

Scientific skills across Key Stages

EYFS	
Working scientifically -The World	<ul style="list-style-type: none"> • make sense of their physical world through opportunities to explore, observe and find out about people and the environment • Children know about similarities and differences in relation to materials and living things. • Make observations of animals and plants and explain why some things occur, and talk about changes.
Key Stage 1	
Working scientifically	<ul style="list-style-type: none"> • Answer simple questions and recognising 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. • Gathering and recording data to help in answering questions.
Lower Key Stage 2	
Working scientifically	<ul style="list-style-type: none"> • Ask relevant questions and using different types of scientific enquiry to answer them. • Set up simple practical enquiries, comparative and fair tests. • Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identify differences, similarities or change related to simple scientific ideas and processes. • Use straightforward scientific evidence to answer questions or to support their findings.
Upper Key Stage 2	
Working scientifically	<ul style="list-style-type: none"> • Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. • Take measurements, using a range of scientific equipment, with increasing accuracy and precision. • Record data and results with increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs. • Using test results to make predictions to set up further comparative and fair tests. • Report and present findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations. • Identify scientific evidence that has been used to support or refute ideas or arguments.

Evolve Long Term Curriculum Map

Year	Autumn	Spring	Summer
Year 1 (2019/20) * begin spring 2020	Reach for the Stars Science/history/PSHE (heroes) Space/heroes	Africa is not a Country Geography/Arts *each class choose a country (avoid rainforests!)	Sushi for Beginners/Olympics (Japan this year) Geography - Japan/History – Greeks/science humans, health
Year 2 (2020/21)	Me and My World Link to religions/india Environment/RE/PSHE/Geog	One Moment in Time* 80s/Victorians/ Romans/Ancient Egypt/Stone Age/dinosaurs Hist/art	Sail away Seaside/coasts/pirates/rivers/oceans Science: habitats, living things/Geog
Year 3 (2021/22)	Lest We Forget (WW1 or WW2) History/PSHE *EYFS – people who help us	Roaming in the Rainforest Geog/science: habitats/ living things	Love our Local Area Geog/Tech/History London link then more local area Fire of London/Civil War
Year 4 (2022/23)	Peasants are Revolting! History/ RE(Christianity) Robin Hood/Tudors/Anglo Saxons/Vikings/William Conqueror	Frozen Lands Science; living things/habitats/Geog/History	Mystery Box* (secret garden/woods/bees) Science; plants/environment

Year 1 (2019/20)		Autumn	Spring	Summer
* begin spring 2020		Reach for the Stars Science/History/PSHE(heroes)	Africa is not a Country *each class choose a country (avoid rainforests!) Geography/Arts	Sushi for Beginners/Olympics (Japan this year) Geography (Japan)/History (Greeks) Science (humans,health)
		Aut1 Aut1	Spr 1 Spr 2	Sum 1 Sum 2
Science	Yr 1	Seasonal changes (1) Everyday mats (1) Animals inc humans (1)	Seasonal changes (1) Living things + their habitats (all term)	Seasonal changes (1) Structure of plants (1)
	Yr 2/3	Light (3)	Rocks (3) Living things + their habitats (2)	Animals inc humans(2) Nutrition and skeletons (3)
	Yr 4/5/6	Earth and space (5) Forces (5)	Evolution and Inheritance (6) Animals incl humans/ Digestion (4)	Living things +Animals inc humans their habitats (4/6) Human Circulation (6)
Year 2 (2020/21)		Autumn	Spring	Summer
		Me and My World Link to religions/India Environment/RE/PSHE/Geog	One Moment in Time*80s/Victorians/Romans/Ancient Egypt/Stone Age/ Dinosaurs History/Art	Sail away Seasides/coasts/pirates/rivers/oceans Science: habitats, living things/ Geog
		Aut 1 Aut 2	Spr 1 Spr 2	Sum1 Sum 2
Science	Yr 1	Seasonal changes (1) Everyday mats (1) Animals inc humans (1)	Seasonal changes (1) Living things + their habitats (all term)	Seasonal changes (1) Structure of plants (1)
	Yr 2/3	Forces + Magnets (3) Sound (4)	States of matter (4) Electricity (4)	Living things + habitats (4) What plants need (2) Plants (3)
	Yr4/5/6	Props and changes of materials (5) States of matter (4)	Electricity (4/6) Life cycles (5) and Classification (6)	Sound (4) Light (6) Changes (5)

Year 3 (2021/22)		Autumn Lest We Forget(WW1 or WW2) History/PSHE	Spring Roaming in the Rainforest Geog/Science: habitats/living things	Summer Love our Local Area Geog/Tech/History
		Aut 1 Aut 2	Spr 1 Spr 2	Sum1 Sum 2
Science	Yr 1	Seasonal changes (1) Everyday mats (1) Animals inc humans (1)	Seasonal changes (1) Living things + their habitats (all term)	Seasonal changes (1) Structure of plants (1)
	Yr 2/3	Light (3)	Rocks (3) Living things + their habitats (2)	Animals inc humans(2) Nutrition and skeletons (3)
	Yr4/5/6	Earth and space (5) Forces (5)	Evolution and Inheritance (6) Animals incl humans/Digestion (4)	Living things +Animals inc humans their habitats (4/6) Human Circulation (6)
Year 4 (2022/23)		Peasants are Revolting! History/RE (Christianity)	Frozen Lands Science; living things/habitats/Geog/History	Mystery Box*(secret garden/woods/bees) *Choose own topic using the subject focus. Science; plants/environment
		Aut 1 Aut 2	Spr 1 Spr 2	Sum1 Sum 2
Science	Yr1	Seasonal changes (1) Everyday mats (1) Animals inc humans (1)	Seasonal changes (1) Living things + their habitats (all term)	Seasonal changes (1) Structure of plants (1)
	Yr 2/3	Forces + Magnets (3) Sound (4)	States of matter (4) Electricity (4)	Living things + habitats (4) What plants need (2) Plants (3)
	Yr 4/5/6	Props and changes of materials (5) States of matter (4)	Electricity (4/6) Life cycles (5) and Classification (6)	Sound (4) Light (6) Changes (5)

St Loys CEVA Primary Academy Science Curriculum overview

Curriculum skills overview by year group

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	<p>Plants</p> <p>Children know about similarities and differences in relation to living things.</p> <p>Make observations of plants and explain why some things occur and talk about changes.</p>	<p>Plants</p> <p>Identify and name a variety of 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>Plants</p> <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p>Plants</p> <p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</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>			
Animals including humans	<p>Animals</p> <p>Children know about similarities and differences in relation to living things.</p> <p>Make observations of animals and explain why some things occur and talk about changes.</p>	<p>Animals including humans.</p> <p>Identify and name a variety of common 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 (fish, amphibians, reptiles, birds and mammals, including pets).</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>	<p>Humans, healthy eating and hygiene.</p> <p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>		<p>Animals including Humans</p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</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>Growing up and growing older</p> <p>Describe the changes as humans develop to old age.</p>	<p>Animals including humans.</p> <p>Identify and name the main Parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>

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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evolution and inheritance							<p>Evolution and Inheritance</p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>
States of matter					<p>States of matter</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>		
Seasonal changes			<p>Weather and seasonal changes</p> <p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>				

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Properties of materials and how they change	<p>Materials</p> <p>Know about similarities and differences in relation to materials.</p>	<p>Everyday materials</p> <p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including 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 their simple physical properties.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Materials</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Compare how things move on different surfaces.</p>			<p>Properties of materials and how they change</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>Understand 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 changes of state are reversible changes.</p> <p>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.</p>	

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Rocks				<p>Rocks and Soils.</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>Living things and their habitats</p>	<p>Living Things</p> <p>Children know about similarities and differences in relation to living things.</p> <p>Make observations of animals and plants and explain why some things occur, and talk about changes.</p>		<p>Living things and their habitats.</p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>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.</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>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.</p>	<p>Classification of plants and animals</p> <p>Recognise that living things can be grouped in a variety of ways (e.g. flowering plants. amphibians etc)</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 and that this can sometimes pose dangers to living things.</p>		<p>Life cycles including micro organisms</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>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.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>	

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Light		<p>Light, dark and sounds.</p> <p>Observe and name a variety of sources of light, including electric lights, flames and the Sun.</p> <p>Associate shadows with a light source being blocked by something.</p>			<p>Light and sound</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>Find patterns in the way that the size of shadows change.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes).</p>		<p>Light</p> <p>Understand that light appears to travel in straight lines.</p> <p>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.</p> <p>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.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.</p>
Sound		<p>Light, dark and sounds.</p> <p>Observe and name a variety of sources of sound, noticing that we hear with our ears.</p> <p>Recognise that sounds get fainter as the distance from the sound source increase.</p>			<p>Light and sound</p> <p>Identify how sounds are made, associating some of them with something vibrating.</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>		

Science CEVA Primary Academy Science Curriculum overview

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Earth and space						<p>Earth and space</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 apparent movement of the sun across the sky.</p>	
Forces and magnets				<p>Forces and magnets</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>Describe magnets as having two poles.</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>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>		<p>Forces and Magnets</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>Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.</p>	

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Electricity					<p>Circuits</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, 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 the 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>Electricity including renewable and non-renewable energy sources</p> <p>Associate brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>