National Curriculum Science Coverage

Within the Federation, science is taught on a 2 year rolling programme. The below table outlines when each National Curriculum unit of science is taught. Whilst the knowledge taught is the same for each year group within each unit, the skills progression documents allows our teaching staff to differentiate activities and questioning so that we ensure lessons are pitched appropriately.

The below tables is not a curriculum because it does not identify and sequence component knowledge. Please see the Knowledge and Skill progression documents and overviews on the class pages for how the substantive content in organised within the school curriculum.

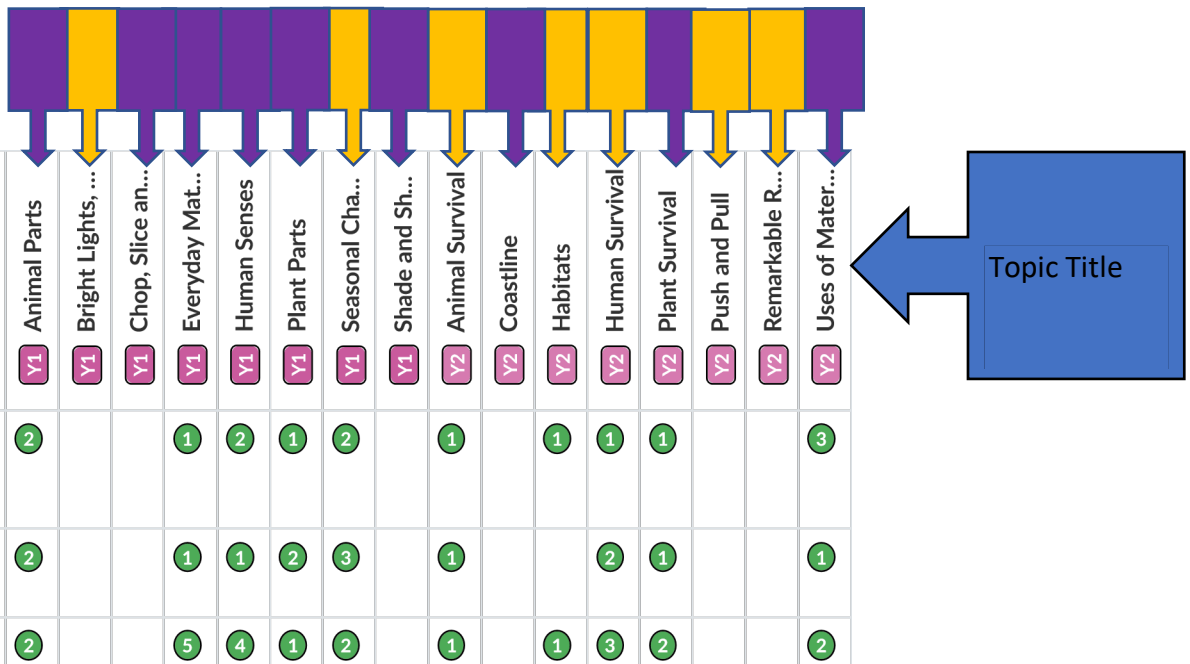
	Plants	Rocks	Animals includ-ing humans	Forces and magnets	Materi-als and their proper-ties	States of matter	Seasonal changes	Electrici-ty	Light	Earth and space	Living things and their habitats	Evolu-tion and inher-itance	Sound
EYs	R 23/24		R 23/24		R/Y2 23/24		R 22/23				R 22/23		
1	Y1/Y2 23/24		Y1/Y2 23/24		Y1/Y2 23/24		Y1/Y2 22/23						
2	Y1/Y2 23/24		Y1/Y2 22/23		Y1/Y2 22/23						Y1/Y2 22/23		
3	Y3/Y4 22/23	Y3/Y4 22/23	Y3/Y4 22/23	Y3/Y4 22/23					Y3/Y4 22/23				
4			Y3/Y4 23/4			Y3/Y4 23/4		Y3/Y4 23/4			Y3/Y4 23/4		Y3/Y4 23/4
5			Y5/Y6 23/4	Y5/Y6 23/4	Y5/Y6 23/4	Y5/Y6 23/4				Y5/Y6 23/4	Y5/Y6 23/4		
6			Y5/Y6 22/23					Y5/Y6 22/23			Y5/Y6 22/23		

How content is organised in mini science projects and within thematic topics in KS1

Detailed coverage analysis

2022/23

2023/24



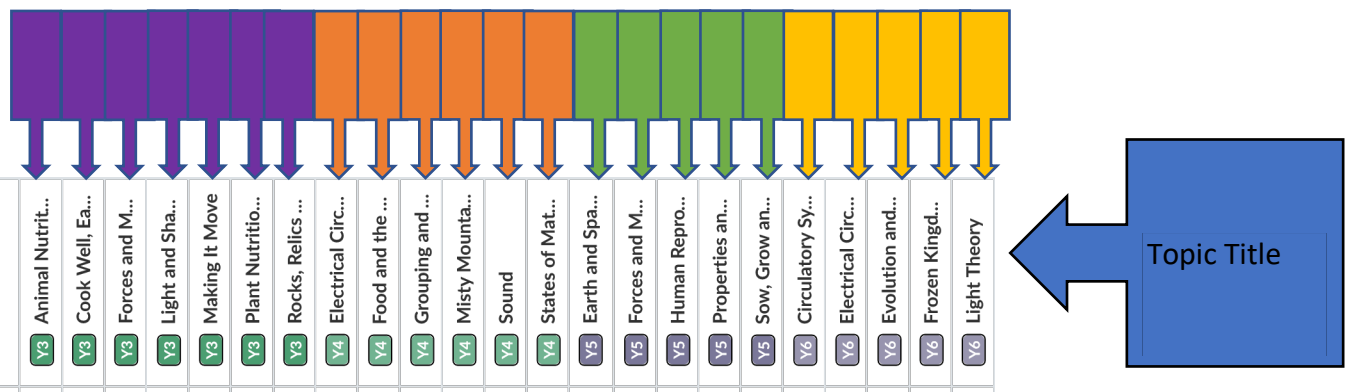
Science	Programme of study	Animal Parts Y1	Bright Lights, ... Y1	Chop, Slice an... Y1	Everyday Mat... Y1	Human Senses Y1	Plant Parts Y1	Seasonal Cha... Y1	Shade and Sh... Y1	Animal Survival Y2	Coastline Y2	Habitats Y2	Human Survival Y2	Plant Survival Y2	Push and Pull Y2	Remarkable R... Y2	Uses of Mater... Y2
Working scientifically	KS1 15 Ask simple questions and recognise that they can be answered in different ways.	2			1	2	1	2		1		1	1	1			3
Working scientifically	KS1 14 Observe closely, using simple equipment.	2			1	1	2	3		1			2	1			1
Working scientifically	KS1 23 Perform simple tests.	2			5	4	1	2		1		1	3	2			2
Working scientifically	KS1 20 Identify and classify.	1	1		3	3	2	1		1		2	2	1			3
Working scientifically	KS1 31 Use their observations and ideas to suggest answers to questions.	2			2	9	2	5		2			3	3			3
Working scientifically	KS1 23 Gather and record data to help in answering questions.	3			3	2	1	2		3		1	4	2			2
Plants	Year 1 8 Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.						7	1									
Plants	Year 1 2 Identify and describe the basic structure of a variety of common flowering plants, including trees.						2										
Animals including humans	Year 1 4 Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.	4															
Animals including humans	Year 1 2 Identify and name a variety of common animals that are carnivores, herbivores and omnivores.	2															
Animals including humans	Year 1 2 Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).	1				1											
Animals including humans	Year 1 2 Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.					2											
Everyday materials	Year 1 4 Distinguish between an object and the material from which it is made.				3				1								
Everyday materials	Year 1 4 Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.				3				1								
Everyday materials	Year 1 3 Describe the simple physical properties of a variety of everyday materials.				3												
Everyday materials	Year 1 3 Compare and group together a variety of everyday materials on the basis of their simple physical properties.				3												

Seasonal changes	Year 1 6 Observe changes across the four seasons.							6									
Seasonal changes	Year 1 3 Observe and describe weather associated with the seasons and how day length varies.							3									
Aims and purpose	Year 1-6 Breadth *(optional)* 15 Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.	2				1	1	1		1					3		
Aims and purpose	KS1 Year 6 Breadth *(optional)* 1 Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.						3	5			1					1	
Aims and purpose	Year 1 KS2 Breadth *(optional)* 6 Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.			1													
Living things and their habitats	Year 2 2 Explore and compare the differences between things that are living, dead, and things that have never been alive.											2					
Living things and their habitats	Year 2 7 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.									1		5		1			
Living things and their habitats	Year 2 11 Identify and name a variety of plants and animals in their habitats, including microhabitats.									3		6		2			
Living things and their habitats	Year 2 5 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.									2		3					
Plants	Year 2 4 Observe and describe how seeds and bulbs grow into mature plants.													4			
Plants	Year 2 4 Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.													4			
Animals including humans	Year 2 7 Notice that animals, including humans, have offspring which grow into adults.									4			3				
Animals including humans	Year 2 10 Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).									4		5	1				
Animals including humans	Year 2 9 Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.												9				
Everyday materials	Year 2 5 Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.									2							3
Everyday materials	Year 2 1 Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.																1

How content is organised in mini science projects and within thematic topics in KS2

Detailed coverage analysis

- Y5 and Y6 22/23
- Y3 and Y4 23/24
- Y3 and Y4 22/23
- Y5 and Y6 23/24



Science	Programme of study	Y3 Animal Nutrit...	Y3 Cook Well, Ea...	Y3 Forces and M...	Y3 Light and Sha...	Y3 Making It Move	Y3 Plant Nutritio...	Y3 Rocks, Relics ...	Y4 Electrical Circ...	Y4 Food and the ...	Y4 Grouping and ...	Y4 Misty Mounta...	Y4 Sound	Y4 States of Mat...	Y5 Earth and Spa...	Y5 Forces and M...	Y5 Human Repro...	Y5 Properties an...	Y5 Sow, Grow an...	Y6 Circulatory Sy...	Y6 Electrical Circ...	Y6 Evolution and...	Y6 Frozen Kingd...	Y6 Light Theory
Aims and purpose	Year 1-6 Breadth *(optional)* 15 Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.								1								1	1	1					2
Aims and purpose	KS1 Year 6 Breadth *(optional)* 10 Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.																							
Aims and purpose	Year 1 KS2 Breadth *(optional)* 6 Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.					1				1									2					1
Working scientifically	LKS2 12 Ask relevant questions and using different types of scientific enquiries to answer them.	2		1	1		2		1	1	2		2											
Working scientifically	LKS2 18 Set up simple practical enquiries, comparative and fair tests.	3		2	3		3		1	1			3	2										
Working scientifically	LKS2 23 Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	1		4	5		5		1	2	1			4										
Working scientifically	LKS2 17 Gather, record, classify and present data in a variety of ways to help in answering questions.	2		2	2		2		1	2	2		1	3										
Working scientifically	LKS2 17 Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	2		2	2		2		1	2	2		1	3										
Working scientifically	LKS2 19 Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	1		3	2		2		2	2	4		1	2										
Working scientifically	LKS2 19 Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	1		3	2		2		2	2	4		1	2										
Working scientifically	LKS2 16 Identify differences, similarities or changes related to simple scientific ideas and processes.	1		3	3		4		1	1	1			2										
Working scientifically	LKS2 19 Use straightforward scientific evidence to answer questions or to support their findings.	1		3	2		2		2	2	4		1	2										
Plants	Year 3 2 Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.						2																	
Plants	Year 3 1 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.						1																	
Plants	Year 3 2 Investigate the way in which water is transported within plants.						2																	

Plants	Year 3 1 Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.						1																		
Animals including humans	Year 3 4 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.	3	1																						
Animals including humans	Year 3 3 Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	3																							
Rocks	Year 3 1 Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.							1																	
Rocks	Year 3 1 Describe in simple terms how fossils are formed when things that have lived are trapped within rock.							1																	
Rocks	Year 3 1 Recognise that soils are made from rocks and organic matter.							1																	
Light	Year 3 1 Recognise that they need light in order to see things and that dark is the absence of light.				1																				
Light	Year 3 1 Notice that light is reflected from surfaces.				1																				
Light	Year 3 1 Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.				1																				
Light	Year 3 2 Recognise that shadows are formed when the light from a light source is blocked by a solid object.				2																				
Light	Year 3 1 Find patterns in the way that the size of shadows change.				1																				
Forces and magnets	Year 3 1 Compare how things move on different surfaces.			1																					
Forces and magnets	Year 3 3 Notice that some forces need contact between two objects, but magnetic forces can act at a distance.			3																					
Forces and magnets	Year 3 1 Observe how magnets attract or repel each other and attract some materials and not others.			1																					
Forces and magnets	Year 3 1 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.			1																					

Forces and magnets	Year 3 2 Describe magnets as having two poles.			2																					
Forces and magnets	Year 3 2 Predict whether two magnets will attract or repel each other, depending on which poles are facing.			2																					
Living things and their habitats	Year 4 7 Recognise that living things can be grouped in a variety of ways.											7													
Living things and their habitats	Year 4 7 Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.											7													
Living things and their habitats	Year 4 3 Recognise that environments can change and that this can sometimes pose dangers to living things.										1		2												
Animals including humans	Year 4 1 Describe the simple functions of the basic parts of the digestive system in humans.										1														
Animals including humans	Year 4 1 Identify the different types of teeth in humans and their simple functions.										1														
Animals including humans	Year 4 1 Construct and interpret a variety of food chains, identifying producers, predators and prey.										1														
States of matter	Year 4 2 Compare and group materials together, according to whether they are solids, liquids or gases.													2											
States of matter	Year 4 3 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).													3											
States of matter	Year 4 1 Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.												1												
Sound	Year 4 4 Identify how sounds are made, associating some of them with something vibrating.													4											
Sound	Year 4 4 Recognise that vibrations from sounds travel through a medium to the ear.													4											
Sound	Year 4 1 Find patterns between the pitch of a sound and features of the object that produced it.													1											
Sound	Year 4 1 Find patterns between the volume of a sound and the strength of the vibrations that produced it.													1											
Sound	Year 4 1 Recognise that sounds get fainter as the distance from the sound source increases.													1											
Electricity	Year 4 1 Identify common appliances that run on electricity.								1																
Electricity	Year 4 3 Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.								3																
Electricity	Year 4 1 Identify 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 battery.								1																
Electricity	Year 4 3 Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.								3																
Electricity	Year 4 2 Recognise some common conductors and insulators, and associate metals with being good conductors.								2																
Working scientifically	UKS2 93 Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.														1	6	4	6	1	3	2	3	2	5	
Working scientifically	UKS2 23 Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.															3	2	5		5	2	2		4	

Working scientifically	UKS2 16 Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.																1	4	4		2	1	2		2
Working scientifically	UKS2 18 Use test results to make predictions to set up further comparative and fair tests.															1	2	2	4		1	1	4		3
Working scientifically	UKS2 18 Report and present 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.															1	2	2	4		1	1	4		3
Working scientifically	UKS2 18 Identify scientific evidence that has been used to support or refute ideas or arguments.															1	2	2	4		1	1	4		3
Living things and their habitats	Year 5 5 Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.																	4		1					
Living things and their habitats	Year 5 5 Describe the life process of reproduction in some plants and animals.																	2		3					
Animals including humans	Year 5 3 Describe the changes as humans develop to old age.																	3							
Properties and changes of materials	Year 5 3 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.																		3						
Properties and changes of materials	Year 5 1 Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.																		1						
Properties and changes of materials	Year 5 4 Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.																		4						
Properties and changes of materials	Year 5 2 Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.																		2						
Properties and changes of materials	Year 5 5 Demonstrate that dissolving, mixing and changes of state are reversible changes.																		5						
Properties and changes of materials	Year 5 5 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.																		5						
Earth and space	Year 5 10 Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.															10									
Earth and space	Year 5 1 Describe the movement of the Moon relative to the Earth.															1									
Earth and space	Year 5 3 Describe the Sun, Earth and Moon as approximately spherical bodies.															3									
Earth and space	Year 5 2 Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.															2									
Forces	Year 5 1 Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.																1								
Forces	Year 5 4 Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.																4								
Forces	Year 5 4 Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.																4								

Living things and their habitats	Year 6 5 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.																						2	3				
Living things and their habitats	Year 6 1 Give reasons for classifying plants and animals based on specific characteristics.																							1				
Animals including humans	Year 6 4 Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.																					4						
Animals including humans	Year 6 3 Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.																					3						
Animals including humans	Year 6 2 Describe the ways in which nutrients and water are transported within animals, including humans.																					2						
Evolution and inheritance	Year 6 3 Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.																							3				
Evolution and inheritance	Year 6 3 Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents																							3				
Evolution and inheritance	Year 6 4 Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.																							2	2			
Light	Year 6 1 Recognise that light appears to travel in straight lines.																									1		
Light	Year 6 2 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.																									2		
Light	Year 6 2 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.																									2		
Light	Year 6 1 Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.																									1		
Electricity	Year 6 1 Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.																						1					
Electricity	Year 6 1 Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.																						1					
Electricity	Year 6 2 Use recognised symbols when representing a simple circuit in a diagram.																						2					