



The National Curriculum aims

Intent

Our science curriculum is designed to ensure that scientists are:

- *inquisitive, curious and knowledgeable about the world around them*
- *able to apply their scientific knowledge when investigating*
- *able to build arguments and explain key concepts*
- *considerate of the uses and implications of science both today and in the future*

Teaching Strategies We Implement

Our science curriculum plan has been designed to ensure a sequence of knowledge and concepts. Due to the mixed-year group structure at Sheet Primary School, we have developed a two-year rolling curriculum to be taught to years 1-2, 3-4 and 5-6, providing them with exposure to each of the NC science units regularly and without large gaps of time in between. Early Years children will, by the nature of being in the mixed year group class, develop exposure to KS1 scientific knowledge and skills, however these will be tailored to their developmental age and be assessed against the EY learning goal of understanding of the world and through STEM.

As science is a core subject, we teach lessons discreetly. Pupils must develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage. Children have the opportunity at the start of each unit to recall their previous learning so we can identify pupils who would benefit from interventions to address any gaps or misconceptions in their learning. Our curriculum will ensure that all pupils develop scientific knowledge and conceptual understanding, work scientifically and develop higher-order thinking skills. We use different contexts to maximise pupils' engagement with and motivation to study science.

Our science curriculum map is below. We use PLAN progression in knowledge and knowledge matrices to support our science curriculum, from EYFS to KS2.



Science Units 2022-2023 (Cycle A)

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Robins	Taught through Early Learning Goals in Understanding of the World and strongly embedded in a STEAM curriculum.					
Kingfishers	Uses of Everyday Materials (1) -I can name a variety of everyday materials -I can describe the properties of various materials using scientific language -I can compare and group materials based on their properties	Plants (1) -I can identify and name a variety of common wild and garden plants. -I can identify and name deciduous and evergreen trees. -I can describe the basic parts of plants.	Uses of Everyday Materials (2) -I can compare the properties of materials -I can identify the suitability of particular materials for jobs -I can explain how you can change the shape of different materials	Plants (2) -I can observe and describe how seeds and bulbs grow into plants. -I can find out what plants need to grow and stay healthy - I can explain that plants need water, light and suitable temperature to grow healthy.		
Hérons	Rocks and Soils -I can explain how rocks are formed -I can explain how fossils are formed -I can explain what is in soil	States of Matter -I can compare and group materials together into solids, liquids and gases -I can identify the freezing/boiling point of water -I can explain the water cycle	Light -I can explain that you need light to see things and dark is the absence of light. - I know that light from the sun can be dangerous. -I know that shadows are formed when an opaque object blocks the light from a light source.	Sound - I can explain that sounds are made by something vibrating. - Vibrations from sounds travel through a medium (solid, liquid or gas) to the ear. - The smaller the object, the less space for the air to vibrate, or the tighter the string, the higher the pitch.	Plants -I can identify and describe the functions of parts of flowering plants -I know what plants need to grow well and how water is transported. -I can explain the life cycle of a flowering plant.	



				<ul style="list-style-type: none"> - The bigger the vibrations, the louder the sound (volume). - Sounds get fainter as the distance from the sound source increases. 	
Kestrels	<p>Properties and Changes of Materials</p> <ul style="list-style-type: none"> -I know that some materials will dissolve in liquid to form a solution and describe how it can be recovered. -I can explain how mixtures might be separated (filtering, sieving and evaporating) -I can give reasons for the uses of everyday materials based on their properties and from comparative and fair tests. - I can explain that some changes are reversible and some are irreversible. 	<p>Evolution and Inheritance</p> <ul style="list-style-type: none"> -I can recognise that living things have changed over time and that fossils provide information from millions of years ago. - I can recognise that living things produce offspring of the same kind (varied and not identical to their parents). - I can identify how animals and plants are adapted to suit their environment and this may lead to evolution. 	<p>Light</p> <ul style="list-style-type: none"> -I can describe how a light appears to travel in straight lines and we see objects because they give out or reflect light. - I can explain how we see things. -I can explain how shadows have the same shapes as the objects that cast them. 	<p>Electricity</p> <ul style="list-style-type: none"> -I can associate brightness and volume with the number and voltage of cells used in a circuit. -I can identify variables in a circuit that affects the volume or brightness, switches - I can identify and use recognised symbols for circuits I can make a circuit that works 	



Science Units 2023 – 2024 (Cycle B)

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Robins	Taught through Early Learning Goals in Understanding of the World and strongly embedded in a STEAM curriculum.					
Kingfishers	Seasonal Changes -I can name the four seasons -I can explain what the weather is like in each season I can explain how day length changes through the seasons	Animals Including Humans (1) -I can identify and name a variety of common animals (fish, amphibians, reptiles, birds and mammals) and describe their structures. - I can identify and name animals that are carnivores, herbivores and omnivores) - I can identify, name, draw and label the basic parts of the human body and link to senses.	Seasonal Changes	Living things & their habitats -I can explore and compare the differences between things that are living, dead and never been alive. - I can identify that most living things live in habitats to which they are suited. - I can identify and name a variety of plants and animals and describe how they obtain their food.	Animals Including Humans (2) -I can notice that animals, including humans, have offspring which grow into adults. - I know the basic needs of animals, including humans, for survival (water, food and air) -I know the importance for humans of exercise, eating the right food and hygiene.	Seasonal Changes
	Forces & Magnets	Electricity	Living things and their habitats		Animals, including humans (1)	



<p>Hérons</p>	<ul style="list-style-type: none"> -I Know what a force is -I can explain what friction is -I can explain what magnets do (attract, repel and what materials are magnetic) 	<ul style="list-style-type: none"> -I can draw and label a complete circuit and know why it is complete -I can explain how a switch works -I know what electrical conductors and insulators are 	<ul style="list-style-type: none"> -I know how I could group living things -I can use a classification key -I can give an example of an endangered species and explain why it's endangered 	<ul style="list-style-type: none"> -I can explain what nutrients we need and how much of them -I can identify some parts of the skeletal system and explain their functions -I can explain the functions of muscles Animals, including humans (2) -I can describe the simple functions of the basic parts of the human digestive system. -I can identify the different types of teeth in humans and their simple functions. -I can construct and interpret food chains (identifying producers, predators and prey)
<p>Kestrels</p>	<p>Earth and Space</p> <ul style="list-style-type: none"> -I can describe the movement of the Earth and other planets relative to the sun in the solar system. -I can describe the movement of the moon relative to the Earth. -I can explain day and night. 	<p>Forces</p> <ul style="list-style-type: none"> -I can explain what gravity is -I can explain the effects of air resistance, water resistance and friction. - I can explain what effects mechanisms such as levers, pulleys and gears have on forces 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> -I can compare life cycles of mammals, amphibians, insects and birds. -I can describe the life process of reproduction in some plants and animals *** -I can describe how living things are classified into groups. -I can give reasons for classifying plants and animals based on specific characteristics. 	<p>Animals including humans</p> <ul style="list-style-type: none"> -I can describe the changes as humans develop to old age. *** -I can identify and name the main parts of the human circulatory system and the functions of the heart, blood vessels and blood. - I can recognise the impact of diet, exercise, drugs and lifestyle on the way our bodies function. - I can describe the ways in which nutrients and water are transported within animals, including humans.

