



The document below has been designed to show how we will cover all of the relevant scientific knowledge and skills across our school. The context in which these are taught is left to the discretion of teachers.

Science Progression in EYFS

The EYFS framework is structured very differently to the National Curriculum as it is organised across seven areas of learning rather than subject areas. This document demonstrates which statements from the 2020 Development Matters are prerequisite skills for Science within the National Curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Three and Four-Year-Olds and Reception to match the programme of study for Science.

The most relevant statements for science are taken from the following areas of learning:

- Communication and Language
- Physical Development
- Understanding the World

Science Progression		
Three and Four-Year-Olds	Communication and Language	<ul style="list-style-type: none"> • Understand ‘why’ questions, like: “Why do you think the caterpillar got so fat?”
	Physical Development	<ul style="list-style-type: none"> • Make healthy choices about food, drink, activity and tooth brushing.
	Understanding the World	<ul style="list-style-type: none"> • Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Talk about what they see, using a wide vocabulary. • Begin to make sense of their own life-story and family’s history. • Explore how things work. • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things. • Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice.



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Reception	Communication and Language		<ul style="list-style-type: none"> • Learn new vocabulary. • Ask questions to find out more and to check what has been said to them. • Articulate their ideas and thoughts in well-formed sentences. • Describe events in some detail. • Use talk to work out problems and organise thinking and activities. Explain how things work and why they might happen. • Use new vocabulary in different contexts.
	Physical Development		<ul style="list-style-type: none"> • Know and talk about the different factors that support their overall health and wellbeing: <ul style="list-style-type: none"> - regular physical activity - healthy eating - tooth brushing - sensible amounts of 'screen time' - having a good sleep routine • being a safe pedestrian
	Understanding the World		<ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel while they are outside. • Recognise some environments that are different to the one in which they live. • Understand the effect of changing seasons on the natural world around them.
ELG	Communication and Language	Listening, Attention and Understanding	<ul style="list-style-type: none"> • Make comments about what they have heard and ask questions to clarify their understanding.
	Personal, Social and Emotional Development	Managing Self	<ul style="list-style-type: none"> • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
	Understanding the World	The Natural World	<ul style="list-style-type: none"> • Explore the natural world around them, making observations and drawing pictures of animals and plants. • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.



Science Progression in Key stage 1 and Key Stage 2

At Holy Family we follow a 2 year Cycle with Science taught every half term in Key Stage 1 and Key Stage 2, ensuring 6 topics of Science are taught annually. In line with the National Curriculum, all of the relevant POS will be taught by the end of the key stage. Although Physics in Key Stage 1 is non-statutory, there is no reason why elements of this cannot be incorporated where appropriate.

Science Progression						
Area of Study	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cycle A	Keeping Fit & Healthy (Biology Y2) Electricity – non statutory Uses of Materials (Chemistry Y1 & 2) Mini beasts – non statutory Super Science		Keeping Fit & Healthy (Biology Y4) Rocks and Fossils (Chemistry Y3) Forces and Magnets (Physics Y3) Electricity (Physics Y4) Plants (Biology Y3) Super Science		Animals inc Humans (Biology Y5) Electricity (Physics Y6) Materials (Chemistry Y5) Forces of Movement (Physics Y5) Earth & Space (Physics Y5) Super Science	
Cycle B	Animals inc Humans (Biology Y1) Habitats (Biology Y2) Plants (Biology Y1 & 2) Seasonal Changes (Y1) Super Science		Ourselves & Other Animals (Biology Y3) Light (Physics Y3) States of Matter (Chemistry Y4) Sound (Physics Y4) (Living things & their) Habitats (Biology Y4) Super Science		Living things – Classification (Biology Y6) Light (Physics Y6) Changes of Materials (Chemistry Y5) Living things and their habitats (Biology Y5) Evolution & Inheritance (Biology Y6) Super Science	



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Science Progression			
Topic:	KS1	LKS2	UKS2
Animals including humans (inc Y6 Evolution and Inheritance)	Y1: <ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals 		
	Y1: <ul style="list-style-type: none"> identify and name a variety of common animals that are carnivores, herbivores and omnivores (Y2 – Living things and their habitats: <ul style="list-style-type: none"> describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food) 	Y4: <ul style="list-style-type: none"> construct and interpret a variety of food chains, identifying producers, predators and prey 	
	Y1: <ul style="list-style-type: none"> describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense 	Y3: <ul style="list-style-type: none"> identify that humans and some other animals have skeletons and muscles for support, protection and movement Y4: <ul style="list-style-type: none"> 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 	Y6: <ul style="list-style-type: none"> identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood describe the ways in which nutrients and water are transported within animals, including humans
	Y2: <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults 		Y5: <ul style="list-style-type: none"> describe the changes as humans develop to old age Y6 (Evolution and inheritance) <ul style="list-style-type: none"> recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents (Y5 Living things and their habitats: <ul style="list-style-type: none"> describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird)



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Science Progression			
Topic:	KS1	LKS2	UKS2
Animals including humans (inc Y6 Evolution and Inheritance)	Y2: <ul style="list-style-type: none">find out about and describe the basic needs of animals, including humans, for survival (water, food and air)describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	Y3: <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	Y6: <ul style="list-style-type: none">recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function(describe the ways in which nutrients and water are transported within animals, including humans)
		Y3 Rocks: <ul style="list-style-type: none">describe in simple terms how fossils are formed when things that have lived are trapped in rock	Y6: (Evolution and inheritance) <ul style="list-style-type: none">recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years agoidentify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution



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Science Progression			
Topic:	KS1	LKS2	UKS2
Plants	Y1: <ul style="list-style-type: none">identify and name a variety of common wild and garden plants, including deciduous and evergreen trees		
	Y1: <ul style="list-style-type: none">identify and describe the basic structure of a variety of common flowering plants including trees	Y3: <ul style="list-style-type: none">identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowersinvestigate the way in which water is transported within plants	
	Y2: <ul style="list-style-type: none">observe and describe how seeds and bulbs grow into mature plants	Y3: <ul style="list-style-type: none">explore the part that flowers play in the life cycle of flowering plants including pollination, seed formation and seed dispersal	Y5 – living things and their habitats <ul style="list-style-type: none">describe the life process of reproduction in some plants and animals)
	Y2: <ul style="list-style-type: none">find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	Y3 <ul style="list-style-type: none">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	



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Science Progression			
Topic:	KS1	LKS2	UKS2
Living Things and their Habitats	Y2: <ul style="list-style-type: none"> identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other identify and name a variety of plants and animals in their habitats, including microhabitats describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food 	Y4: <ul style="list-style-type: none"> recognise that environments can change and that this can sometimes pose dangers to living things Y4: Animals including humans: <ul style="list-style-type: none"> construct and interpret a variety of food chains, identifying producers, predators and prey) 	
		Y4: <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 	Y6: <ul style="list-style-type: none"> describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals give reasons for classifying plants and animals based on specific characteristics
	Y2 – Animals including Humans: <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults) Y2: <ul style="list-style-type: none"> explore and compare the differences between things that are living, dead, and things that have never been alive 		Y5: <ul style="list-style-type: none"> describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction in some plants and animals



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Science Progression			
Topic:	KS1	LKS2	UKS2
Materials Everyday Materials (Y1) Uses of everyday materials (Y2)	Y1 (everyday materials): <ul style="list-style-type: none"> distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Y2 Uses of everyday materials: <ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses 		Y5 Properties and changes of materials: <ul style="list-style-type: none"> give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
	Rocks (Y3) States of Matter (Y4)	Y1 everyday materials: <ul style="list-style-type: none"> describe the simple physical properties of a variety of everyday materials compare and group together a variety of everyday materials on the basis of their simple physical properties 	Y3 Rocks <ul style="list-style-type: none"> compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Y4 States of matter: <ul style="list-style-type: none"> compare and group materials together, according to whether they are solids, liquids or gases
Properties & changes of materials (Y5)		Y4 (states of matter) <ul style="list-style-type: none"> identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature 	



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	<p>Y2 (uses of everyday materials):</p> <ul style="list-style-type: none">• find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	<p>Y4 (states of matter):</p> <ul style="list-style-type: none">• observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)	<p>Y5 Properties and changes of materials:</p> <ul style="list-style-type: none">• explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda• demonstrate that dissolving, mixing and changes of state are reversible changes• know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
		<p>Y3 (rocks):</p> <ul style="list-style-type: none">• describe in simple terms how fossils are formed when things that have lived are trapped within rock• recognise that soils are made from rocks and organic matter	<p>(Y6 Evolution and inheritance):</p> <ul style="list-style-type: none">• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago



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Science Progression			
Topic:	KS1	LKS2	UKS2
Forces and Magnets (Y3) Forces (Y5)		<p>Y3 Forces and Magnets :</p> <ul style="list-style-type: none">• compare how things move on different surfaces• notice that some forces need contact between 2 objects, but magnetic forces can act at a distance• observe how magnets attract or repel each other and attract some materials and not others• 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• describe magnets as having 2 poles• predict whether 2 magnets will attract or repel each other, depending on which way poles are facing	<p>Y 5 Forces:</p> <ul style="list-style-type: none">• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object• Identify the effects of air resistance, water resistance and friction, that act between moving surfaces• recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect



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Science Progression			
Topic:	KS1	LKS2	UKS2
Electricity (Y4 & Y6)		Y4: <ul style="list-style-type: none">identify common appliances that run on electricity	
		Y4: <ul style="list-style-type: none">Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzersIdentify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a batteryrecognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuitrecognise some common conductors and insulators, and associate metals with being good conductors	Y6: <ul style="list-style-type: none">associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuitcompare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switchesuse recognised symbols when representing a simple circuit in a diagram



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Science Progression			
Topic:	KS1	LKS2	UKS2
Light (Y3 & Y6)		Y3 Light: <ul style="list-style-type: none">• recognise that they need light in order to see things and that dark is the absence of light• notice that light is reflected from surfaces• recognise that light from the sun can be dangerous and that there are ways to protect their eyes	Y6 Light: <ul style="list-style-type: none">• recognise that light appears to travel in straight lines• use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye• explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
		<ul style="list-style-type: none">• recognise that shadows are formed when the light from a light source is blocked by an opaque object• find patterns in the way that the size of shadows change	<ul style="list-style-type: none">• Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them



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Science Progression			
Topic:	KS1	LKS2	UKS2
Sound (Y4)		<p>Y4 (sound):</p> <ul style="list-style-type: none">• identify how sounds are made, associating some of them with something vibrating• recognise that vibrations from sounds travel through a medium to the ear• find patterns between the pitch of a sound and features of the object that produced it• find patterns between the volume of a sound and the strength of the vibrations that produced it• recognise that sounds get fainter as the distance from the sound source increases	

Science Progression			
Topic:	KS1	LKS2	UKS2
Seasonal Changes (Y1)	<p>Y1:</p> <ul style="list-style-type: none">• observe changes across the 4 seasons• observe and describe weather associated with the seasons and how day length varies		<p>Y5:</p> <ul style="list-style-type: none">• describe the movement of the Earth and other planets relative to the sun in the solar system• describe the movement of the moon relative to the Earth• describe the sun, Earth and moon as approximately spherical bodies• use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky
Earth and Space (Y5)			



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Science Progression			
Working Scientifically	KS1	LKS2	UKS2
	<ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways 	<ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them 	<ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
	<ul style="list-style-type: none"> performing simple tests 	<ul style="list-style-type: none"> setting up simple practical enquiries, comparative and fair tests 	<ul style="list-style-type: none"> using test results to make predictions to set up further comparative and fair tests
	<ul style="list-style-type: none"> observing closely, using simple equipment 	<ul style="list-style-type: none"> making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers 	<ul style="list-style-type: none"> taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
	<ul style="list-style-type: none"> using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
		<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
	<ul style="list-style-type: none"> identifying and classifying 	<ul style="list-style-type: none"> identifying differences, similarities or changes related to simple scientific ideas and processes 	<ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments
		<ul style="list-style-type: none"> using straightforward scientific evidence to answer questions or to support their findings 	



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Vocabulary	Cycle A: Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
	Keeping Fit and Healthy	living, dead, exercise, healthy, hygiene, basic need	Keeping Fit and Healthy	healthy diet, nutrient, carbohydrates & fats, vitamins & minerals, fibre, protein, digestive system, canine, premolars, molars, incisors, cavity, enamel, plaque	Animals including Humans	circulatory system, blood vessels, nutrient, transported, lifestyle, function, develop, transfusion, alveoli
	Electricity	electricity, power, current, circuit, battery, insulator, conductor	Rocks and Fossils	rock, mineral, fossil, igneous, metamorphic, sedimentary, sediment, magma, lava	Electricity	battery, bulb, cell, buzzer, circuit, insulator, conductor, current, electricity, filament, motor, switch, voltage, resistance
	Uses of Materials	material, waterproof, not waterproof, absorbent, not absorbent, opaque, transparent	Forces and Magnets	force, contact, distance, friction, surface, magnet, magnetic, attract, repel, materials, poles	Materials	natural, synthetic, magnetism, hardness, transparent, flexibility, permeability, conductors, insulators, thermal conductor, thermal insulator, absorbency, waterproof, properties, electrical conductivity



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Vocabulary	Cycle A: Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
	Mini beasts	mini beast, insect, invertebrate, features, habitat/environment, categorise, life cycle, suited, abdomen, thorax, antenna, wings	Electricity	appliance, battery, bulb, cell, buzzer, current, series circuit, insulator, conductor, electricity, mains, socket, switch, voltage, wire	Forces of Movement	gravity, friction, air resistance, water resistance, streamlined, force, lever, pulley, gear, variable
	Super Science		Plants	function, transported, transpiration, life cycle, pollination, seed formation, seed dispersal, fertilisation, germination, food source	Earth and Space	gravity, solar system, spherical, waning, waning, reflect, phases, rotation, celestial body
	Super Science	observe, identify, classify, gather, record, pictogram, tally chart, venn diagram, secondary sources	Super Science	enquiries, question, labelled diagrams, conclusions, evidence, findings, fair test	Super Science	variables, Independent variable, dependent variable, controlled variable, degree of trust, causal relationship, precision, classification key, scatter graph, bar and line graphs, comparative, refute



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Vocabulary	Cycle B: Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
	Animals including Humans	senses, sight, touch, taste, smell, sound, mammal, bird, reptile, carnivore, herbivore, omnivore	Ourselves and Other Animals	nutrition, balanced diet, skeleton, support, protect, vertebrates, invertebrates, muscles, balance	Living things (Classification)	classify, classification, characteristic, observable, life cycle, organism, micro-organism, adaption, evolution, classification key, food chain, vertebrates, invertebrates, carnivore, herbivore, omnivore, variation, stamen, stigma
	Habitats	compare, difference, living, dead, habitat, micro-habitat, food chain, offspring, movement, respiration, sensitivity, growth, reproduction, excretion, nutrition	Light	darkness, light source, protect, shadow, reflect, reflected, reflective	Light	reflect, darkness, light source, shadow, transparent, translucent, opaque
	Plants	identify, variety, deciduous, evergreen, structure, describe, flowering, observe	States of Matter	solid, liquid, gas, change state, heated, cooled, temperature, Celsius, condensation, evaporation, water cycle, materials, precipitation (chemistry)	Changes of Materials	melting, dissolving, processes, solution, solubility, reversible changes, irreversible changes



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Vocabulary	Cycle B: Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
	Seasonal Changes	season, weather, day length, hours, observe, describe, varies	Sound	sound, vibrate, travel, sound waves, materials, sound source, pitch, volume, fainter, distance, increases	Living things and their habitats	life cycle, mammal, amphibian, insect, arachnid, bird, life processes, reproduction, movement, respiration, sensitivity, growth, excretion, nutrition, stamen, stigma
	Super Science		Habitats	habitat, organism, characteristics, classification key, identify, impact, environment, living, positive, negative	Evolution and Inheritance	living things, fossils, offspring, vary, identical, adapted, environment, evolution, inheritance, gene
Super Science	observe, identify, classify, gather, record, pictogram, tally chart, venn diagram, secondary sources	Super Science	enquiries, question, labelled diagrams, conclusions, evidence, findings, fair test	Super Science	variables, Independent variable, dependent variable, controlled variable, degree of trust, causal relationship, precision, classification key, scatter graph, bar and line graphs, comparative, refute	