

Science Progression KS1

Year / Term	Domains	Dimensions	Working towards	Expected	Mastery	Deepening and Applying
Year 1						
All Year Key Knowledge: The composition of the Earth and its atmosphere and the processes occurring within them shape the Earth's surface and its climate	Physics	Seasonal change E&S1.1 Observe changes across the four seasons E&S 1.2 Observe and describe weather associated with the seasons and how day length varies	I can: Identify the changes that occur across the year as the seasons change Name some of the key features of each season including the weather Identify how the different seasons impact on the way we live including the clothes we wear	I can: Describe the changes that occur across the year as the seasons change List the key features of each season including the weather Outline how the different seasons impact on the way we live including the clothes we wear	I can: Explain why the seasons change Compare the different seasons and identify things that I like and dislike about them Explain how the different seasons effect animals in the UK using the example of common garden animal or bird	I can; Summarise how and why the seasons change and the key differences between each season Create a guide on ways in which we can support birds, animals and insects in the different seasons
Key Skills: <i>Observing changes over a period of time, noticing patterns</i>		Children should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer questions, including: •observing changes over a period of time, •noticing patterns, •finding things out using secondary sources of information. •asking simple questions and recognising that they can be answered in different ways observing closely,	I can: Collect data on the weather List the types of weather across a week Use information on the weather to draw a simple graph (for example number of sunny/rainy days in a month	I can: Collect and record data on the weather Describe the types of weather across a week Use information on the weather to complete a simple graph (for example number of sunny/rainy days in a month	I can: Present data on the weather in graphs and charts to show how it changes with the seasons Analyse the types of weather across a week Research how and why the seasons change Research how the changes in the seasons effect humans and animals	I can: Plan how to present my data so that I can see the changes over time Ask questions to help me plan my research into why the seasons change

		<ul style="list-style-type: none"> •using simple equipment, •identifying and classifying gathering and recording data to help in answering questions •using their observations and ideas to suggest answers to questions 	Find out information to identify why the seasons change from books	Find out information about why the seasons change from the internet and books		
		Research the farming year to show how the seasons effect plants and animals on a farm	I can: Identify the changes in the farming year and present my findings in a seasonal calendar	I can: Describe the changes in the farming year and present my findings in a seasonal calendar	I can: Explain the changes in the farming year and summarise the work the farm needs to do in each season	I can: Use my research to write a diary entry for a farmer at the start of each season
<p>1a Autumn Key Knowledge:</p> <p>All material in the universe is made of very small particles.</p>	Chemistry	<p>Everyday Materials</p> <p>EM1.1 Distinguish between an object and the material from which it is made</p> <p>EM1.2 Identify and name a variety of everyday materials, including wood, plastic, glass, metal water and rock</p> <p>EM1.3 Describe the simple properties of a variety of everyday materials</p> <p>EM1.4 Compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>EM1.5 Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	<p>I can: Identify some different materials we have in the classroom</p> <p>Sort materials into given groups based on their properties (i.e. man-made/naturals, hard and soft, flexible and stiff)</p> <p>Identify that some materials can be shaped and others cannot</p>	<p>I can: Identify and describe the different materials we have in the classroom</p> <p>Sort materials into different groups based on their properties (i.e. man-made/naturals, hard and soft, flexible and stiff)</p> <p>Describe how some materials can be shaped and others cannot</p>	<p>I can: Compare and contrast the different materials we have in the classroom</p> <p>Explain why the properties of different materials make them good for different purposes (i.e. when do we need things to be soft/flexible/hard)</p> <p>Classify materials into those that can be shaped by hand and those that cannot</p>	<p>I can: Summarise why some materials are used for specific purposes uses examples from the materials in the classroom</p> <p>Research how rigid materials such as metal and stone are shaped</p>
Key Skills: Observing closely, identifying,		Children should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer questions, including:	I can: Observe the difference between materials in the classroom based on	I can: Describe the difference between materials in the	I can: Explain the similarities and differences between materials in the classroom and group	I can: Use the data from my observations to show on a graph

grouping and classifying, performing simple tests		<ul style="list-style-type: none"> noticing patterns, grouping and classifying things, carrying out simple comparative tests finding things out using secondary sources of information. asking simple questions and recognising that they can be answered in different ways observing closely, identifying and classifying gathering and recording data to help in answering questions using their observations and ideas to suggest answers to questions 	<p>texture, flexibility, hardness</p> <p>Group materials based on their properties</p> <p>Find out how materials are made or where they are found</p>	<p>classroom based on texture, flexibility, hardness</p> <p>Group materials in different ways based on their properties</p> <p>Research how materials are made or where they are found</p>	<p>them in different ways according to their properties</p> <p>Explain the difference between man-made materials and natural materials and give examples</p>	<p>which materials are used most often in the classroom</p>
		<p>Research which materials can be recycled or decay naturally and which do not</p> <p>Sort and measure the materials wasted in the classroom each day and record over a week to see how we could reduce waste or ensure things are recycled</p>	<p>I can: Name materials that can be recycled and those that cannot</p> <p>Identify how we could recycle more materials in school</p>	<p>I can: List materials that can be recycled and those that cannot</p> <p>Describe how we could recycle more materials in school</p>	<p>I can: Explain why some materials can be recycled and some cannot</p> <p>Explain how we could reduce waste in the classroom</p>	<p>I can: Create a guide to help us reduce, reuse, recycle</p>
<p>1b Spring Key Knowledge: Organisms are organised on a cellular basis</p>	<p>Biology</p>	<p>Animal, including humans AH1.1 Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates AH1.2 Identify and name a variety of common animals that are carnivores, herbivores and omnivores AH1.3 Describe and compare the structure of a variety of common</p>	<p>I can: Sort living things into the main animal groups</p> <p>Identify what we mean by carnivore, herbivore and omnivore Identify some common animals and sort them into carnivores, herbivores and omnivores</p>	<p>I can: Sort living things into the main animal groups and give reasons for my decisions</p> <p>Describe what we mean by carnivore, herbivore and omnivore</p> <p>Identify some common animals and sort them into carnivores,</p>	<p>I can: Classify living things into the main animal groups and explain why</p> <p>Classify which animals are carnivores, herbivores and omnivores and explain the difference between these groups</p>	<p>I can: Summarise the key characteristics of the main animal groups</p> <p>Reflect on how the food types of different animals determines how they live using an</p>

Organisms require a supply of energy and materials for which they are often dependent on or in competition with other organisms		animals (birds, fish, amphibians, reptiles, mammals and invertebrates, and including pets) AH1.4 Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with which sense	Label a diagram of the structure of an animal group to show their main characteristics Label a picture of a human body to show the key features including the senses	herbivores and omnivores and say why Label diagrams of the structure of the different groups of animals to show their main characteristics Draw a human body and show the key features including the senses	Annotate diagrams of examples of the different groups of animals to explain their key characteristics Draw and annotate a human body to show the key characteristics including the senses	example of each group Summarise how our senses help us make sense of the world
Key Skills: identifying, grouping and classifying things		Children should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer questions, including: <ul style="list-style-type: none"> noticing patterns, grouping and classifying things, finding things out using secondary sources of information. asking simple questions and recognising that they can be answered in different ways observing closely, identifying and classifying gathering and recording data to help in answering questions using their observations and ideas to suggest answers to questions 	I can: Sort animals into groups based on key features Identify similarities between animals in each group Identify which animals are carnivores, herbivores and omnivores Label a diagram	I can: Use a simple classification key to sort animals into groups List similarities between animals in each group Find out from research which animals are carnivores, herbivores and omnivores Draw and label a diagram	I can: Explain how a classification key helps to sort animals into groups Explain the similarities between animals in the same group Explain carnivores, herbivores and omnivores the difference between Annotate a diagram	I can: Classify animals into new groups or sub groups for example domesticated and wild and explain my reasoning
		Research and create a guide for caring for a pet to include, diet,	I can:	I can: List the things my pet needs	I can:	I can:

		exercise, home/bedding based on their characteristics	Identify the things my pet needs Identify the daily routine to care for my pet	Describe a daily routine to care for my pet	Explain what my pet needs based on the animal group and their diet I can create a list of dos and don'ts for my guide	Evaluate the advantages and disadvantages of two different pets to decide which would be the best pet to own
1c Summer Key Knowledge: Organisms are organised on a cellular basis	Biology	Plants PL1.1 Identify and name a range of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen PL1.2 Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers	I can: Name different plant groups and find example Sort trees into those that are deciduous and those that are evergreen Use a guide to identify some common trees Label the key parts of a flowering plant	I can: Sort plants into the main different plant groups Describe which trees are deciduous and which are evergreen Use a guide to identify common trees Draw and label the key parts of a flowering plant	I can: Classify plants into the main groups and explain their characteristics Explain why some trees lose their leaves in winter and others do not Distinguish between species of trees and explain in what ways they are different Draw and annotate a diagram of a flowering plant to explain the key features	I can: Summarise the features that all plants have in common and give reasons why Compare two different flowering plants to show the similarities and differences
Key Skills: Observing closely and identifying similarities and differences Observing change over time		Children should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer questions, including: •noticing patterns, •grouping and classifying things, •finding things out using secondary sources of information. •asking simple questions and recognising that they can be answered in different ways observing closely, •using simple equipment,	I can: Group things according to their observable characteristics Think of some questions to help me plan my research and observations Identify some key facts about the main plant groups using books Use simple equipment including a magnifying	I can: Identify patterns and group things according to their observable characteristics Ask simple questions to help me plan my research and observations Research information about the main plant groups using books and digital media Independently use simple equipment including a	I can: Distinguish between different plant groups and explain their characteristics Pose scientifically valid questions to help me plan my research and observations Select appropriate sources for my research including books and digital media Explain how to use a magnifying glass to help my observations	I can: Explain my reasoning in grouping plants together Carry out research independently to explore a specific plant group Select the best way to present my information

		<ul style="list-style-type: none"> identifying and classifying gathering and recording data to help in answering questions using their observations and ideas to suggest answers to questions 	<p>glass to make my observations Record my information in a diagram</p>	<p>magnifying glass to make my observations Record my information on a diagram, graph or chart</p>	<p>Record my information in a range of diagrams, graphs or charts and explain what I have learnt</p>	
		Sort and classify different fruits and vegetables according to the part of the plant that is edible	<p>I can: Sort fruits and vegetables into different groups according to the part of the plant they come from</p>	<p>I can: Sort fruits and vegetables into different groups according to the part of the plant they come from and give some reasons for my decisions</p>	<p>I can: Apply my knowledge of plants to classify different fruits and vegetables and summarise their key characteristics of each group</p>	<p>I can: Create a classification key to sort fruits and vegetables according to the part of the plant they come from and use the information to summarise where our food comes from</p>
Year 2						
<p>2a Autumn 1 Key Knowledge:</p> <p>All material in the universe is made of very small particles</p>	Chemistry	<p>Uses of Everyday Materials EM2.1 Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard EM2.2 Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (Y1) EM2.3 Compare how things move on different surfaces</p>	<p>I can: Identify some different materials we can find around the school including things we wear Sort materials into different groups Identify how the properties of different materials determine how they are used Identify what materials make good clothes Identify things that are rough and smooth using</p>	<p>I can: List the different materials we can find around the school including things we wear Sort materials into different groups according to different criteria Describe how the properties of different materials determine how they are used Describe what materials make good clothes and say why Describe the difference between smooth and rough surfaces and identify examples around the school</p>	<p>I can: Classify different materials around the school into the main groups Distinguish between man made and natural materials Explain why we use particular materials based on their properties Explain why our clothes are made of certain materials Explain how the surface texture of a material is important</p>	<p>I can: Summarise the different properties of everyday materials and generalise about how they are used giving examples from our school Speculate on alternative materials for everyday objects around the school</p>

			examples around the school			
<p>Key Skills: Identifying, grouping and classifying things Carrying out simple comparative tests</p>		<p>Children should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer questions, including:</p> <ul style="list-style-type: none"> observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests finding things out using secondary sources of information. asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment, performing simple tests identifying and classifying gathering and recording data to help in answering questions <p>using their observations and ideas to suggest answers to questions</p>	<p>I can: identify differences between materials in the classroom based on texture, flexibility, hardness</p> <p>Group materials based on their properties</p> <p>Find out how materials are made or where they are found</p> <p>Test what happens when we squash, bend, twist or stretch materials used in the things we wear</p> <p>Observe the different floor surfaces around the school and say which ones are smooth and which are rough</p>	<p>I can: Observe the difference between materials in the classroom based on texture, flexibility, hardness</p> <p>Group materials in different ways based on their properties</p> <p>Research how materials are made or where they are found</p> <p>Investigate what happens when we squash, bend, twist or stretch materials used in the things we wear</p> <p>Observe the different floor surfaces around the school and say which ones are smooth and which are rough and give some reasons why</p>	<p>I can: Explain the differences between different materials around the school based on my observations</p> <p>Classify materials into different groups according to their properties and explain my reasoning</p> <p>Plan my research and identify the key information I need to find out how common materials are made or found</p> <p>Plan an investigation to find out which materials make the best clothes for school</p>	<p>I can: Reflect on whether we could use different materials and explain my reasoning</p> <p>Hypothesise about why different floor materials are used in different parts of the schools and plan an investigation to test out our ideas</p>
		<p>Use knowledge of materials used for clothing to design a school uniform that is hard wearing, comfortable and looks smart</p>	<p>I can: Identify some of the key features that we need to consider in our design Match key properties to different parts of the uniform (i.e. soft, stretchy, hard, strong) Draw and label my uniform design</p>	<p>I can: List the key features that we need to consider in our design Match key properties to different parts of the uniform (i.e. soft, stretchy, hard, strong) Draw and label my uniform design to show my choices</p>	<p>I can: Explain the key features to consider when designing my uniform Evaluate different materials for each part and give reasons for my choices Annotate my design to show the properties of the materials I have chosen</p>	<p>I can: Evaluate our current school uniform and say how we could improve it</p>

<p>2b Autumn2 Key Knowledge:</p> <p>Organisms require a supply of energy and materials for which they are often dependent on or in competition with other organisms</p>	<p>Biology</p>	<p>Animals, including humans AH2.1 Notice that animals, including humans, have offspring which grow into adults AH2.2. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) AH2.3 Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>	<p>I can: Identify the life cycle of a human from birth to death</p> <p>Name the things we need to keep us alive Identify the things we need to consider to keep healthy</p>	<p>I can: Describe the life cycle of a human from birth to death</p> <p>Outline the things we need to keep us alive</p> <p>Describe the things we need to consider to keep healthy</p>	<p>I can: Explain the key stages in our lives from birth to death and the changes that occur at each stage</p> <p>Distinguish between the things that we need to stay alive and things we might want</p> <p>Explain what happens if we don't have a healthy diet, take exercise and keep ourselves clean</p>	<p>I can: Compare the life cycle of a human with that of another animal and identify similarities and differences</p>
<p>Key Skills: Finding things out using secondary sources of information Asking simple questions and recognising that they can be answered in different ways</p>		<p>Children should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer questions, including:</p> <ul style="list-style-type: none"> •observing changes over a period of time, •noticing patterns, •grouping and classifying things, •carrying out simple comparative tests •finding things out using secondary sources of information. •asking simple questions and recognising that they can be answered in different ways including: <ul style="list-style-type: none"> • observing closely, •using simple equipment, •performing simple tests •identifying and classifying gathering and recording data to help in answering questions 	<p>I can: Observe patterns</p> <p>Ask simple questions about what humans need to stay alive</p> <p>Ask simple questions about what humans need to stay healthy</p> <p>Find key facts using books</p>	<p>I can: Observe patterns and changes over time</p> <p>Ask simple questions about what humans need to stay alive to inform my research</p> <p>Ask simple questions about what humans need to stay healthy to inform my research</p> <p>Research using books and digital media</p>	<p>I can: Explain changes and patterns over time</p> <p>Ask scientifically valid questions about what humans need to stay alive</p> <p>Ask scientifically valid questions about what humans need to stay healthy</p> <p>Select appropriate sources for my research</p>	<p>I can: Generalise about the life cycle of all animals and what they need to stay alive</p> <p>Summarise the key features of a healthy life style for a human</p>

		using their observations and ideas to suggest answers to questions				
		Create a guide to healthy living for pupils at Priory School	I can: Use my knowledge of what we need to stay healthy to create a pictorial guide for KS1 pupils	I can: Use my knowledge of what we need to stay healthy to create a guide for KS1 pupils explaining why it is important	I can: Use my knowledge of what we need to stay healthy to create a pictorial guide for KS1 pupils including information on what might happen when we get older if we do not	I can: Create a healthy living poster to display in our classroom to remind us of what we need to do to stay healthy
2c Spring Key Knowledge: Organisms require a supply of energy and materials for which they are often dependent on or in competition with other organisms	Biology	Plants P2.1 Observe and describe how seeds and bulbs grow into mature plants P2.2 Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	I can: Identify the difference between a seed and a bulb and match seeds and bulbs to their plants Draw a diagram to show how seeds and bulbs grow into mature plants Use my observations of a growing plant to identify the stages in the life cycle of a plant Use my observations of a growing plant to identify what they need to grow and stay healthy	I can: Describe the difference between a seed and a bulb and match seeds and bulbs to their plants Describe how seeds and bulbs grow into mature plants Use my observations of a growing plant to explain the life cycle of a plant Use my observations of a growing plant to describe what they need to grow and stay healthy	I can: Explain the difference between a seed and bulb and how this affects the way they grow using examples of plants that grow from a seed and a bulb Explain the life cycle of plants based on my observations Explain what plants need to grow and be healthy and what happens when they do not have these things	I can: Compare two plants to show the similarities and differences between their life cycles
Key Skills: Identifying, grouping and classifying things Finding things out using secondary		Children should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer questions, including: <ul style="list-style-type: none"> observing changes over a period of time, noticing patterns, grouping and classifying things, 	I can: Observe the difference between a seed and a bulb Find out how plants grow from bulbs and seeds using books	I can: Observe similarities and difference between seeds and bulbs Research how plants grow from bulbs and seeds using books and digital media	I can: Observe and explain how the similarities between bulbs and seeds affects the way we grow them Research and explain the key stages in their life cycle	I can: Predict what will happen to a plant if we take away light or water and test out my hypothesis

sources of information. Asking simple questions and recognising that they can be answered in different ways		<ul style="list-style-type: none"> • carrying out simple comparative tests • finding things out using secondary sources of information. • asking simple questions and recognising that they can be answered in different ways observing closely, • using simple equipment, • performing simple tests • identifying and classifying gathering and recording data to help in answering questions <p>using their observations and ideas to suggest answers to questions</p>	<p>Observe how a plant grows – naming the stages of its growth</p> <p>Observe what happens if we do not water a plant or put it into a dark place</p>	<p>Investigate how a plant grows – observing and recording the stages of its growth</p> <p>Investigate and observe what happens if we do not water a plant or put it into a dark place</p>	<p>Plan an investigation using a seed or bulb to record the stages in its life cycle and explain what happens if they don't have light or water</p>	
		<p>Create a plant calendar to show the life cycle of a plant through the year</p>	<p>I can: Draw the life cycle of a plant in the different seasons of the year</p>	<p>I can: Draw and label the life cycle of a plant in the different seasons of the year</p>	<p>I can: Create a seasonal calendar which shows the life cycle of plants and explains what they need in each season</p>	<p>I can: Create a Gardeners Year calendar showing what gardeners should be doing in each season</p>
<p>2d Summer Key Knowledge:</p> <p>Organisms require a supply of energy and materials for which they are often dependent on or in</p>	<p>Biology</p>	<p>Living things and their habitats</p> <p>T2.1 Explore and compare the difference between things that are living, dead, and things that have never been alive</p> <p>ALT2.2 Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend of each other</p>	<p>I can: Identify things that are living and things that have never been alive</p> <p>Identify what a habitat is and give an example from our local environment</p> <p>Identify the key features of a woodland habitat and show the range of creatures and plants we find there</p>	<p>I can: Identify and describe the difference between things that are living and things that have never been alive</p> <p>Describe what we mean by a habitat and give examples from our local environment</p> <p>Describe the key features of a woodland habitat and show the range of creatures and plants we find there</p>	<p>I can: Classify things into living and never lived and explain the difference</p> <p>Explain what we mean by a habitat</p> <p>Explain the importance of keeping a balance in a woodland habitat</p> <p>Create a diagram to show hierarchy in a woodland food</p>	<p>I can: Generalise about what happens when humans damage a habitat</p>

competition with other organisms		ALT2.3 Identify and name a variety of plants and animals in their habitats, including micro-habitats ALT2.4 Describe how animals obtain their food from plants and other animals, using the ideas of a simple food chain, and name and identify different sources of food	Draw a typical food chain for a woodland environment	Draw a typical food chain for a woodland environment showing how the animals and plants are dependent on one another (link to plants in that rely on birds and insects)	chain and explain the difference between a predator and a food source	
Key Skills: Identifying, grouping and classifying things Finding things out using secondary sources of information. Asking simple questions and recognising that they can be answered in different ways		Children should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer questions, including: <ul style="list-style-type: none"> observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests finding things out using secondary sources of information. asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment, performing simple tests identifying and classifying gathering and recording data to help in answering questions using their observations and ideas to suggest answers to questions	I can: Use my observations to sort things into living and never lived Ask simple questions Find out key facts about woodland habitats using books and digital media Find an example of a food chain and identify what woodland animals eat and where they live	I can: Use my research and observations to sort things into living and never lived Ask simple questions to help me plan my research Research woodland habitats using books and digital media Research food chains and identify what woodland animals eat and where they live	I can: Develop key criteria to classify things into living and never lived Pose scientifically valid questions to help me plan my research Plan my research into woodland habitats and select appropriate resources Research what might damage a woodland habitat	I can: Summarise what we mean by a habitat using an example of a woodland
		Create a guide for people visiting Burnham Beeches of how to	I can: Identify some key things that people visiting BB	I can: List the key things that people visiting BB need to think about	I can: Create a guide to visiting BB including showing the many	I can: Design an eye-catching poster to

		behave so as not to damage the habitat of the things that live there	need to think about to develop a Do and Don't guide Draw pictures to show what happens if they don't take care	to develop a Do and Don't guide Illustrate my guide to show what happens if they don't take care	living things they will see there and reminding them of how to ensure they don't damage the habitat	be displayed at the entrance to BB explaining why maintaining the habitat is important and illustrating some important dos and don'ts
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