



EYFS	Understanding the world: The world	Understanding the world: Technology
30-50 months	 Comments and asks 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 object. Talks 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 	 Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. Knows that information can be retrieved from computers.
40-60 months	Looks closely at similarities, differences, patterns and change.	Uses ICT hardware to interact with age-appropriate computer software.
ELG	 Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another 	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

KS1 Progression

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.



	Biology: animals including	Seasonal changes	Chemistry: everyday	Seasonal changes (physics):	Biology: plants
	humans	(physics):	materials	Spring - Summer	
		Autumn - Winter			
	-Identify and name a	-Observe changes across	-Distinguish between an	-Revise prior knowledge of	-Identify and name a
	variety of common animals	the four seasons.	object and the material	seasonal change.	variety of common wild and
	including fish, amphibians,	-Observe and describe	from which it is made.	-Observe changes across the	garden plants, including
	reptiles, birds and	weather associated with	-Identify and name a variety	four seasons.	deciduous and evergreen
	mammals.	the seasons and how day	of everyday materials,	-Observe and describe	trees
	-Identify and name a variety	length varies	including wood, plastic, glass,	weather associated with the	-identify and describe the
	of common animals that are	-Pupils should observe	metal, water, and rock -	seasons and how day length	basic structure of a variety of
	carnivores, herbivores and	and talk about changes	Describe the simple physical	varies	common flowering plants,
	omnivores describe and	in the weather and the	properties of a variety of	-Pupils should observe and	including trees.
	compare the structure of a	seasons.	everyday materials	talk about changes in the	
	variety of common animals	-Pupils should be warned	-Compare and group together	weather and the seasons.	-Pupils should use the local
r	(fish, amphibians, reptiles,	that it is not safe to look	a variety of everyday	-Pupils should be warned that	environment throughout the
	birds and mammals, including	directly at the Sun, even	materials on the basis of their	it is not safe to look directly	year to explore and answer
	pets)	when wearing dark	simple physical properties.	at the Sun, even when	questions about plants
	-Identify, name, draw and	glasses.	-Pupils should explore,	wearing dark glasses.	growing in their habitat.
	label the basic parts of the	-Pupils might work	name, discuss and raise and	-Pupils might work	-Where possible, they should
	human body and say which	scientifically by: making	answer questions about	scientifically by: making	observe the growth of flowers
	part of the body is	tables and charts about	everyday materials so that	tables and charts about the	and vegetables that they have
	associated with each sense.	the weather; and making	they become familiar with	weather; and making	planted.
		displays of what	the names of materials and	displays of what happens in	-They should become
	-Pupils should use the local	happens in the world	properties such as:	the world around them,	familiar with common
	environment throughout the	around them, including	hard/soft; stretchy/stiff;	including day length, as the	names of flowers, examples
	year to explore and answer	day length, as the	shiny/dull; rough/smooth;	seasons change.	of deciduous and evergreen
	questions about animals in	seasons change.	bendy/not bendy;		trees, and plant structures
	their habitat.		waterproof/not waterproof;		(including leaves, flowers
	-They should understand		absorbent/not absorbent;		(blossom), petals, fruit,
	how to take care of		opaque/transparent.		roots, bulb, seed, trunk,
	animals taken from their		-Pupils should explore and		branches, stem).

Year



local environment and the need to return them safely after study.

Pupils should become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.

Pupils should have plenty of opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes.

Pupils might work scientifically by: using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells.

experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.

-Pupils might work scientifically by: performing simple tests to explore questions, for example: 'What is the best material for an umbrella? ...for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a qymnast's leotard?'

-Pupils might work scientifically by: observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees.

Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants.



Revise prior knowledge of animals, from Y1. Notice that animals, ave offspring which grow into adults 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. Pupils should be introduced to the processes to the find out to be six needs of animals for survival, as well as the importance of reproduction and growth in animals. They should also be introduced to the processes of reproductions that help pupils to recognise growth; they should not be exercise and animals. The focus at this stage should so the condets of growth; they should not be exercised to understand how except the output of the stage and table legs; wood can be excepted to understand how extended to the part of the first out and the terms habitat is a condition and animals. They should also be introduced to the processes that are common to all living things & their habitats Biology: living things & their habitats Revise prior knowledge of plants and animals from Y1. Selvise prior knowledge of plants from Y1. Feptore and compare the differences between things that are living, deed, and things that have never been alive and compare the differences between things that are living, deed, and things that are living, deed, and things that have never been alive and intensity that most living things bive in habitats to which they are suited and describe how plants need water, light and a suitable temperature to grow and stay healthy. Feptore and compare the differences between things that are living, deed, and things that have never been alive and theory they are the suitability of a wariety of everyday materials, including humans, for survival different sources of food and air. Feviors of the differences between things that are living, deed, and they are the suitability of a definity that most living things bive in habitats to which they are suited and describe how blastone and sta		0.1			SAMT
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to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. -They should also be introduced to the processes of reproduction and growth in animals. -The focus at this stage should not be interested and should be on questions that help pupils to recognise growth; they should not be interested and discuss the uses of different sources of food. -Pupils should identify and discuss the uses of different sources of food. -Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping how some materials are used for more than one thing (metal can be used help them to become familiar with the life processes that are common to all living things. -Pupils should be introduced to the idea that all living things have certain characteristics that are essential for keeping them alive and healthy. -They should raise and answer questions that help them to become familiar with the life processes that are common to all living things. -Pupils should be introduced to the idea accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing and recording.		hygiene.	bending, twisting and	plants and other animals, using the idea of a	grow but most do not need light; seeds and
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-They should also be introduced to the processes of reproduction and growth in animals. -The focus at this stage should be on questions that help pupils to recognise growth; they should not be become familiar with how some materials are used for more than one thing (metal can be used for matches, floors, and telegraph poles) or become familiar with the alive and healthy. -They should raise and answer questions that help them to become familiar with the life processes that are common to all living things. -Pupils should be introduced to the terms habitat' (a natural environment or home of a variety of plants and animals) and seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.		nutrition for humans.	materials so that they	that all living things have certain	plants as they change over time from a
introduced to the processes of reproduction and growth in animalsThe focus at this stage should be on questions that help pupils to recognise growth; they should not be how some materials are used for more than one thing (metal can be used for coins, cars and table legs; wood can be growth; they should not be them alive and healthyThey should raise and answer questions that help them to become familiar with the life processes that are common to all living thingsPupils should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy. at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy. -Pupils should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and		3		1	1.
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-The focus at this stage should be on questions that help pupils to recognise growth; they should not be for coins, cans, cars and processes that are common to all living things. -Pupils should be introduced to the terms 'habitat' (a natural environment or home of a variety of plants and animals) and		, ,	,	,	, ·
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help pupils to recognise growth; they should not be used for matches, floors, a variety of plants and animals) and and telegraph poles) or a variety of plants and animals) and		J	'	, ,	
growth; they should not be and telegraph poles) or a variety of plants and animals) and		·		•	
- ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '		expected to understand how	different materials are	'micro-habitat' (a very small habitat, for	

Year 2



reproduction occurs.

-The following examples might be used: egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep. Growing into adults can include reference to baby, toddler, child, teenager, adult.

-Pupils might work scientifically by: observing, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what things animals need for survival and what humans need to stay healthy; and suggesting ways to find answers to their questions.

used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass).

-They should think about the properties of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials.

-Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh or John McAdam. -Pupils might work scientifically by: comparing the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs); observing closely,

example for woodlice under stones, logs or leaf litter).

-They should raise and answer questions about the local environment that help them to identify and study a variety of plants and animals within their habitat and observe how living things depend on each other, for example, plants serving as a source of food and shelter for animals.

-Pupils should compare animals in familiar habitats with animals found in less familiar habitats, for example, on the seashore, in woodland, in the ocean, in the rainforest.
-Pupils might work scientifically by: sorting and

-Pupils might work scientifically by: sorting and classifying things according to whether they are living, dead or were never alive, and recording their findings using charts. -They should describe how they decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?' and talk about ways of answering their questions.

-They could construct a simple food chain that includes humans (e.g. grass, cow, human).

-They could describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.



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their	observations.	

KS2 Progression

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

	Biology: animals including humans	Biology: plants	Physics: forces & magnets	Physics: light	Chemistry: rocks
Year 3	-Revise prior knowledge of	-Revise prior knowledge of	-Revise prior knowledge of the	-Recognise that they need	-Revise prior knowledge of the
	animals from KS1.	plants from KS1.	properties of materials from	light in order to see things	properties of materials from
	-Identify that all animals	-Identify and describe	KS1.	and that dark is the	KS1.
	and humans need the right	the functions of different	Compare how things move	absence of light	-Compare and group
	types and amounts of	parts of a flowering	on different surfaces	-Notice that light is reflected	together different kinds of
	nutrients and that they	plant: roots, stem/trunk,	-Notice that some forces need	from surfaces	rocks on the basis of their
	cannot make their own	leaves and flowers.	contact between two objects,	-Recognise that light from	appearance and simple
	food; they get nutrition	-Explore the requirements	but magnetic forces can act at	the sun can be dangerous	physical properties.
	from what they eat.	of plants for life and	a distance	and that there are ways to	-Describe in simple terms how
	-Identify that humans and	growth (air, light, water,	-Observe how magnets	protect their eyes	fossils are formed when things
	some other animals have	nutrients from soil and	attract or repel each other	-Recognise that shadows are	have lived are trapped within
	skeletons and muscles for	room to grow) and how	and attract some materials	formed when the light from a	rock
	support, protection and	they vary from plant to	and not others.	light source is blocked by a	-Recognise that soils are



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	movement.	plant.	-Compare and group together	solid object	made from rock and other
		-Investigate the ways in	a variety or everyday	-Find patterns in the way	organic matter.
		which water is	materials on the basis of	that the size of shadows	
		transported within plants	whether they are attracted to	change.	
		-Explore the part that	a magnet and identify some		
		flowers play in the life	magnetic materials.		
		cycle of flowering plants,	-Describe magnets as		
		including pollination, seed	having 2 poles		
		formation and seed	-Predict whether 2 magnets		
		dispersal.	will attract or repel each		
			other, depending on which		
			poles are facing.		
	Physics: electricity	Chemistry: states of	Biology: animals including	Biology: living things &	Physics: sound
	r hysics: electricity	matter	humans	their habitats	r nysics: souna
	-Identify common	-Revise prior knowledge of	-Revise prior knowledge of	-Revise prior knowledge of	-Identify how sounds are
	appliances that run on	types of material from KS1.	nutrition, and the skeletal and	plants and animals from KS1.	made, associating some of
	electricity	-Compare and group	muscular systems from Y3.	-Recognise that living things	them with something
	-Construct a simple series	materials together,	-Describe the simple	can be grouped in a variety	vibrating.
	electrical circuit, identifying	according to whether	functions of the basic parts	of ways	-Recognise that vibrations
	and naming its basic parts,	they are solids, liquids	of the digestive systems in	-Explore and use classification	from sounds travel through a
	including cells, wires, bulbs,	or gases.	humans	keys to help group, identify	medium to the ear.
	switches and buzzers.	-Observe that some	-Identify the different types of	and name a variety of living	-Find patterns between the
Year 4	-Identify whether or not a	materials change state	teeth in humans and their	things in their local and wider	pitch of a sound and
rear 4	lamp will light in a simple	when they are heated or	simple functions	environments.	feature of the object that
	series circuit, based on	cooled and measure or	-Construct and interpret a	-Recognise that	produced it.
	whether or not the lamp is	research the temperature	variety of food chains,	environments can change	-Find patterns between the
	part of a complete loop	at which this happens in	identifying producers,	and that this can sometimes	volume of a sound and the
	with a battery.	degrees Celsius (°C).	predators and prey.	pose dangers to living	strength of the vibrations that
	-Recognise that a switch	-Identify the part played	- Identify the organs in the	things.	produced it.
	opens and closes a circuit and	by evaporation and	digestive system and describe		-Recognise that sounds get
	associate this with whether or	condensation in the	their function		fainter as the distance from



			SAINT
not a lamp lights in a simple	water cycle and	- Describe the journey our	the sound source increases.
series circuit	associate the rate of	food takes from entering	ACCOUNT OF THE PARTY OF THE PAR
Recognise some common	evaporation with	the body to leaving it	
conductors and insulators,	temperature.		
and associate metals with			
being good conductors.			

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

	Biology: living things & their habitats	Physics: forces	Changing Materials	Physics: Earth & space	Biology: animals including humans
	-Revise prior knowledge of	-Revise prior knowledge of	-Revise prior knowledge of the	-Revise prior knowledge of the	-Revise prior knowledge of the
Year 5	plants from Y3.	forces from Y3.	states of matter from Y4.	Earth's spherical shape and its	human body from Y3 and Y4
	-Relate changes in the local	-Explain that	-Compare and group	magnetic field from Y3.	-Describe the life cycle of a
	environment to the life-cycles	unsupported objects fall	together everyday materials	-Describe the movements of	human being.
	of the living things in that	towards Earth because	on the basis of their	the Earth and other planets,	-Describe the change as a
	habitat.	the force of gravity	properties, including their	relative to the Sun in the	human develops from a
	-Explain asexual	acting between the Earth	hardness, solubility,	solar system.	baby, into adolescence and
	reproduction with reference	and the falling object.	transparency, conductivity	-Describe the movement of the	into old age.
	to a plant such as ferns	-Identify the effects of air	(electrical and thermal) and	Moon relative to Earth.	-Explain why the body
	(spores), potato (tubers),	resistance, water resistance	response to magnets.	-Describe the Sun, Earth	changes as humans grow
	daffodil (bulbs) or spider	and friction that act	-Know that some materials	and Moon as approximate	older.
	plant (plantlets).	between moving surfaces.	will dissolve in liquid to form	spherical bodies.	-Consider how this might
	-Describe sexual reproduction	-Recognise that some	a solution and describe how	-Use the idea of the Earth's	change in the future.
	through the meeting of two	mechanisms, including	to recover a substance from a	rotation to explain day and	



sex cells (male and female),	levers, pulleys and	solution.	night and the apparent	CAT
using pollen and ovules as	gears, allow a smaller	-Use a knowledge of solids,	movement of the sun across	- E
examples.	force to have a greater	liquids and gases to decide	the sky.	
-Explain sexual	effect.	how mixtures might be		
reproduction with reference		separated, including		
to a flowering plant.		through filtering, sieving		
-Recognise that different		and evaporating.		
species of living things use		-Give reasons, based on		
different processes for		evidence from comparative		
reproduction of offspring.		fair tests, for the particular		
-Describe the difference in		use of everyday materials,		
the life cycle of a mammal,		including metals, wood and		
an amphibian, an insect		plastic.		
and a bird.		-Demonstrate that		
-Describe the life process of		dissolving, mixing and		
reproduction in some plants		changes of state are		
and animals.		reversible changes.		
		-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.		
		otean contact of couran		
Biology: animals including	Physics: electricity	Biology: living things &	Physics: light	Biology: evolution &
humans	3	their habitats	3	inheritance
-Revise prior knowledge of	-Revise prior knowledge of	-Revise prior knowledge of	-Revise prior knowledge of	-Revise prior knowledge of
the human body from Y3, Y4	electricity from Y4.	living things from Y3, Y4 and	light from Y3.	fossilisation from Y3.
and Y5.	-Associate the brightness	Y5.	-Recognise that light	-Recognise that living things



Year 6

Identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood.

-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. of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit.

-Compare and give reasons

-Compare and give reasons for variations in how components function, including the brightness of a bulb, the loudness of buzzers and the on/off position of switches.

-Use recognised symbols when representing a simple circuit in a diagram.

-Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.

-Give reasons for classifying plants and animals based on specific characteristics.

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 of from light sources to objects then to our eyes.

-Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
-Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.