

## Curriculum Intent and Progression - Science

<b>Intent</b>	At Beaudesert, we recognise the importance of science in every aspect of daily life. As one of the core subjects, we give the teaching of science the prominence it requires. We aim to equip children with knowledge, skills and in-depth understanding and to encourage them to be observant and curious. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified in each topic, building skills through each year group, developing scientific concepts and have an increased fluency for scientific vocabulary. We will ensure that the working scientifically skills are built-on and developed so that they can apply their knowledge of science when using equipment, use various methods to justify their understandings and explaining concepts confidently. We will encourage them to continue asking questions and to be respectful and inquisitive of the world around them.				
	EYFS	Year 1	Year 2	Year 3	Year 4
<b>Working Scientifically</b>	Finding things that are similar or different	Looking for patterns – sorting and grouping		Looking for patterns – identifying and classifying.	
	Sorting and matching things	Group and label		Identifying and classifying	
	Talking about they have done and noticed	Explaining results and saying what they have found out.		Explaining results – drawing conclusions and using results.	
	Making simple records of their observations	Record information in a simple form.		Choosing how to record information – tables, tally charts, Venn, Carroll diagrams and bar charts.	
	Looking closely and observing changes	Observe and measure using a variety of equipment.		Carefully observing and measuring accurately using correct units of measure.	
	Using senses to observe and look closely.				
	Perform simple tests using equipment	Performing simple tests using equipment and planning some of the variables. Saying what a fair test is.		Setting up enquiries and choosing the equipment. Setting up fair tests (with some support)	
	Being curious and asking questions.	Ask and answer questions		Asking relevant questions – using some of the vocabulary taught.	
		Using books, videos, internet etc to find answers.		Recognising when to use other sources of information to find answers.	
<b>Plants</b>	Basic parts of a plant, match labels. Look at seeds and fruit – grow them throughout the year.	Revisit parts of plant, discuss what they do. Look at wild flowers and trees to identify and describe. Identify deciduous and evergreen. Grow sunflowers and look at cress.	Compare different plants and revisit the parts. Look at bulbs – with a focus on the shoots and roots. Plant experiment – no water, light, air.	Focus on the parts of the flower. Look at how different plants adapt to no light, water, air and room to grow. Seed dispersal and life cycle.	

<b>Animals including humans</b>	Identify animals Locate parts of their bodies Identify types of exercise Name the baby, child and adult of some animals.	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.
<b>Seasonal changes</b>	To identify weathers. To say what the weather is like on a day. To describe the temperature – warm, cold, etc.	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.			
<b>Living Things and their Habitats</b>	See animals including humans.	See animals including humans.	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 on each other. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify and name a variety of plants and animals in their habitats, including micro-habitats.		Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Recognise that living things can be grouped in a variety of ways. Recognise that environments can change and that this can sometimes pose dangers to living things.

<p><b>Materials</b></p>	<p>To arrange materials into groups. To make simplistic observations of materials.</p>	<p>Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties (both visible and non-visible)</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>		
<p><b>Rocks</b></p>				<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter.</p>	
<p><b>States of matter</b></p>	<p>To make observations of common objects. To identify when changes occur for example when food is cooked.</p>	<p>See materials</p>	<p>See materials</p>		<p>Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>

<p><b>Light</b></p>	<p>To know that looking at the sun is dangerous. To relate their sense of sight to their eyes.</p>	<p>Refer to animals including humans.</p>		<p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns in the way that the size of shadows change.</p>	
<p><b>Sound</b></p>	<p>To relate their sense of hearing to their ears.</p>	<p>Refer to animals including humans</p>			<p>Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.</p>
<p><b>Forces and Magnets</b></p>	<p>To observe and describe movements they and objects make.</p>			<p>Compare how things move on different surfaces. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and</p>	

				<p>identify some magnetic materials.</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	
<b>Electricity</b>	<p>To understand electricity is dangerous.</p> <p>To explore a range of battery powered devices.</p>				<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>

Herts for Learning – Progression of Scientific Knowledge – supports these statements and offers a breakdown into smaller and more challenging steps.