



Kenmore Park Infant & Nursery School.

Science Curriculum Overview 2022-2023.



Intent	<p>It intent of the science curriculum is to stimulate a child’s curiosity in finding out why things happen in the way they do. To teach methods of enquiry and investigation to stimulate creative thought. Equipped children with the scientific knowledge required to understand the use and implications of science today and in the future. Example living and non-living things, stages of plant and an animal life cycle.</p>
Implementation	<p>Through whole-class teaching, sometimes in small groups, by regularly providing opportunities for the children to engage in an enquiry-based research activity. Encouraging the children to ask, as well as answer, scientific questions. Providing opportunity for learners to use a variety of data, such as graphs, pictures, photographs and ICT in science lessons where it enhances their learning. They engage in a wide variety of problem-solving activities. Wherever possible, we will involve the pupils in ‘real’ scientific activities, for example, researching a local environmental problem or carrying out a practical experiment and analysing the results.</p>
Impact	<p>We want our learners to be able to:</p> <ul style="list-style-type: none"> • Be curious and ask questions. • Have an understanding of science ideas using different types of scientific enquiry. • Observe and have knowledge of changes over time. • Note patterns. • Group and classify things. • Carry out simple comparative tests. • Find things out using first and secondary sources of information.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery						
	<p style="text-align: center;"><u>Ourselves</u> <u>Seasons</u></p> <ul style="list-style-type: none"> • Talk about how they have changed since they were babies. • To name different parts of the body. • Identifying fruits and vegetables and how they keep us 	<p style="text-align: center;"><u>Insects</u> <u>Seasons</u> <u>States of Matter</u></p> <ul style="list-style-type: none"> • Observe how matter changes through simple experiments- melting and freezing. • Look at habitats of mini beasts and 	<p style="text-align: center;"><u>Under the Sea</u> <u>Floating and sinking</u> <u>Materials</u></p> <ul style="list-style-type: none"> • Explore different sea creatures_ • Learn about floating and sinking. • Materials that float and sink. 	<p style="text-align: center;"><u>Living things-Animals</u> <u>and Plants</u> <u>Seasons</u></p> <ul style="list-style-type: none"> • To be able to name and talk about farm animals. • Name different jungle animals and talk about how they move. 	<p style="text-align: center;"><u>Growth-Humans</u> <u>Day and Night</u></p> <ul style="list-style-type: none"> • Name the different parts of the human body and what are the functions of each body part. • Talk about how they have changed since they were babies. 	<p style="text-align: center;"><u>Growth- Plants and animals</u> <u>Seasons- Summer</u></p> <ul style="list-style-type: none"> • Identify the sounds that different animals make and talk about the similarities between them. • Begin to talk about the things that

	<p>healthy.</p> <ul style="list-style-type: none"> Learn about seasons through Autumn walks, objects etc. Autumn 	<p>begin to use investigational skills.</p> <ul style="list-style-type: none"> develop an understanding of the weather and seasons- Winter (rain and snow) 	.	<ul style="list-style-type: none"> To learn about natural environment e.g. plants and trees. To learn about seasons- Spring 	<p>(Things that they did as babies versus things that they can do now)</p> <ul style="list-style-type: none"> Talk about what they observe in their natural environment during day and night (e.g., the sun, stars, moon etc.) 	<p>plants need to grow.</p> <ul style="list-style-type: none"> Begin to look at lifecycles of plants and animals. Talk about seasons- Summer
Knowledge, skills and understanding	<ul style="list-style-type: none"> I can name body parts. I can talk about how fruits and vegetables keep me healthy. I can notice the change in my natural environment due to changes in seasons. 	<ul style="list-style-type: none"> Begin to develop knowledge about the weather and seasons. I can identify habitats of insects. I can notice the change in my natural environment due to changes in seasons. I can talk about what I notice when ice melts. 	<ul style="list-style-type: none"> I can identify some sea creatures. I can talk about materials that float and sink. 	<ul style="list-style-type: none"> I can talk about differences and changes between materials. I can notice the change in my natural environment due to changes in seasons. 	<ul style="list-style-type: none"> I respect and care for living things. I can name body parts and talk about their functions. 	<ul style="list-style-type: none"> I use a wide vocabulary to describe what I see. respect and care for living things. I can notice the change in my natural environment due to changes in seasons. I can plant seeds and care for growing plants
Reception						
	<p><u>Ourselves,</u> <u>Healthy eating</u> <u>Seasons</u></p> <ul style="list-style-type: none"> Talking about healthy eating and sorting healthy and unhealthy food. Observing how they have changed from when they were babies. Name body parts and what is the 	<p><u>Exploring Polar regions including</u> <u>Polar animals.</u> <u>Parts of a plant</u> <u>Seasons</u></p> <ul style="list-style-type: none"> Learn about an unfamiliar environment (Polar regions) and Polar animals. Learn about the 	<p><u>Materials</u></p> <ul style="list-style-type: none"> Naming a range of natural materials. Sorting materials by properties. Learning about materials by linking to story the Gingerbread man and looking at what material 	<p><u>Seasonal changes</u> <u>Plants</u> <u>Lifecycles</u></p> <ul style="list-style-type: none"> Seasons- Spring Learn about lifecycle of a plant and chicks. Learn how to grow a plant. Make observations. 	<p><u>States of Matter</u> <u>Weather</u> <u>Seasons</u></p> <ul style="list-style-type: none"> Learn about the weather, how it affects the natural environment and make weather maps. Learn about changing states of 	<p><u>Sea creatures</u> <u>Animals</u> <u>Seasons</u></p> <ul style="list-style-type: none"> Making observations and drawings of animals and plants. Learning about sea creatures. Seasons- Summer and its effect on the

	<p>function of each part.</p> <ul style="list-style-type: none"> Learn about seasons- Autumn by going for an Autumn walk and collecting Autumnal objects. 	<p>parts of a plant.</p> <ul style="list-style-type: none"> Describe seasons- Winter <ul style="list-style-type: none"> Learn about changing states of matter – melting and freezing. 	<p>should be used to build a bridge. (Test which material is the best)</p>		<p>matter – boiling, freezing and melting (revisit).</p>	<p>natural environment.</p>
Knowledge, skills and understanding	<ul style="list-style-type: none"> I can name common body parts. I can talk about some of my physical features. I can describe the physical features of people who are familiar to me. 	<ul style="list-style-type: none"> I can name animals or plants. I can use new vocabulary to describe the natural world. 	<ul style="list-style-type: none"> I can name natural and man- made materials. 	<ul style="list-style-type: none"> I can describe the effects of seasons on the natural world. 	<ul style="list-style-type: none"> I can describe arrange of natural things in my environment. 	<ul style="list-style-type: none"> I can explore and make comments about familiar animals and plants.
Year 1						
	<p><u>Animals including humans (focus)</u></p> <ul style="list-style-type: none"> Identify and name the parts of the body and associated senses. Example ears are associated with hearing, eyes with seeing(sight) nose (smelling) taste and touch 	<p><u>Seasonal changes- Autumn/ Winter</u></p> <ul style="list-style-type: none"> Observe seasonal and weather changes. Example: In Autumn Season leaves change colour. 	<p><u>Everyday Materials</u></p> <ul style="list-style-type: none"> Identify and name materials. Example: wood, plastic, metal, glass. <p>Perform simple tests e.g. an umbrella</p>	<p><u>Plants</u></p> <ul style="list-style-type: none"> Plant seeds and observe the growth. Identify common and wild plants. e.g. Daisy, Rose, Daffodil Buttercup Dahlia, Bluebell. Deciduous lose their leaves e.g. of trees are oak, sycamore, maple. Evergreen trees keep their leaves all year. E.g. pine, holly, spruce. 	<p><u>Seasonal changes- Spring/Summer</u></p> <ul style="list-style-type: none"> Observe seasonal and weather changes. 	<p><u>Animals (focus) including humans</u></p> <ul style="list-style-type: none"> Identify and name animals. Group animals as e.g. carnivores, herbivores and omnivores.
National Curriculum	<ul style="list-style-type: none"> Identify, name, draw and label the basic parts of the human body and say which part of 	<ul style="list-style-type: none"> Observe changes across the four seasons. Observe and describe weather 	<ul style="list-style-type: none"> Distinguish between an object and the material from which it is made. 	<ul style="list-style-type: none"> Identify and name a variety of common wild & garden plants, deciduous and 	<ul style="list-style-type: none"> I observe and know about the changes in the seasons. I name the seasons and know about the 	<ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians,

	the body is associated with each sense.	associated with the seasons and how day length varies.	<ul style="list-style-type: none"> • 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. 	evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.	type of weather in each season.	reptiles, birds & mammals. <ul style="list-style-type: none"> • 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 & mammals, including pets)
Knowledge, skills and understanding	<ul style="list-style-type: none"> • I know how to sort living and non-living things. • I know how to name the parts of the human body that I can see. • I know how to link the correct part of the human body to each sense. 	<ul style="list-style-type: none"> • I observe and know about the changes in the seasons • I name the seasons and know about the type of weather in each season. 	<ul style="list-style-type: none"> • I distinguish between an object and the material it is made from • I know the materials that an object is made from • I know the difference between wood, plastic, glass, metal, water and rock. • I know about the properties of everyday materials. • I group objects based on the materials they are made from. 	<ul style="list-style-type: none"> • I know and name a variety of common wild and garden plants. • I know and name the petals, stem, leaves and root of a plant. • I know and name the roots, trunk, branches and leaves of a tree. 	<ul style="list-style-type: none"> • I observe and know about the changes in the seasons • I name the seasons and know about the type of weather in each season. 	<ul style="list-style-type: none"> • I know and name a variety of animals including fish, amphibians, reptiles, birds and mammals. • I classify and know animals by what they eat (carnivore, Herbivore and omnivore). • I know how to sort animals into categories (including fish, amphibians, reptiles, birds and mammals).
Working scientifically	<ul style="list-style-type: none"> • I know how to ask simple scientific questions. • I know how to describe, identify 	<ul style="list-style-type: none"> • I know how to ask simple scientific questions. • I know how to use simple equipment 	<ul style="list-style-type: none"> • I know how to identify and classify things. • I know how to explain to other 	<ul style="list-style-type: none"> • I know how to explain to other what I have found out. • Observe closely 	<ul style="list-style-type: none"> • I know how to ask simple scientific questions. • I know how to use simple equipment to 	<ul style="list-style-type: none"> • I know how to identify and classify things. • I know how to describe, identify

<p>simple equipment to make observations.</p> <ul style="list-style-type: none"> I know how to carry out simple tests. I know how to identify and classify things. I know how to explain to other what I have found out. I know how to use simple data to answer questions. I know how to gather and record data to help in answering questions. 	<p>and group animals.</p> <ul style="list-style-type: none"> I know how to group animals according to what they eat. I know how to ask simple scientific questions. 	<p>to make observations.</p> <ul style="list-style-type: none"> I know how to carry out simple tests. I know how to use simple data to answer questions. I know how to explain to other what I have found out. I know how to make table and charts about weather. 	<p>what I have found out.</p> <ul style="list-style-type: none"> I know how to carry out a simple test to explore questions, for example, what is the best material for an umbrella? /bookshelf/curtains 	<p>using equipment example magnifying glasses to compare and contrast familiar plants.</p> <ul style="list-style-type: none"> Record how plants have changed over time, for example, the leaves falling off trees and buds opening. Recording, measuring the length of cones before and after they are placed in water. 	<p>make observations.</p> <ul style="list-style-type: none"> I know how to carry out simple tests. I know how to use simple data to answer questions. I know how to explain to other what I have found out. I know how to make table and charts about weather. 	<p>and group animals.</p> <ul style="list-style-type: none"> I know how to group animals according to what they eat.
Year 2	Year 2	Year 2	Year 2	Year 2	Year 2	Year 2
	<p><u>Living things and their habitats- autumn/winter focus</u> Identify different plants and animals and describe how they are suited to their habitat.</p> <p>Create a simple food chain to show how animals obtain their food, identifying and naming the different sources of food.</p>	<p><u>Animals including humans (focus)</u> Name the different stages in the human life cycle. Identify animals to their offspring.</p> <p>Identify what animals and humans need to survive.</p> <p>Sort food into the different food groups.</p> <p>Recognise the importance of a healthy diet, exercise and hygiene.</p>	<p><u>Uses of everyday materials</u> Identify and compare the properties of everyday materials.</p> <p>Carry out simple tests to investigate/test materials for different uses, for example, to find a material that will not sink (i.e. a boat).</p> <p>Test different objects by twisting, squashing, bending or stretching them and observing if they stay the same or change shape.</p>	<p><u>Plants</u> Describe the life cycle of a plant.</p> <p>Observe plant growth over time, e.g. a bean plant.</p> <p>Describe how seeds travel (seed dispersal).</p> <p>Find out what a plant needs to grow and stay healthy.</p> <p>Seeds are baby plants inside a special coat.</p> <p>Bulbs are plants waiting for rain or warm weather to grow.</p>	<p><u>Living Things and their habitats-spring/summer focus</u> Compare different habitats, eg, woodland, coastal, pond and urban habitats, including microhabitats and identify why different animals/manifests/plants live there.</p> <p>Compare things that are living, dead or have never been alive (using life process).</p>	<p><u>Animals (focus) including humans</u> Observe animals that are similar or different.</p> <p>Sort baby animals into those that hatch from an egg and those that grow inside their mothers.</p> <p>Describe the life cycle of a frog.</p> <p>Record and identify the effects of different exercises on the body.</p> <p>Group animals into different categories, eg mammals, amphibians, etc.</p>
National Curriculum	<ul style="list-style-type: none"> Explore and compare the 	<ul style="list-style-type: none"> Notice that animals including humans 	<ul style="list-style-type: none"> Identify and compare the 	<ul style="list-style-type: none"> Observe and describe how 	<ul style="list-style-type: none"> Explore and compare the differences 	<ul style="list-style-type: none"> Notice that animals including humans

	<p>differences between things that are living, dead and things that have never been alive.</p> <ul style="list-style-type: none"> Identify that most living things live in habitats to which they are suited and describe how different kinds of animals and plants and how they depend on each other. Identify and name a variety of plans and animals in their habitats, including micro-habitats. 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. 	<p>have offspring which grow into adults.</p> <ul style="list-style-type: none"> 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. 	<p>suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <ul style="list-style-type: none"> Find out how the shapes of solid objects made from some materials can be changes by squashing, bending, twisting & stretching. 	<p>seeds and bulbs grow into mature plans.</p> <ul style="list-style-type: none"> Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. 	<p>between things that are living, dead and things that have never been alive.</p> <ul style="list-style-type: none"> Identify that most living things live in habitats to which they are suited and describe how different kinds of animals and plants and how they depend on each other. 	<p>have offspring which grow into adults.</p> <ul style="list-style-type: none"> Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) <p>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene</p>
<p>Knowledge, skills and understanding</p>	<ul style="list-style-type: none"> I know how to identify things that are living, dead and never lived. I know how a specific habitat provides for the basic needs of things living there (plants and animals) I identify and name plants and animals in a range of 	<ul style="list-style-type: none"> I know the basic stages in a life cycle for animals, including humans. I know what animals and humans need to survive. I know why exercise; a balanced diet and good hygiene are important for humans. 	<ul style="list-style-type: none"> I identify and name arrange of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard. I know why a material might or might not be used for a specific job. I know how materials can be changed by 	<ul style="list-style-type: none"> I know how seeds and bulbs grow into plants. I know what plans need in order to grow and stay healthy (water, Light & suitable temperature). 	<ul style="list-style-type: none"> I know how a specific habitat provides for the basic needs of things living there (plants and animals) I identify and name plants and animals in a range of habitats I match living things to their habitat I know how animals find their food. 	

	<p>habitats.</p> <ul style="list-style-type: none"> • I match living things to their habitat. • I know how animals find their food. • I name some different sources of food for animals. • I know and can explain a simple food chain. 		<p>squashing, bending, twisting and stretching.</p>			
<p>Working scientifically</p> <ul style="list-style-type: none"> • I know how to ask simple scientific questions. • I know how to use simple equipment to make observations. • I know how to carry out simple tests. • I know how to identify and classify things. • I know how to explain to other what I have found out. • I know how to use simple data to answer questions. 	<ul style="list-style-type: none"> • I know how to identify and classify things. • I know how to explain to other what I have found out. • I know how to sort and classify things. According to a criteria. • I know how to ask simple scientific questions. 	<ul style="list-style-type: none"> • I know how to ask simple scientific questions. • I know how to use simple equipment to make observations. • I know how to carry out simple tests. • I know how to identify and classify things. 	<ul style="list-style-type: none"> • I know how to identify and classify things. • I know how to compare the uses of everyday materials. • I know how to observe, identify and classify the uses of different materials. • I know how to record my observations. • I know how to ask simple scientific questions. 	<ul style="list-style-type: none"> • I know how to observe and record the growth of a plant from seed or bulb. • I know how to carry out a simple comparative test to show that plants need light and water to stay healthy. 	<ul style="list-style-type: none"> • I know how to identify and classify things. • I know how to explain to other what I have found out. • I know how to sort and classify things. According to a criteria. • I know how to ask simple scientific questions. 	<ul style="list-style-type: none"> • I know how to observe through video or first-hand observation and measurement, how different animals, including humans grow. • I know how to ask simple scientific questions. • I know how to use simple data to answer questions
<p>Next steps (Yr 3/4)</p>	<ul style="list-style-type: none"> • Recognise that living things can be grouped in a variety of ways. • Explore and use classification keys to help group, 	<ul style="list-style-type: none"> • Identify that animals including human's need the right types and amount of nutrition and that they cannot make 	<ul style="list-style-type: none"> • Year 5 • Properties and changes of materials solid, liquids and gases. • Group everyday materials on the 	<ul style="list-style-type: none"> • Identify and describe the function of different parts of flowing plants, root, stem/trunk, leaves and 	<ul style="list-style-type: none"> • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • describe the life 	<ul style="list-style-type: none"> • Describe the simple functions of the basic parts of the digestive system in humans. • identify the

	<p>identify and name a variety of living things in their local & wider environment.</p> <ul style="list-style-type: none"> Recognise that environments can change and that this can sometimes pose dangers to living things. 	<p>their own food: they get nutrition from what they eat.</p> <ul style="list-style-type: none"> Identify that humans and some animals have skeletons and muscles for support, protection and movement. 	<p>basis of their properties, including their hardness, solubility, transparency, conductivity and responses to magnets.</p>	<p>flowers.</p> <ul style="list-style-type: none"> Explore the requirements of plants for life & growth (air, light, water, nutrients from soil & room to grow) & how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of the flowering plant, including pollination, seed formation and seed dispersal. 	<p>process of reproduction in some plants and animals.</p> <ul style="list-style-type: none"> 	<p>different types of teeth in humans and their simple functions.</p> <ul style="list-style-type: none"> construct and interpret a variety of food chains, identifying producers, predators and prey
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