



Ings Farm Primary Long Term Plan

**Science
2017-2018**

**Skills &
Processes**
KS1
KS2

1	Asking simple questions Asking relevant questions (Y3,4)			
2	Observing closely using simple equipment Setting up simple practical enquiries, comparative and fair tests (Y3,4) Planning enquiries, including recognising and controlling variables where necessary (Y5,6)			
3	Performing simple tests Making systematic and careful observations, taking accurate measurements using standard units using a range of equipment (take repeated readings where appropriate, Y5, 6)			
4	Identifying and classifying Gathering, recording, classifying and presenting data in a variety of ways			
5	Using their observations and ideas to suggest answers to questions Record findings using simple scientific language, drawings, diagrams, keys, bar charts and tables (Classification keys, scatter, bar and line graphs Y5,6)			
6	Gathering and recording data to help in answering questions Y2 Reporting on findings from enquiries – oral and written explanations, displays or presentation of results and conclusions (explanations involving casual relationships Y5, 6).			
7	Using results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests (Y3,4) Using test results to make predictions to set up further comparative and fair tests (Y5,6)			
8	Identifying differences, similarities or changes related to simple scientific ideas and processes (Y3,4) Using simple models to describe scientific ideas (Y5,6)			
9	Using straightforward scientific evidence to answer questions or to support their findings (Y3,4) Identifying scientific evidence that has been used to support or refute ideas or arguments (Y5,6)			

Skills & Processes involved - Indicate by term or **C** for continuous

Year	Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b	1	2	3	4	5	6	7	8	9
Nursery/ Reception (EYFS)	<p>Comment and ask questions about aspects of their familiar world such as the place where they live or the natural world. Can talk about some of the things they have observed such as plants, animals, natural and found objects. Talk about why things happen and how things work. Developing an understanding of growth, decay and changes over time. Shows care and concern for living things and the environment. Look closely at similarities, differences, patterns and change.</p>														
Year 1	<p>Plants and Seasonal changes (On-going throughout the year in each term)</p> <p>Identify and name common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees</p>	<p>Animals, including humans (started)</p> <p>Identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the</p>	<p>Everyday materials</p> <p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name everyday materials (wood, plastic, glass, metal, water and rock)</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of the simple physical properties.</p>	<p>Animals, including humans (completed)</p> <p>Identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals.</p> <p>Identify, name, draw and label the basic parts of the human body and say which part is associated with which sense.</p>			C	C	T2	C	C				

	sources of food.																	
Year 3	<p><u>Rocks</u></p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>	<p><u>Animals including Humans</u></p> <p>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.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p><u>Forces and Magnets</u></p> <p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</p> <p>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p><u>Light</u></p> <p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when light from a light source is blocked by a solid object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p><u>Plants</u></p> <p>Identify and describe the functions of different parts of flowering plants. (roots, stem, leaves and flower).</p> <p>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> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	C	T2 T3	T2 T3	C	C	C	T2 T3	T1 T3	C				
Year 4	<p><u>Animals including humans</u></p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of</p>	<p><u>Electricity</u></p> <p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells,</p>	<p><u>Sound</u></p> <p>Identify how sounds are made, associating them with something vibrating.</p> <p>Recognise that vibrations from sounds travel</p>	<p><u>States of mater</u></p> <p>Compare and group materials according to whether they are solids, liquids or gases.</p> <p>Observe that some materials change state when they are</p>	<p><u>Living things and their habitats (Ongoing throughout the year)</u></p> <p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change</p>	C	C	T2	T3	C	C	T1 C	T2 T3	C				

	<p>teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>wires, bulbs, switches and buzzers.</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not a lamp is part of a complete loop with a battery.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>heated or cooled, and measure or research the temperature at which this happens in degrees Celsius.</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>and that this can sometimes pose dangers to living things.</p>												
Year 5	<p><u>Properties and changes of materials</u></p> <p>Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and</p>	<p><u>Earth and space</u></p> <p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the moon relative to the earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the</p>	<p><u>Forces</u></p> <p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction that act between moving surfaces.</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force</p>	<p><u>Living things and their habitats</u></p> <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<p><u>Animals, including humans</u></p> <p>Describe the changes as humans develop to old age.</p>	-	C	T1 T3	C	C	C	C	T2 T3	C			

