

POTTEN END CHURCH OF ENGLAND PRIMARY SCHOOL
Whole School Curriculum Framework for Science

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	In EYFS science is taught through Understanding the World, Expressive Arts and Design and Physical Development Health and Self-Care. The children are encouraged to investigate how things work and about living things in their local environment and the wider world. Children are developing scientific enquiry skills by making observations, talking about what is happening, changing, etc					
	Understanding our senses – sight, hearing, smell, taste and touch The 4 seasons and what changes as the seasons change Colour – investigating colour and light One year with Kipper by Mick Inkpen (seasonal change)		Life cycles – butterflies and frogs Weather changes Materials – changes in materials - melting, waterproof materials The Three Little Pigs (materials)		Habitats and life cycles of living things (when animals grow/die, etc), where they live and why they live there. Materials – changes – ice – freezing Once there were giants by Martin Waddell Little Red Riding Hood (habitats) Jack and the Beanstalk (plants/growth) Handa's Surprise (diet) Gruffalo (Habitats/plants) Tadpole's Promise (Lifecycles)- Jeanne Willis	
Year 1	<u>My Body:</u> Recap learning from EYFS - Parts of the body - Our senses - Growing and changing - Healthy eating Once there were giants by Martin Waddell	<u>Identifying plants:</u> - identify basic plants - identify parts of plants - investigation of growing environments Jack and the Beanstalk (plants/growth)	<u>Identifying animals:</u> Recap learning from EYFS (habitats and lifecycles) - Pets - Exploring mammals - Comparing birds and reptiles - Comparing amphibians and fish - carnivore, herbivore or omnivore	<u>Seasonal Changes:</u> Recap learning from EYFS - How weather and day length affect animals and humans - Use their own experience and information we gather to make conclusions on	<u>Materials:</u> Recap learning from EYFS (melting, freezing, waterproof) - distinguish between objects & materials - describe properties of materials - compare & classify materials	<u>Seaside objects:</u> - Identify and sort seaside animals and plants - learn about the materials seaside objects are made from.

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			- Taking care of animals Little Red Riding Hood (habitats) Handa's Surprise (diet) Gruffalo (Habitats/plants) Tadpole's Promise (Lifecycles)- Jeanne Willis	how living things adapt to seasonal changes One year with Kipper by Mick Inkpen (seasonal change)	The three little pigs	
Year 2	<u>Materials</u> Finding out how to change the shape of a solid material (bending, twisting, stretching)	<u>Materials</u> Comparing the suitability of everyday materials The three little pigs	<u>Animals and habitats</u> Explore the differences of things that are living, dead and have never been alive.	<u>Animals and habitats</u> Identify a variety of plants and animals living in habitats. Explore simple food chains. Little Red Riding Hood (habitats) Gruffalo	<u>Growing plants</u> Observe and describe how seeds grow in to plants. Find out what plants need to survive. Jack and the Beanstalk	<u>Growth and survival</u> Describe the needs of animals (including humans) to survive. Explore the important of humans exercising, eating healthy foods and hygiene. Once there were giants by Martin Waddell

Working Scientifically in KS1

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- ☐ 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

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□ gathering and recording data to help in answering questions.

Year 3	<u>Light and reflection</u> Light sources, reflective materials, light and shadow. Tombs, Torches & Timekeepers The Fire-maker's daughter	<u>Magnets</u> Magnetic materials and when magnets attract or repel. The Iron Man	<u>Plants</u> What plants need to grow and reproduce? The Story of Frog Belly Rat Bone	<u>Plants</u> What plants need to grow and reproduce? The Story of Frog Belly Rat Bone	<u>Rocks and soils</u> Including types and properties of rocks and rock formation and erosion. <u>Fossils</u> How fossils are formed. The Pebble in my Pocket Meredith Hooper	<u>Skeleton and nutrition</u> Why humans and animals need skeletons, healthy eating and teeth.
Year 4	<u>Changing sounds</u> To identify how sounds are made, associating some of them with something vibrating To recognise that vibrations from sounds travel through a medium to the ear To find patterns between the pitch of a sound and features of the object that produced it To find patterns between the	<u>States of matter</u> To compare and group materials together, according to whether they are solids, liquids or gases To observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens	<u>Circuits and conductors</u> To identify common appliances that run on electricity To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers To identify whether or not a lamp will light in a simple series	<u>Eating and digestion</u> To describe the simple functions of the basic parts of the digestive system in humans To identify the different types of teeth in humans and their simple functions To construct and interpret a variety of food chains, identifying producers, predators and prey.	<u>Living things and their environments</u> To recognise that living things can be grouped in a variety of ways To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment To recognise that environments can change and that this can sometimes pose dangers to living things. Wolves – Emily Gravett	

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	volume of a sound and the strength of the vibrations that produced it To recognise that sounds get fainter as the distance from the sound source increases. Horrid Henry Rocks	in degrees Celsius (°C) To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Charlie & The Chocolate Factory – Roald Dahl	circuit, based on whether or not the lamp is part of a complete loop with a battery To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit To recognise some common conductors and insulators, and associate metals with being good conductors.	The Little Mole who knew it was none of his business	
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Working Scientifically in year 3 and 4

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- ☐ 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.

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Year 5	<u>Properties and changes of materials</u> Dissolving, reactions and separation Itch – Simon Mayo Kensuke's Kingdom – Michael Morpugo	<u>Earth and Space</u> (Solar System and Movement) George's Secret key to the Universe - Lucy and Stephen Hawking	<u>Forces</u> Gravity, friction and machines The Tin Snail – Cameron McAllister	<u>Living things and their habitats</u> Life Cycles and Reproduction Charlotte's Web	<u>Animals including Humans</u> <u>Circulation and Health</u> Or <u>Growth, development and puberty</u>
Year 6	<u>Light</u> Including exploring how we see things, light travelling in straight lines and shadows.	<u>Electricity</u> Using switches, exploring the voltage of cells, using recognised symbols when drawing a diagram of a circuit. Goodnight Mr Tom	<u>Evolution and Inheritance</u> Recognise that living things have changes over time. Recognise that living things produce offspring. Identify how animals and plants have adapted to suit their environment. One Smart Fish – Christopher Wormell	<u>Living things and their habitats</u> <u>Classifying living things</u> Describe how living things are classified in to groups. Give reasons for classifying based on a specific characteristic. Beetle Boy by M.G. Leonard	<u>Animals including Humans</u> <u>Circulation</u> Name, identify and describe the main parts of the human circulatory system. Describe the way that water and nutrients and transported in plants and animals. Pig Heart Boy
Working Scientifically in year 5 and 6 During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: ☐ 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					

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- ☐ 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.