

National Curriculum POS		Declarative Knowledge	Procedural Knowledge	
EY	FS1	<p>Understanding the world</p> <ul style="list-style-type: none"> Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes. 	<p>Understanding the world</p> <ul style="list-style-type: none"> Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Begin to make sense of their own life-story and family's history. 	<p>Children explore the natural world and objects in the environment. They learn to understand questions such as 'why' questions and they begin to ask their own questions about the world around them. Children can:</p> <ul style="list-style-type: none"> Explore how things work. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Explore the natural world around them, making observations and drawing pictures of animals and plants. Understand 'why' questions, like: "Why do you think the caterpillar got so fat?" ask questions to find out more and to check they understand what has been said to them Describe what they see, hear and feel whilst outside. Talk about the differences between materials and changes they notice. Understand the effect of changing seasons on the natural world around them. Explore the natural world around them, making observations and drawing pictures of animals and plants Compare sizes, weights etc. using gesture and language -'bigger/little/smaller', 'high/low', 'tall', 'heavy'. Make comparisons between objects relating to size, length, weight and capacity Compare quantities using language: 'more than', 'fewer than'. Compare length, weight and capacity Notice patterns and arrange things in patterns. Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Extend and create ABAB patterns –stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Continue, copy and create repeating patterns
	FS2	<p>Understanding the World:</p> <p>Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.</p> <p>Expressive Arts & Design</p> <ul style="list-style-type: none"> Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. 	<p>Understanding the world</p> <ul style="list-style-type: none"> Draw information from a simple map. Explore the natural world around them. Describe what they see, hear and feel whilst outside. Recognise some environments that are different to the one in which they live. Talk about members of their immediate family and community. Name and describe people who are familiar to them. Understand the effect of changing seasons on the natural world around them. 	

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Y1	<p>Working Scientifically</p> <ul style="list-style-type: none"> Asking simple questions and recognising that they can be answered in different ways Observing closely, using simple equipment Performing simple tests Identifying and classifying Using their observations and ideas to suggest answers to questions Gathering and recording data to help in answering questions. <p>Plants</p> <ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants, including trees. <p>Animals including humans</p> <ul style="list-style-type: none"> 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) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 	<ul style="list-style-type: none"> 3 methods of scientific enquiry: <ol style="list-style-type: none"> Carrying out comparative tests Observing changes over time Grouping and classifying <p>Plants</p> <ul style="list-style-type: none"> Know what a question is Name variety of common UK wild / garden plants Deciduous trees UK Evergreen trees UK Structure of a plant Structure of a tree Functions of a plant Functions of a tree <p>Animals and Humans</p> <ul style="list-style-type: none"> Definition of fish, amphibian, reptile, mammal, bird <p>Name animals from each category</p> <ul style="list-style-type: none"> Carnivore Herbivore Omnivore <p>Name common animals for each category</p> <ul style="list-style-type: none"> Name parts of an animal 5 Human senses 	<ul style="list-style-type: none"> Carry out comparative tests with 2 variables Orally answer a question with scientific vocabulary Sort using 2 given criteria / groups Notice things that are the same. Use scientific equipment: simple thermometer, measuring jugs, scales.
Y2	<p>Working Scientifically</p> <ul style="list-style-type: none"> Asking simple questions and recognising that they can be answered in different ways Observing closely, using simple equipment Performing simple tests Identifying and classifying Using their observations and ideas to suggest answers to questions Gathering and recording data to help in answering questions <p>Living things and habitats</p> <ul style="list-style-type: none"> Explore and compare the differences between things that are living, dead, and things that have never been alive 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 Identify and name a variety of plants and animals in their habitats, including micro-habitats 	<p>Method of scientific enquiry: <u>Noticing patterns</u></p> <p>Living things and habitats</p> <ul style="list-style-type: none"> Definition of living, non-living and never been alive Definition of habitat / micro habitat Local habitats Woodland, seashore, ocean, rainforest, desert Basic needs of living things- Micro habitat Definition food chain Sources of food <p>Plants</p> <ul style="list-style-type: none"> Definition of seed / bulb 	<ul style="list-style-type: none"> Ask a simple question Write a simple conclusion to an experiment using scientific vocabulary Sort using more than 2 groups with own criteria Find information from a given source Notice things that are different Use scientific equipment: pooters, greenhouses (growing bags), stop watches, pipette, magnifying glass

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	<ul style="list-style-type: none"> 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>Plants</p> <ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. <p>Animals and Humans</p> <ul style="list-style-type: none"> Notice that animals, including humans, have offspring which grow into adults 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. 	<ul style="list-style-type: none"> Name plants that grow from seed or bulb Growth of seed / bulb Needs of a plant – water, light, food, temp <p>Animals and Humans</p> <ul style="list-style-type: none"> Definition of offspring Growth Human needs beyond basic survival Health / hygiene (food) 	
Y3	<p>Working Scientifically: Practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> Asking relevant questions and using different types of scientific enquiries to answer them Setting up simple practical enquiries, comparative and fair tests Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings. <p>Plants</p> <ul style="list-style-type: none"> Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant 	<p>Method of scientific enquiry: <u>Fair Test</u></p> <ul style="list-style-type: none"> <u>Scientific Keys</u> <p>Plants</p> <ul style="list-style-type: none"> Functions of the parts of a plant Conditions for growth Know how water is transported in a plant Life cycle of a plant <p>Animals including humans</p> <ul style="list-style-type: none"> 5 food groups Quantities of food for healthy diet Human skeleton 6 major muscle groups 	<ul style="list-style-type: none"> Ask informed questions using expressive scientific vocabulary Carry out a simple, guided, fair test To use a simple key To use a secondary source as guided by the teacher Use systematic observation to track the movement of water through a plant Write a guided conclusion using PEEL (point evidence explanation link) To use a scientific diagram in support of conclusion Use scientific equipment: scalpel, heart rate monitor

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	<ul style="list-style-type: none"> Investigate the way in which water is transported within plants Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. <p>Animals including humans</p> <ul style="list-style-type: none"> 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. 		
Y4	<p>Working Scientifically: Practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> Asking relevant questions and using different types of scientific enquiries to answer them Setting up simple practical enquiries, comparative and fair tests Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings. <p>Living things and their Habitats</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, identify and name a variety of living things in their local and wider environment Recognise that environments can change and that this can sometimes pose dangers to living things. <p>Animals, including humans</p> <ul style="list-style-type: none"> Describe the simple functions of the basic parts of the digestive system in humans 	<p>Living things</p> <ul style="list-style-type: none"> Vertebrates Invertebrates Human impact on environments Deforestation Nature reserve Ecological land parks Sir David Attenborough 1926 – <p>Animals and humans</p> <ul style="list-style-type: none"> Digestive system Human teeth – name and function Animal teeth – name and function Identify producer, predator and pray 	<ul style="list-style-type: none"> Ask a range of questions based on scientific knowledge and suggest where answers could be found. Design a simple fair test Interpret a food chain Design a simple classification key Identify and use a secondary source Write a clear and cohesive guided conclusion using PEEL which incorporates any data / findings. To create a guided scientific diagram in support of conclusion.

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	<ul style="list-style-type: none"> 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. 		
<p>Y5</p>	<p>Working Scientifically:</p> <ul style="list-style-type: none"> Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Using test results to make predictions to set up further comparative and fair tests Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>Living Things</p> <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 process of reproduction in some plants and animals. <p>Animals, including humans</p> <ul style="list-style-type: none"> Describe the changes as humans develop to old age. 	<p>Living Things</p> <ul style="list-style-type: none"> Definition of life cycle Life cycle of : Bird, amphibian, mammal, insect, reptile, fish Reproduction in plants: Sexual and asexual Reproduction in humans <p>Animals and humans</p> <ul style="list-style-type: none"> Development stages of a human: infancy, childhood, adolescence, adulthood 	<ul style="list-style-type: none"> Identify an opportunity to work scientifically drawing on their prior knowledge and learning. Create a line of enquiry for the science opportunity presented, incorporating a wide range of question types and scientific vocabulary. Design and make a key for a given purpose Identify opinion and fact when using a secondary source Look for causal relationships in data Write a conclusion which draws on all scientific vocabulary and understanding using relevant diagrams.
<p>Y6</p>	<p>Working Scientifically:</p> <ul style="list-style-type: none"> Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Using test results to make predictions to set up further comparative and fair tests Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> Classification Characteristics Micro-organisms – Alexander Fleming / Edward Jenner Carl Linnaeus 1707 – 1778 	<ul style="list-style-type: none"> Independently work scientifically creating own lines of enquiry Explain why variables must be controlled Design and make a key Identify evidence that refutes or supports their ideas Justify science thought using all previous methods for recording, explaining the degree of trust in results Use their results to make predictions and identify further observations, comparative and fair tests might be needed.

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	<p>trust in results, in oral and written forms such as displays and other presentations</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>Living things and their habitats Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics.</p> <p>Animals including humans</p> <ul style="list-style-type: none"> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Describe the ways in which nutrients and water are transported within animals, including humans. <p>Evolution and Inheritance</p> <ul style="list-style-type: none"> Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. 	<p>Animals including humans</p> <ul style="list-style-type: none"> Human Circulatory system Function of heart, blood vessel and blood Impact of diet, exercise, drugs and lifestyle on bodies function. Nutrients Transportation of nutrients and water in animals and humans <p>Evolution and Inheritance</p> <ul style="list-style-type: none"> Definition of evolution linked to living things Charles Darwin 1809 - 1882 Information from Fossils Mary Anning 1799 - 1847 Adaptation Alfred Wallace 1823 - 1913 	