

	National Curriculum POS	Declarative Knowledge	Procedural Knowledge
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 Name plants that grow from seed or bulb Growth of seed / bulb Needs of a plant – water, light, food, temp 	<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. 	<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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Y5	<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>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.
Y6	<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</p> <ul style="list-style-type: none"> 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>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 	