<u>Disciplinary knowledge</u> Introducing the methods, practices, and principles of scientific inquiry. This includes developing skills such as observation, prediction, measurement, and experimentation in a hands-on and age-appropriate manner. Through disciplinary knowledge, children learn how to think like scientists and engage with the natural world around them in a systematic and investigative way
1	<ul style="list-style-type: none"> <li>Know what the word "<b>materials</b>" mean</li> <li>Know that materials are substances from which things are made, such as the materials used to build the houses in the STEM challenge</li> <li>Know that the choice of materials can affect the structural integrity of a building.</li> </ul>	<ul style="list-style-type: none"> <li>Be introduced to the interdisciplinary concepts of Science, Technology, Engineering, and Mathematics through the STEM challenge. They will learn how these subjects are interconnected and applied in real-world scenarios, such as building structures.</li> <li>Engage in scientific inquiry. They will learn to make observations, collect data, and draw conclusions about the effectiveness of different materials in building sturdy structures.</li> <li>By discussing why some houses were better than others based on the materials used, children will develop critical thinking and problem-solving skills.</li> </ul>
Key Vocab	Materials strong sturdy fragile stable unstable investigate observe results (data )	
2	<ul style="list-style-type: none"> <li>Know the names of common everyday materials ( <b>wood, paper, glass, metal, plastic, fabric, and ceramics</b>). They will understand that these materials are used to make various objects and items that they encounter in our daily lives.</li> </ul>	<ul style="list-style-type: none"> <li>Develop observational skills during the materials hunt as they search for objects made of specific materials</li> <li>Classify objects by sorting them into groups based on their material composition.</li> <li>Through hands-on exploration and sorting activities, students will begin to understand the properties of different materials. They may notice differences in texture, appearance, weight, and other characteristics that distinguish one material from another.</li> </ul>
Key vocab	Materials wood, paper, glass, metal, plastic, fabric, and ceramics	
3	<ul style="list-style-type: none"> <li>Know that properties of materials refer to characteristics or qualities that describe how they look, feel, and behave</li> <li>Know that different materials can have different properties.</li> <li>Know that materials can be described by their properties, which include attributes such as <b>hardness, softness, stretchiness, stiffness, shininess, dullness, roughness, smoothness, opacity, transparency, absorbency, and waterproofness.</b></li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Observe and describe the properties of different materials and begin to articulate their observations using the words <b>hard soft stretchy stiff shiny dull rough smooth opaque transparent absorbent non-absorbent waterproof non waterproof</b></li> <li>Identify similarities and differences among materials and classify them into groups based on shared properties.</li> </ul>
Key vocab	Properties describe hard soft stretchy stiff shiny dull rough smooth opaque transparent absorbent waterproof flexible brittle	
4	<ul style="list-style-type: none"> <li>Know the different materials used to build the third little pig's house, including <b>bricks, slate, concrete, plastic, metal, and glass.</b></li> <li>Know that houses can be constructed using a variety of materials.</li> <li>Know that different materials have different properties, such as hardness, flexibility, absorbency, durability, transparency, and conductivity.</li> </ul>	<ul style="list-style-type: none"> <li>Engage in hands-on exploration and inquiry-based learning activities to investigate the properties of materials. They will develop observation skills and critical thinking as they explore how materials behave under different conditions.</li> </ul>

	<ul style="list-style-type: none"> <li>Know that the properties of materials determine their suitability for specific purposes.</li> </ul>	<ul style="list-style-type: none"> <li>Apply their findings to understand how material properties influence their use in real-world applications. They will learn to make connections</li> <li>between the properties of materials and their practical applications, such as building houses, making tools, or creating everyday objects.</li> <li></li> </ul>
Key vocab	Suitable suitability properties hard soft stretchy stiff shiny dull rough smooth opaque transparent absorbent waterproof flexible brittle strong observer pre investigate	
5	<ul style="list-style-type: none"> <li>Know the components of a science investigation sheet, including the aim (goal of the investigation), prediction (hypothesis or expected outcome), equipment (tools and materials needed), method (procedure or steps to follow), results (observations or data collected), and conclusion (interpretation of results).</li> </ul>	<ul style="list-style-type: none"> <li>Be introduced to the process of scientific inquiry, which involves asking questions, making predictions, conducting experiments, and drawing conclusions based on evidence. They will learn the importance of following a systematic approach to investigating scientific questions.</li> <li>Develop a simple hypothesis about which material they think would make the best roof for their den based on their understanding of material properties. They will test these hypotheses by conducting experiments and collecting data to determine the most effective material.</li> <li>Engage in critical thinking and problem-solving as they consider factors such as strength, durability, and weather resistance when evaluating the suitability of materials for den roofs. They will draw conclusions based on their observations and analysis of the data collected.</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>Investigation aim prediction equipment method results (data) conclusion</li> </ul>	

# The BIG question

What is a plant?



Year 1

**Spring Term 2**

What is a plant?

### Key question 1

What do plants need  
To grow?

**Hook lesson** -Let's get planting

### Key Question 3

What are the parts of a tree and  
what are their functions?

### Key Question 5

What trees and flowers do we  
recognise? What are their  
names?



### Key Question 2

What are the different parts of a  
flower and what are their  
functions?

### Key Question 4

What are deciduous and  
Evergreen trees? Are there more  
deciduous or more evergreen  
trees in our school woods?

### Key Question 6

What plants can we find growing  
in Bude?

In this unit children will

Key question	<u>Substantive knowledge</u> Learning fundamental facts, concepts, and principles across various scientific topics relevant to young learners. This includes understanding basic concepts such as the properties of materials, characteristics of living things, and simple scientific processes like the lifecycle of plants and animals	<u>Disciplinary knowledge</u> Introducing the methods, practices, and principles of scientific inquiry. This includes developing skills such as observation, prediction, measurement, and experimentation in a hands-on and age-appropriate manner. Through disciplinary knowledge, children learn how to think like scientists and engage with the natural world around them in a systematic and investigative way
1	<ul style="list-style-type: none"> <li>• Know about root systems as they observe how roots anchor plants into the soil and make weeds difficult to pull out</li> <li>• Know the terms <b>bulbs</b> and <b>seeds</b></li> <li>• Know what a bulb looks like and what a seed looks like</li> <li>• Know how to plant both bulbs and seeds</li> </ul>	<ul style="list-style-type: none"> <li>• Engage in hands-on activities such as weeding and planting, children will begin to learn about plant structures, functions, and life cycles, laying the foundation for further exploration in future lessons.</li> <li>• Develop observational skills as they examine and discuss the different parts of weeds and plants.</li> <li>• Through the hands-on experience of weeding and planting, children will develop practical gardening skills such as proper planting techniques and care for plants.</li> </ul>
Key vocab	Roots weeds bulbs seeds technique examine anchor soil	
2	<ul style="list-style-type: none"> <li>• Know different parts of a flower, including the <b>root, stem, leaf, and petal</b>. They will understand the basic structure of a flowering plant and the functions of each part in the plant's growth and reproduction</li> <li>• Know that roots anchor the flower and take water and food from the soil</li> <li>• Know that leaves catch sunlight water and air to make food for the flower</li> <li>• Know that the stem of a flower helps hold it up and take food and water from the roots to the leaves</li> <li>• Know that petals attract bees and other insects and the flower need this to make more flowers</li> </ul>	<ul style="list-style-type: none"> <li>• Develop practical skills in scientific inquiry by dissecting flowers to observe their internal structures.</li> <li>• Apply scientific observation skills to identify and describe the different parts of flowers</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>• Structure function flower flowering plant root stem leaf petals sunlight water air observe examine dissect</li> </ul>	
3	<ul style="list-style-type: none"> <li>• Know the basic parts of a tree, <b>root, bark, branches, leaves, blossom (flowers), and fruit</b>.</li> <li>• Know that roots anchor the tree and take water and food from the soli</li> <li>• Know that the bark of a tree protects the tree from the weather and animals</li> <li>• Know that the trunk of a tree helps hold it up and take food and water from the roots to the branches and the leaves</li> <li>• Know that leaves catch sunlight water and air to make food for the tree</li> <li>• Know that branches hold and move the leaves to help them catch sunlight and water</li> <li>• Know that blossom attracts bees and other insects and the tree need this to make more trees</li> </ul>	<ul style="list-style-type: none"> <li>• Develop observational skills through firsthand observations of trees in the woodland. They will learn to identify and describe the characteristics of tree parts, such as the shape of leaves, the texture of bark, and the arrangement of branches.</li> <li>• Through woodland observations, students will apply their knowledge of</li> <li>• tree parts and functions to real-world contexts.</li> </ul>

	<ul style="list-style-type: none"> <li>• Know that tree fruit contains seeds that can grow into new trees</li> </ul>	
Key Vocab	tree, root, bark, branches, leaves, blossom (flowers), and fruit protect water sunlight air characteristics observe identify shape texture	
4	<ul style="list-style-type: none"> <li>• Know that deciduous trees lose their leaves in the autumn and grow new ones in the spring, while evergreen trees keep their leaves all year round.</li> <li>• Know that evergreen trees have narrow, needle-like or scale-like leaves</li> <li>• Know that deciduous trees have broad, flat leaves</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate whether there are more deciduous or evergreen trees in their school grounds. They will collect data by observing and counting trees, then analyse the data to draw conclusions about the tree population.</li> <li>•</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>• Deciduous evergreen 'all year round' needle-like scale-like broad flat investigate results/data identify</li> </ul>	
5	<ul style="list-style-type: none"> <li>• Know the names of common plants and trees found in the UK. oak hazel, sycamore rowan field maple beech horse chestnut Scots pine daisies, daffodils, and bluebells dandelion snow drops primroses foxgloves champions</li> </ul>	<ul style="list-style-type: none"> <li>• Develop observational skills as they learn to identify common plants and trees based on their characteristics such as leaves, flowers, and overall appearance.</li> <li>• Begin to develop an awareness of the natural environment around them and the biodiversity of plants and trees in their local surroundings</li> </ul>
Key vocab	Common oak hazel, sycamore rowan field maple beech horse chestnut Scots pine daisies, daffodils, and bluebells dandelion snow drops primroses foxgloves champions characteristics	
6	<ul style="list-style-type: none"> <li>• Know what trees and flowers grow around Bude</li> </ul>	<ul style="list-style-type: none"> <li>• Through exploring their local area, students will develop field observation skills.</li> <li>• Gather information about the local trees and flowers they find, including their names, features, and locations. They will compile data on the types of trees and flowers present in their local environment</li> <li>• As a class practice presenting their findings in a clear and organised manner. This includes verbal communication skills, such as speaking confidently and articulately</li> </ul>
Key Vocab	Local area field work record information characteristic feature location findings	



Year 1

## Summer Term 1

What is an animal family?

### Key Question 1

How can we sort all the animals in the zoo into the right places?



### Key Question 3

Which animal families are invertebrates ?

### Key Question 5

What is the difference between a bird and a mammal?



### Key Question 2

What is the difference between a vertebrate and an invertebrate ?

### Key Question 4

What are fish, amphibians and reptiles ?

### Key Question 6

Now we know all about animal families can we sort all the zoo animals?

**In this unit children will**

Key question	<u>Substantive knowledge</u>	<u>Disciplinary knowledge</u>
1	<p>Learning fundamental facts, concepts, and principles across various scientific topics relevant to young learners. This includes understanding basic concepts such as the properties of materials, characteristics of living things, and simple scientific processes like the lifecycle of plants and animals</p>	<p>Introducing the methods, practices, and principles of scientific inquiry. This includes developing skills such as observation, prediction, measurement, and experimentation in a hands-on and age-appropriate manner. Through disciplinary knowledge, children learn how to think like scientists and engage with the natural world around them in a systematic and investigative way</p>
	<ul style="list-style-type: none"> <li>• Know what the term characteristics means</li> <li>• Know that animals can be sorted based on their characteristics</li> </ul>	<ul style="list-style-type: none"> <li>• Engage in hands-on sorting activities and begin to understand the process of classification</li> <li>• Use their critical thinking skills by deciding how they will sort the animals and coming up with their own criteria for classification.</li> <li>• Practice observing the characteristics of different animals to determine how they will be sorted.</li> <li>• Through discussion and group work, children will communicate their ideas and collaborate with their peers to decide on the criteria for sorting the animals</li> </ul>
Key Vocab	Characteristics Classify Classification Observe Criteria	
2	<ul style="list-style-type: none"> <li>• Know that a vertebrate has a backbone</li> <li>• Know that an invertebrate does not have a backbone</li> <li>• Know that some invertebrates have a hard casing covering their body</li> </ul>	<ul style="list-style-type: none"> <li>• Through hands-on experiences such as feeling the backbone of real pets and handling worms, children will engage in sensory exploration to deepen their understanding of vertebrates and invertebrates.</li> <li>• Apply their understanding of invertebrates in a creative context (making jelly sweet invertebrates)</li> </ul>
	Vertebrate Invertebrate backbone	
3	<ul style="list-style-type: none"> <li>• Know various invertebrate species commonly found in the UK, - starfish, sea urchins, earthworms, sponges, jellyfish, lobsters, crabs, insects, spiders, snails, clams, and squid.</li> </ul>	<ul style="list-style-type: none"> <li>• Engage in tactile exploration to deepen their understanding of their physical characteristics and behaviours.</li> <li>• Practice classification skills by sorting pictures of invertebrates into those with and without an exoskeleton</li> </ul>
Key vocab	Vertebrate Invertebrate backbone characteristics classify exoskeleton	
4	<ul style="list-style-type: none"> <li>• Know that reptiles have Dry scaly skin backbones (vertebrate) Crawl and slither: Lay eggs on land: Cold blooded – sunbathe to warm up their bodies Examples: Snakes, turtles, crocodile</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and label the key characteristics of an example of each group (reptile, amphibian, and fish).</li> <li>• Identify similarities and differences between the three groups. compare features such as skin texture, mode of reproduction, and habitat</li> </ul>

	<ul style="list-style-type: none"> <li>Know that amphibians have Smooth wet skin backbones Hop and swim with webbed feet Lay eggs in water Start as tadpoles:  Examples: Frogs, toads</li> <li>Know that fish have Scales and fins: backbones (vertebrate) Swim with fins: Lay eggs in water Live under water Breathe through gills  Examples shark goldfish</li> </ul>	
Key vocab	<ul style="list-style-type: none"> <li>Vertebrate invertebrate reptile mammal amphibian cold-blooded slither similarities differences habitat identify</li> </ul>	
5	<ul style="list-style-type: none"> <li>Know that mammals Have fur or hair to keep warm Have backbones (vertebrate) Move on 4 limbs (most) Females produce milk to feed their babies Give birth to live babies (most) Warm-blooded- stay warm in different temperatures Breathe Air</li> <li>Know that birds Have backbones (vertebrate) Have feather covering their body for warmth Have wings to fly Lay eggs Warm-blooded- stay warm in different Temperatures Breathe Air</li> </ul>	<ul style="list-style-type: none"> <li>Identify and label the key characteristics of an example of each group (mammal bird).</li> <li>identify similarities and differences between mammals, and birds. They will learn to compare features such as body coverings, methods of reproduction, modes of locomotion, and habitat preferences</li> <li>Engage in direct observation and tactile exploration. This practical experience enhances their learning by allowing them to see, touch, and hear real-life examples of these animals, deepening their understanding of their characteristics.</li> </ul>
Key vocab	Mammals limbs females produce milk vertebrate fur hair birth 'warm blooded' temperature breath birds feathers lay eggs identify similarities differences	
6	<ul style="list-style-type: none"> <li>Know the characteristics of mammals, birds, fish amphibians and reptiles</li> <li>Know a wide range of mammals, birds ,fish amphibians and reptiles that you would find in a zoo</li> </ul>	<ul style="list-style-type: none"> <li>Use their understanding of animal characteristics to help the zookeeper organise the escaped animals. This involves applying classification criteria to group animals effectively.</li> </ul>



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|--|--|--|
|  |  | <ul style="list-style-type: none"><li>• Use critical thinking skills to analyse the characteristics of each animal and determine which group they belong to. They will consider features such as fur, feathers, scales, and habitat preferences to make decisions.</li></ul> |
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Why do animals have different body parts?

Year 1  
**Summer Term 2**  
Why do animals have different body parts?

A blue and yellow double-decker bus is shown on a road with white dashed lines. The road is set against a background of brown, textured ground. Five key questions are arranged around the bus: two above and three below. A red location pin icon is next to the first question, and a magnifying glass icon is next to the fifth question.

**Key Question 1 (part 1)**  
What parts do all animals have?  
Are they all the same?

**Key Question 2**  
What parts do some animals have that others don't?

**Key Question 4**  
Can we tell what an animal eats just by looking at their teeth?

**Key Question 1 (part 2)**  
What parts do all animals have?  
Are they all the same?

**Key Question 3**  
Do all animals eat the same thing?

**Key Question 5**  
What are all the different ways that we can describe an animal?

in this unit children will

Key question	<u>Substantive knowledge</u> Learning fundamental facts, concepts, and principles across various scientific topics relevant to young learners. This includes understanding basic concepts such as the properties of materials, characteristics of living things, and simple scientific processes like the lifecycle of plants and animals	<u>Disciplinary knowledge</u> Introducing the methods, practices, and principles of scientific inquiry. This includes developing skills such as observation, prediction, measurement, and experimentation in a hands-on and age-appropriate manner. Through disciplinary knowledge, children learn how to think like scientists and engage with the natural world around them in a systematic and investigative way
1	<ul style="list-style-type: none"> <li>• Know that the parts of an animal's body is called its structure.</li> <li>• Know that all animals, regardless of their classification as mammals, reptiles, birds, amphibians, or fish, share common key body parts. Skin, eyes, ears, mouth, and limbs</li> </ul>	<ul style="list-style-type: none"> <li>• Engage in observation by looking at a range of photographs of animals they saw on their zoo visit. They will identify and compare the common body parts present in each animal, reinforcing their understanding of shared characteristics.</li> <li>• Through hands-on experience with animals like dogs, guinea pigs, and tortoises, children will further explore the common body parts. They will have the opportunity to touch and examine these animals up close, enhancing their tactile understanding of the shared characteristics.</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>• Structure animals mammals reptiles birds amphibians fish common. skin, eyes, ears, mouth, and limbs identify examine characteristics sort</li> </ul>	
2	<ul style="list-style-type: none"> <li>• Know that while all animals have limbs (including wings and fins) and mouths (including beaks), they vary significantly in their appearance and function.</li> <li>• Know the vocabulary limb arms legs paws fingers toes hooves pads webbed claws fins tentacles mouth beak muzzle jaw</li> </ul>	<ul style="list-style-type: none"> <li>• Engage in observation by looking at a range of photographs of animals and through hands-on experiences with dogs, guinea pigs, and tortoises.</li> <li>• Identify similarities and differences in the structure and function of these body parts, deepening their understanding of animal diversity and adaptation.</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>• Limbs wings fins vocabulary limb arms legs paws fingers toes hooves pads webbed claws fins tentacles mouth beak muzzle jaw observe similarities differences identify characteristics</li> </ul>	
3	<ul style="list-style-type: none"> <li>• Know that there are some body parts of animals that not all animals have</li> <li>• Know, identify, and describe specific animal body parts hair, fur, feathers, scales, tails, gills, horns, tusks, and whiskers and know some animals that have these body parts</li> </ul>	<ul style="list-style-type: none"> <li>• Engage in observation by examining and categorising unique animal features through hands-on activities.</li> <li>• Apply new knowledge to classify animals based on their distinctive features.</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>• parts hair, fur, feathers, scales, tails, gills, horns, tusks, and whiskers tentacles observe similarities differences identify characteristics</li> </ul>	
4	<ul style="list-style-type: none"> <li>• Know that animals can be categorised based on their diet into three main groups: carnivores, herbivores, and omnivores.</li> <li>• Know that carnivores only eat meat</li> <li>• Know that herbivores only eat plants</li> <li>• Know that omnivores eat meat and plants</li> </ul>	<ul style="list-style-type: none"> <li>• Develop research skills by using both the internet and non-fiction books to gather information about what different animals eat.</li> <li>• Use their knowledge of carnivores, omnivores, and herbivores to classify and sort animals into these three groups based on what they eat.</li> </ul>

	<ul style="list-style-type: none"> <li>Know that humans are the only species who can make a choice about their diets</li> </ul>	
Key vocab	Diet carnivore herbivore omnivore meat plants research classify based	
5	<ul style="list-style-type: none"> <li>Know that animal's teeth are adapted to its diet, with different types of teeth suited for different types of food (e.g., sharp teeth for tearing meat, flat teeth for grinding plants).</li> <li></li> <li>Know the specific features of animal skulls and teeth that indicate whether an animal is a carnivore (sharp, pointed teeth), omnivore (mixed types of teeth), or herbivore (flat, grinding teeth).</li> </ul>	<ul style="list-style-type: none"> <li>Engage in observation by closely examining real animal skulls and photographs of animal skulls and teeth to identify characteristic features associated with different diets</li> <li>categorise animals into different dietary groups (carnivore, omnivore, herbivore) based on their shape</li> </ul>
Key Vocab	teeth suited diet type sharp flat grinding pointed skull observe characteristics categorise shape	
6	<ul style="list-style-type: none"> <li>Know a wide range of ways to classify and describe animals</li> <li>Know a wide range of scientific vocabulary related to the classification of animals and animal structure</li> </ul>	<ul style="list-style-type: none"> <li>Use and animal classification chart to classify and animal</li> <li>Use close observational skills to decide what sort of diet an animal has</li> <li>Present findings effectively using text, labels and pictures</li> </ul>
Key vocab	<ul style="list-style-type: none"> <li>functions description tearing reaching catching prey teeth suited diet type sharp flat grinding pointed skull observe characteristics categorise shape Diet carnivore herbivore omnivore meat plants parts hair, fur, feathers, scales, tails, gills, horns, tusks, and whiskers limb arms legs paws fingers toes hooves pads webbed claws fins tentacles mouth beak muzzle neck teeth</li> </ul>	

## Glossary of Year I Science Vocabulary

### Teachers use definitions consistently when delivering the curriculum

1. Accurate: When something is exactly right or correct
2. Aim: What you're trying to do or achieve.
3. Air: The invisible gas around us that we breathe.
4. Anchor: Something that holds things in place, like the roots of a plant holding it in
5. the soil
6. Arms: The parts of your body connected to your shoulders that you use to pick
7. things up
8. Backbone: The row of bones down the middle of an animals back.
9. Bark: The tough outer covering of a tree.
10. Beak: The hard, pointed mouth of a bird.
11. Birth: When a baby or animal is born.
12. Bloom: When flowers open and grow.

68. Function: What something does or is used for.
69. Further: Going more or longer.
70. Fur: The soft hair on animals.
71. Gills: The parts of a fish that help them breathe underwater.
72. Glass: A clear, hard material used to make windows and cups.
73. Grasping: Holding onto something tightly.
74. Hair: The strands that grow on your head and body.
75. Habitat: The place where an animal or plant naturally lives and grows.
76. Hands: The part of your body you use for touching and holding things.
77. Hazel: A type of tree that produces nuts.
78. Hearing: Using your ears to listen and understand sounds.
79. Herbivore: An animal that eats only plants.
80. Hips: The area on either side of your body between your waist and your
81. thighs
82. Horns: Hard, pointed growths on the heads of some animals.

13. Blossom: Another word for flower or when flowers are in bloom.
14. Branches: The parts of a tree that grow out from the trunk.
15. Breathe: Taking air into your body and then letting it out.
16. Bright: Shiny and giving off a lot of light.
17. Broad: Wide or having a large surface.
18. Bulbs: The part of a plant that grows underground and produces new plants.
19. Carnivore: An animal that eats meat.
20. Ceramic: Objects made from baked clay like pots and dishes.
21. Characteristics: The special things that make something different or the same as others.
22. Chest: The front part of your body between your neck and your stomach.
23. Chilly: Cold, but not freezing.
24. Chin: The bottom part of your face.
25. Classification: Sorting things into groups based on their similarities.
26. Cold-blooded: Animals whose body temperature changes with the temperature
27. around them
28. Collect: Gathering things together.
29. Common: Something that happens often or is seen a lot.
30. Conclusion: Figuring out what happened or what you learned.
31. Correct: Right or accurate.
32. Crawl: Moving on your hands and knees.
33. Criteria: The things you use to judge or decide something.
34. Crinkly: Having lots of little wrinkles or folds.
35. Daffodils: Yellow flowers that bloom in the spring.
36. Data: Information or facts.
37. Deciduous: Trees that lose their leaves in the fall.
38. Describe: Saying what something is like.
39. Detect: To notice or find something.
40. Diagram: A simple drawing that shows how something works or what it
41. looks like
42. Differences: Ways things are not the same
43. Diet: The food and drinks that a person or animal regularly eats to stay healthy
44. Dissect: Cutting something apart to see how it works.
45. Distance: How far apart things are.
46. Dull: Not shiny or bright.
47. Ear: The part of your body you use to hear.
48. Eggs: What birds and some animals lay to have babies.
49. Equipment: Tools or things you need to do something.
50. Evergreen: Trees that stay green all year round.
51. Examine: Looking at something closely.
52. Eyes: The parts of your body you use to see.
53. Fabric: Material used to make clothes, like cotton or wool.
54. Feature: A special or important part of something.
55. Feel: What you sense when you touch something.

83. Icy: Covered in or made of ice.
84. Identify: Recognising something
85. Investigate: Looking closely at something to learn more about it.
86. Jagged: Having rough, sharp edges
87. Jaw: The bones in your mouth that hold your teeth
88. Leaf: The flat, green part of a plant.
89. Legs: The parts of your body you use for walking and running.
90. Limbs: the arms legs or wings of an animals used for moving handling support
91. Or flight.
92. Location: Where something is.
93. Long: Measuring a great distance from one end to the other.
94. Local area: The place nearby where you live or visit often.
95. Male can make babies with a female (boy, man)
96. Materials: The things used to make something.
97. Mammal: Animals that have hair or fur and give birth to live babies.
98. Measure: Finding out how big or small something is.
99. .Metal: A hard, shiny substance like iron or steel.
100. Method: The way you do something.
101. Mouth: The opening in your face where you eat and speak.
102. .Muzzle: The part of an animal's face that covers its mouth.
103. .Neck: The part of your body that connects your head to your shoulders.
104. Nose: The part of your face you use to smell.
105. Observe: Looking carefully at something.
106. Observation: What you see or notice.
107. Opaque: Not see-through.
108. Oval: A shape that is like a flattened circle.
109. Parts: Pieces or sections of something.
110. Petals: The colourful, leaf-like parts of a flower.
111. Plastic: A manmade material that can be moulded into shapes when heated.
112. Point: The sharp end of something.
113. Predict: Saying what you think will happen i
114. Primroses: Small, pale flowers that bloom in the spring.
115. Produce: Making or creating something.
116. Properties: The qualities or characteristics of something.
117. Protect: Keeping something safe from harm.
118. Rainfall: The amount of rain that falls in a specific area over a specific period.
119. Record: Writing down or keeping track of information.
121. Reptile: Animals like snakes and lizards that have dry, scaly skin and lay eggs.
122. Results: What happens at the end of an experiment or test
123. Rough: Not smooth, having a bumpy texture..
124. Scales: Hard, flat plates covering the skin of some animals, like fish or snakes, to protect their bodies.
125. Skin-is the outer covering of your body

56. Feet: The parts of your body you stand on.
57. Female: A girl or woman (animals that can have babies)
58. Fin: A thin, flat part that sticks out from the body of a fish or other aquatic animals (living in water) animal, used for swimming and steering
60. in water
61. Findings: What you discovered or learned.
62. Fingers: The digits on your hands.
63. Flexible: Able to bend or move easily.
64. Flower: The part of a plant that makes seeds
65. Foggy: When there's fog, it's hard to see because there's lots of moisture (water)
66. in the air
67. Fragile: Easy to break or damage.
68. Function: What something does or is used for.

125. Temperature: How hot or cold something is.
126. Texture: How something feels when you touch it, like if it's smooth, rough, soft, or bumpy.
127. Warm Blooded Animals that can control their body temperature to stay warm, even when the temperature around them changes.