Science Knowledge and skills progression Map Cycle A

Class 2 Years 1/2						
KS1 Working Scientifically.	• Asks simple questions and recognises that they can be answered in different ways. • Observes closely, using simple equipment. • Performs simple tests. • Can identify and classify. • Uses their observations and ideas to suggest answers to questions. • Gathers and records data to help in answering questions.					
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Animals	Human Growth	Plants		Materials	
Key knowledge	• I can identify and name common animals. • I Can describe how animals including humans have offspring which grow into adults, using the appropriate names for the stages • I know the basic needs of animals for survival	• I know that humans have offspring. • I understand the basic needs for human growth and survival. • I Know that exercise is important to humans and can explain why. • I Know the different food groups and the benefits of each as part of a healthy, balanced diet • I Know which food groups common foods belong to. • I Know about general hygiene and its importance and can state examples of hygienic practice.	I Know and can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees • I Know and can identify and describe the basic structure of a variety of common flowering plants, including trees. • I Know that plants may grow from either seeds or bulbs. • I knows that seeds and bulbs can germinate and then grow into seedlings and then continue to grow into mature plants. • I Know that mature plants may have flowers which then develop into seeds, berries and fruits etc. • I know that seeds and bulbs need to be planted at particular times of the year and will germinate and grow at different rates.		• I can distinguish between an object and the material from which it is made • I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • I can describe the simple physical properties of a variety of everyday materials • I know why and how the properties of materials make them particularly useful for specific purposes (for example, stone is a hard, heavy and durable material so is useful for construction of buildings). • I know how the properties of a material can make it useful for a range of different purposes (for example, plastic is waterproof so it can be used to coat fabric for clothing but can also be used for outdoor play equipment) • I know that different materials can share the same properties (for example glass and plastic can both be transparent). • I Know and can explain why some materials, including wood, metal, plastic,	

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			● I know that some plants are better suited to growing in full sun and some grow better in partial and full shade. ● I Knows that plants need water, light and a suitable temperature to grow and stay healthy I Know and can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. ● I Know 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. ● I Know through investigation, the ways in which water is transported within plants ● I Know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	glass, brick, rock, paper and cardboard are particularly suited to specific purposes ● I Know how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching ● I Know the difference between materials that are transparent, translucent and opaque.
Key Skills	● Ask questions and use secondary sources to find out about the life cycles of some animals ● Observe animals growing over a period of time e.g.	● Investigate the effect of exercise on their bodies ● Classify food in a range of ways, including using the Eatwell guide ● Investigate washing hands, using glitter gel ● Describe, using diagrams, the life cycle of	● Can sort and group parts of plants using similarities and differences e.g. the shape of leaves, the colour of the flower/blossom. ● Can use simple charts and Venn diagrams etc. to identify and classify plants. ● Use photographs and their own observations to talk about how	● Compare and group together a variety of everyday materials on the basis of their simple physical properties. ● Classify objects made of one material in different ways e.g. a group of objects made of metal. ● Classify one type of object made from a range of materials e.g. a collection of spoons made of different materials.

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	chicks, caterpillars, a baby ● Ask questions of a parent about how they look after their baby ● Ask pet owners questions about how they look after their pet	some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child ● Measure/observe how animals, including humans, grow. ● Collate what they know about looking after a baby/animal by creating a parenting/pet owners' guide ● Explain how development and health might be affected by differing conditions and needs being met/not met	plants change over time (e.g. seed to sapling to tree) and over the year (deciduous and fruit bearing trees). ● Plant seeds and observe how they grow and change by making simple observations. ● Make close observations of plants, including trees - leaves, seeds, flowers etc. ● Point to and name the parts of a plant, recognising that they are not always the same e.g. leaves and stems may not be green, the leaves are different shapes. ● Make close observations of seeds and bulbs ● Classify seeds and bulbs ● Research and plan when and how to plant a range of seeds and bulbs ● Look after the plants as they grow – weeding, thinning, watering etc. ● Make close observations and measurements of their plants growing from seeds and bulbs ● Make comparisons between plants as they grow ● Can spot similarities and difference between bulbs and seeds	● Chosen an appropriate method for testing an object for a particular property. ● Use their test evidence to answer the questions about properties e.g. Which cloth is the most absorbent? ● Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, waterproofness of shelters. ● Investigate and observe what happens to different materials during testing and use this to inform explanation of their properties ● Investigate which materials are fit for a purpose e.g. What is the best material for an umbrella? ● Explain from their observations how materials change when a force is exerted on them by squashing, bending, twisting and stretching. ● Investigate the transparency of objects, recording class data in a table and drawing simple conclusions from the findings. ● Ask and answer questions about everyday materials

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Enrichment opportunities		Link to PE curriculum and effect of exercise on health.	Opportunity to use the school field to observe plants growing as well as the planters and Mary prayer garden.	
Previous learning	EYFS Summer 1 Dinosaurs I can identify different animals and their habitats. Spring 2 Minibeasts I can observe and sort minibeasts Summer 1 Rumble in the jungle I can name animals. I can compare animals in our country with animals in a different country. Summer 2 Pirates and mermaids. I can explain how to look after animals. I can name animals that live under the sea.	EYFS Autumn 1 All about me I know about how I have changed from a baby to a child Summer 1 Rumble in the jungle I can explain how to look after myself (basic hygiene)	EYFS Spring 2 Growing plants I can plant seeds and observe what happens. I can observe growth. I can identify what plants need to survive. I can explain how to look after myself (basic hygiene)	EYFS Spring 1 Transport Designing vehicles by junk modelling.