



CURRICULUM PROGRESSION GRID: SCIENCE

Lower Key Stage 2 – Working Scientifically and Biology units

Working scientifically	Animals including humans	Plants	Living things and their habitats
<p>NC Link: Pupils should be taught to:</p> <ul style="list-style-type: none"> - Ask relevant questions and using different types of scientific enquiries to answer them - Set up simple practical enquiries, comparative and fair tests - Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - Gather, record, classify and present data in a variety of ways to help in answering questions - Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - Report on findings from enquiries, including oral and written explanations, displays or 	<p>NC Link: Pupils should be taught to:</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. - 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 	<p>NC Link: Pupils should be taught to:</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 - 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>NC Link: Pupils should be taught to:</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>presentations of results and conclusions</p> <ul style="list-style-type: none"> - Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions - Identify differences, similarities or changes related to simple scientific ideas and processes - Use straightforward scientific evidence to answer questions or to support their findings. 			
<p>Theme links: Throughout</p>	<p>Theme links: 'From head to toe' Cycle A Spr 1</p>	<p>Theme links: 'Green Fingers' Cycle A Sum 1</p>	<p>Theme links: 'Nature Detectives' Cycle B Sum 2</p>
<p>Builds On: KS1:</p> <ul style="list-style-type: none"> - Pupils can suggest ideas, ask simple questions and know that they can be answered/investigated in different ways including simple secondary sources, such as books and video clips. - Follow instructions to complete a simple test individually or in a group and to begin to recognise when something is unfair. - Observe something closely and describe changes over time. - Pupils can use simple equipment, such as hand lenses 	<p>Builds On: KS1:</p> <ul style="list-style-type: none"> - Pupils can identify and name common animals and use the terms carnivores, herbivores and omnivores. - They also know the structure of the common animals (fish, birds, amphibians, reptiles including pets. - They can compare the variety of structures they have learnt about. - Pupils can name, draw, label basic human body parts <ul style="list-style-type: none"> – They can describe how the body parts are associated with the senses. 	<p>Builds On: KS1:</p> <ul style="list-style-type: none"> - Pupils can identify and name wild and garden plants. -They identify and name a range of common plants and trees. -They recognise deciduous and evergreen trees. -They are able to identify the structure of a plant and label it e.g. root, stem, leaf, flower. - They can describe how seeds and bulbs grow to mature plants. -They can also describe the conditions needed for plants to grow and stay healthy- water, soil, nutrients, sunlight and temperature. 	<p>Builds On: KS1:</p> <ul style="list-style-type: none"> - Pupils can identify living things, things that are dead and those which have never been alive. -They can describe how an animal lives in a habitat it is suitable for. - Pupils can name a variety of plants and animals in their habitat e.g. in the school grounds. -Pupils can describe a range of habitats

<p>or egg timers to take measurements, make observations and carry out simple tests.</p> <ul style="list-style-type: none"> - Decide, with help, how to group materials, living things and objects, noticing changes over time and beginning to see patterns. - Gather data, record and talk about their findings, in a range of ways, using simple scientific vocabulary and explain what they have found out. - Pupils can identify simple patterns and/or relationships using simple comparative language. - Use simple scientific language to explain what they have found out. 	<ul style="list-style-type: none"> -They can describe how offspring grow up to be adults. -Pupils know the lifecycle of animals e.g.-egg-chicken - Pupils can explain how humans need food, water and air to survive. - Pupils can say how exercise is important for healthy humans. - They can describe how eating a balanced diet is good for humans - They can explain the importance of hygiene to help keep humans healthy. 		
<p>Intent (overarching success criteria)</p> <ul style="list-style-type: none"> - Pupils can suggest relevant questions and know that they could be answered in a variety of ways, including using secondary sources such as ICT. Answer questions using straight forward scientific evidence. - They can make decisions about different enquiries, including 	<p>Intent (overarching success criteria)</p> <ul style="list-style-type: none"> - Pupils can understand that a variety of food is needed to get the correct nutrition (balanced diet)- protein, carbohydrates, fats and vitamins. -They understand how nutrients, oxygen and water are transported around animals and humans. 	<p>Intent (overarching success criteria)</p> <ul style="list-style-type: none"> - Pupils understand the functions of a flowering plant-root, stem, trunk, leaves and flowers. - They can identify the parts that are important in the life cycle of the plant and explain this (including pollination, seed formation and seed dispersal.) - Pupils explore the requirement of 	<p>Intent (overarching success criteria)</p> <ul style="list-style-type: none"> -Pupils recognise that living things can be grouped in a variety of ways. - They explore and use a classification key to group, identify and name a variety of living thing (plants, vertebrate, invertebrate) - Pupils can compare the classification of common plants

<p>recognising when a fair test is necessary and begin to identify variables.</p> <ul style="list-style-type: none"> - Pupils can make systematic and careful observations. - They take accurate measurements using standard units and a range of equipment, including thermometers and data loggers. - They can identify similarities/differences/changes when talking about scientific processes. Use and begin to create simple keys. - Pupils choose appropriate ways to record and present information (diagrams, tables and charts), findings and conclusions for different audiences (e.g. displays, oral or written explanations). -Pupils can identify, with help, changes, patterns, similarities and differences in data to help form conclusions. Use scientific evidence to support their findings. - They can draw, with help, a simple conclusion based on evidence from an enquiry or observation - They use recorded data to make predictions, pose new questions and suggest improvements for further enquiries. 	<ul style="list-style-type: none"> - Pupils can label the digestive system and explain how it works e.g. mouth, oesophagus, stomach, intestines and anus. - Pupils can label the teeth and describe the different roles they play in digestion. -They can compare the teeth of herbivores and carnivores. - Pupils describe food chains and can give examples. -They can compare different food chains. - They can understand that the skeleton of humans and other animals create support, protection and movement. -They can label the skeletal system—skull, ribs, spine etc. -Pupils understand the role the muscles play in helping them move and can explain how muscular and skeletal system work together. 	<p>plants for life and growth (air, light, water, nutrients from soil, and room to grow) and can explain how they vary from plant to plant.</p> <ul style="list-style-type: none"> - They can describe and observe how water is transported through the plant. 	<p>and animals to living things found in other places. (under the sea, prehistoric</p> <ul style="list-style-type: none"> -They name and group a variety of living things based on feeding patterns (producer, consumer, predator, prey, herbivore, carnivore, omnivore) - They understand that environments can change and can be a danger.
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	<p><u>Extended Write</u> Write a story about characters moving through the digestive system</p> <p>Write an information leaflet for a dentists surgery</p>	<p><u>Extended Write</u> Write a diary extract-‘The day in the life of a seed.’</p>	<p><u>Extended Write</u> Write persuasive articles and letters to a local newspaper, council or large organisation such as the WWF to highlight the plight of their chosen animal and inform the pupil of conservation and protection.</p>
<p>Vocabulary: Research Relevant questions Scientific enquiry Comparative and fair test Systematic Careful observation Accurate measurements Equipment Thermometer Data logger Data gather Record Classify Present Drawings Labelled diagrams Keys Bar charts Tables Oral and written explanations Conclusion Predictions Differences Similarities</p>	<p>Vocabulary: Movement Muscles Bones Skull Nutrition Skeletons Mouth Tongue Teeth Oesophagus Stomach Small Intestine Large Intestine Herbivore Carnivore Canine Incisor Molar</p>	<p>Vocabulary: Air Light Water Nutrients Soil Reproduction Transportation Dispersal Pollination Flower</p>	<p>Vocabulary: Vertebrates Fish Amphibians Reptiles Birds Mammals Invertebrates Snails Slugs Worms Spiders Insects Environment Habitats</p>

Changes Evidence Improve Secondary sources Guides Keys Construct Interpret.			
	<u>Scientists</u> Ivan Pavlov (Digestive system Mechanisms) Marie Curie (Radiation / X-Rays) Adelle Davis (20th Century Nutritionist)	<u>Scientists</u> Kate Sessions (Tree Lady) Joseph Banks (Botanist)	<u>Scientists</u> Cindy Looy (Environmental Change and Extinction) Jaques Cousteau (Marine Biologist)
	<u>Reading books</u> - The Little Mole who knew it was none of his business (Digestion) - A Journey Through the Digestive System - Wolves-Emily Gravett (Foodchains) - The Selfish Crocodile (Teeth) - Human Body Odyssey-Werner Holzwarth - Demon Dentist - Funny Bones (Janet and Allan Ahlberg) (Skeleton)	<u>Reading books</u> - The story of Frog Belly Rat Bone (Timothy Basil Ering) - A seed is sleepy - Botanicum (Welcome To The Museum) - Tom's Midnight Garden - A Tiny seed (Dispersal) - The Hidden Forest (Jeanie Baker)	<u>Reading books</u> - The vanishing Rainforest (Habitats) - Dinosaurs and all that rubbish (Global warming) - How to Help a Hedgehog and Protect a Polar Bear - Tree Lady