KNOWLEDGE & VOCABULARY: Science

Science Golden Threads & Key Vocabulary

What am I LEARNING today?

The 'sticky knowledge' and supporting vocabulary that children will be taught in different contexts in each year group with increasing depth and complexity

	EYFS	YEAR 1	YEAR 2	YEAR 3
Plants	I can plant seeds and understand that they need care to grow using the words sun and water. I can find trees ,plants, berries, seeds by exploring the natural world at school and home. I know that I have to respect and care for the living world.	I can (Names of trees in the local area, Names of garden and wild flowering plants in the local area) name trees and other plants that they see regularly in school and Hall Park I can describe some of the key features of these trees and plants using the words flower, blossom, petal, fruit, berry, seed, trunk, branch, bark, stalk, together with. the shape of the leaves, the colour of the flower/blossom I can point out trees which lost their leaves and those that kept them the whole year using the vocabulary of deciduous and evergreen. • I can point to and name the parts of a plant, stem, bud, root, leaf, recognising that they are not always the same e.g. leaves and stems may not be green	I can recall the name of trees and plants found in the school grounds and Hall Park. I can draw and label stem, bud, root, leaf, flower of a plant and understand that each part has a role in its growth. I can describe how plants that I have been involved in growing from seeds and bulbs have developed over time (sunflower seeds and daffodil bulbs) • I can identify plants that grew well in different conditions (cress seeds and mung beans) and can discuss these conditions using the vocabulary of **light, shade, sun, warm, cool, water, grow, healthy**	I can Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. I can 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. (I understand the way in which water is transported within plants. • I can explain the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

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Animals including humans	I can use my senses to explore. I can hear, touch (with different parts of my body), see, smell and sometimes taste. • Name and describe people who are familiar to them. (Reception - Humans)	I can name a range of **familiar animals** (names of animals experienced first-hand from each vertebrate group) which includes animals from each of the mammal, amphibian, reptile, fish, bird groups The children need to be able to name and identify a range of animals in each group e.g. name specific birds and fish. They do not need to use the terms mammal, reptiles etc. or know the key characteristics of each, although they will probably be able to identify birds and fish, based on their characteristics. I can describe the key features of these named animals using the words tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves I can label key features on a picture/diagram and compare their similarities and differences. I can describe what a range of animals eat The children do not need to use the words carnivore, herbivore and omnivore. If they do, ensure that they understand that carnivores eat other animals, not just meat. I can dentify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Head, body, eyes, ears, mouth, teeth, leg, Parts of the body including those	I can describe how animals, including humans, have offspring which grow into adults, using the appropriate names for the stages Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, tadpole/frog) I can state the basic needs of animals, including humans, for survival using the vocabulary of water, air, food I can explain the importance for humans of exercise, and hygiene using the vocabulary of heartbeat, breathing, germs and disease I can name foods in each food group, meat and fish, bread and pulses, fruit and vegetables, dairy, fatty foods and I understand that I need a balanced diet.	I can explain 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.

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		linked to PSHE teaching • Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue N.B. Although we often use our fingers and hands to feel objects, the children should understand that we can feel with many parts of our body.		
Working Scientifically **Asking simple questions and recognising that they can be answered in different ways.**	I can ask a simple question.	I can ask questions about aspects of my familiar world. I am beginning to collect evidence to try and answer a question in science by looking at objects and pictures and discussing what I can see.	I can use my observations and ideas to suggest answers to questions. I can ask a simple question that can be tested.	I can ask relevant questions and use different types of scientific enquiries to answer them I can begin to set up simple practical enquiries, comparative and fair tests independently.
Observing closely, using simple equipment.	I can describe what I can see, hear and feel whilst outside. I can explore the natural world and make observations and draw pictures of animals and plants. (ELG)	I can look at objects and pictures and discuss what I can see. I can observe things closely using some simple equipment, with support, such as magnifying glasses, tablets and data loggers, and make general sensory observations and drawings.	I can observe and compare objects, living things and events, some over a period of time. I can suggest and use simple equipment to use to make observations. I can describe my observations of key features using scientific vocabulary and record them, using simple tables or labelled diagrams.	I can making systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. I can record my findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

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Performing simple tests.	NA	I can suggest a variety of ideas for testing (not always realistic/appropriate). With some help, I can test out some ideas suggested to me. I can notice 'which worked best' by making simple comparative statements.	I can suggest a way to gather evidence, through testing, to answer a question I can carry out simple tests independently. I can use simple equipment such as pipettes, timers, rulers. I can begin to understand the concept of a 'fair' test. I can say whether what happened was what I expected. When prompted, I can say different ways that I could have done things.	I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
Identifying and classifying.	I can say some similarities and differences about the natural world around me and contrasting environments by drawing on my experiences and what has been read in class.(ELG)	I can compare objects with support (in simple ways – sorting rings etc.) I can begin to think about how I might group or sort objects.	I can group or sort objects by identifying and classifying using a broadening range of scientific vocabulary.	I can identify differences, similarities or changes related to simple scientific ideas and processes
Using their observations and ideas to suggest answers to questions.	I can offer an explanation about why something has happened. I can answer a why question.	I can share my findings in simple different ways e.g. talking about my work, drawing pictures or completing pictograms I can measure by simple comparison. I can use simple comparative vocabulary such as bigger, smaller I can measure in non-standard units e.g. hand span, unifix cubes etc.	I can use simple texts and ICT to find information. I can use simple equipment and make observations about my learning. I can identify key findings from an enquiry to answer a question.	I can use straightforward scientific evidence to answer questions or to support my findings.
Gathering and recording data to help in answering	I can take part in guided group work to gather simple data.	I can gather and record information I have found out in different ways by drawing or sorting images.	I can suggest how to find things out and with help make suggestions about collecting data to answer questions.	I can gather, record, classify and present data in a variety of ways to help in answering questions

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questions.			I can gather and record data to help in answering questions. I can ask and answer questions about totalling and comparing grouped data. (mathematics-statistics)	