

Progression of skills in Scientific Knowledge EYFS, KSI and KS2

EYFS Understanding	National curriculum KSI	Year I	Year 2	Year 3	Year 4	Year 5	Year 6
the world	and 2 Coverage						
Me, my family and	Animals Including Humans	Pupils should be taught	Pupils should be taught	Pupils should be	Pupils should be taught	Pupils should be taught	Pupils should be taught
my school		to:	to:	taught to:	to:	to:	to:
		• identify and name a	 notice that animals, 	 identify that 	 describe the simple 	 describe the changes as 	 identify and name
Harvest		variety of common	including humans,	animals, including	functions of the basic	humans develop to old	the main parts of
		animals including	have offspring	humans, need the	parts of the digestive	age	the human
Mini beast hunt		fish, amphibians,	which grow into	right types and	system in humans		circulatory system,
		reptiles, birds and	adults	amount of	• identify the different		and describe the
		mammals	• find out about and	nutrition, and that	types of teeth in		functions of the
		• identify and name a	describe the basic	they cannot make	humans and their		heart, blood vessels
		variety of common	needs of animals,	their own food;	simple functions		and blood
		animals that are	including humans,	they get nutrition	• construct and interpret		• recognise the impact
		carnivores, herbivores	for survival (water,	from what they	a variety of food		of diet, exercise,
		and omnivores	food and air)	eat	chains, identifying		drugs and lifestyle
		describe and compare	_	identify that humans and some	producers, predators		on the way their
		the structure of a	importance for	other animals have	and prey		bodies function
		variety of common animals (fish,	humans of exercise,	skeletons and			describe the ways in which nutrients and
		amphibians, reptiles,	eating the right amounts of	muscles for			water are
		birds and mammals	different types of	support, protection			transported within
		including pets)	food, and hygiene	and movement			animals, including
		• identify, name,	Jood, and riggiene	ditor intoventent			humans
		draw and label the					1 00011 0001 03
		basic parts of the					
		human body and say					
		which part of the					
		body is associated					
		with each sense					
Harvest	Living things and their		Pupils should be taught		Pupils should be taught	Pupils should be taught	Pupils should be taught
	habitats		to:		to:	to:	to:
Compare and			 explore and compare 		 recognise that living 	 describe the 	 describe how living
contrast environments			the differences		things can be grouped	differences in the life	things are classified
 polar region, desert, 			between things that		in a variety of ways	cycles of a mammal,	into broad groups
jungle, under the sea			are living, dead, and		 explore and use 	an amphibian, an	according to common
and space					classification keys to	insect and a bird	observable

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Planting and growing Plants	things that have never been alive identify that most living things live is habitats to which they are suited at describe how different habitat provide for the beneeds of different kinds of animals and plants, and they depend on ear other identify and nan variety of plants and animals in the habitats, including microhabitats describe how animobtain their food from plants and other animals, us the idea of a sime food chain, and identify and nan different sources food Pupils should be taught. Pupils should be taught.	local and wider environment recognise that environments car change and that can sometimes po dangers to living ow ch e a eir als ng ole e of	riety of of reproduction in some plants and animals n t this	characteristics and based on similarities and differences, including micro-organisms, plants and animals give reasons for classifying plants and animals based on specific characteristics
Planting and growing Plants plants	Pupils should be taught to: • identify and name a variety of common wild and garden plants, including • Pupils should be taught to: • observe and descriptor how seeds and burger grow into mature plants	bs describe the		

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Explore changing states of matter Explore materials and	Everyday Materials Pupils should be taught to: distinguish between an object and the	Uses of Everyday Materials Pupils should be taught to: • identify and	water, nutrients from soil, and room to grow) and how they vary from plant to plant • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal Rocks Pupils will continue their work on materials learning specifically about rocks	States of Matter Pupils should be taught to: compare and group materials together,	Properties and Changes of Materials Pupils should be taught to: • compare and group	
textures	 material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, 	compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock,	this year. Pupils should be taught to: compare and group together different kinds of rocks on the basis of their	according to whether they are solids, liquids or gases • observe that some materials change state when they are heated or cooled, and measure	together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical	



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metal, water, and	paper and cardboard	appearance and	or research the	and thermal), and	
rock	for particular uses	simple physical	temperature at which	response to magnets	
 describe the simple 	 find out how the 	properties	this happens in degrees	 know that some 	
physical properties of	shapes of solid	 describe in simple 	Celsius (°C)	materials will dissolve	
a variety of	objects made from	terms how fossils	 identify the part 	in liquid to form a	
everyday materials	some materials can	are formed when	played by evaporation	solution, and describe	
 compare and group 	be changed by	things that have	and condensation in the	how to recover a	
together a variety of	squashing, bending,	lived are trapped	water cycle and	substance from a	
everyday materials	twisting and	within rock	associate the rate of	solution	
on the basis of their	stretching	 recognise that soils 	evaporation with	 use knowledge of solids, 	
simple physical		are made from	temperature	liquids and gases to	
properties		rocks and organic		decide how mixtures	
		matter		might be separated,	
				including through	
				filtering, sieving and	
				evaporating	
				• give reasons, based on	
				evidence from	
				comparative and fair	
				tests, for the	
				particular uses of	
				everyday materials,	
				including metals, wood	
				and plastic	
				demonstrate that	
				dissolving, mixing and	
				changes of state are	
				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	
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						and the action of acid	
						on bicarbonate of soda	
Walks to Brookvale	Seasonal Changes	Pupils should be taught					
Park every term to		to:					
observe seasonal		 observe changes 					
changes.		across the 4 seasons					
		 observe and describe 					
		weather associated					
		with the seasons and					
		how day length					
		varies					
	Evolution and Inheritance			Rocks			Pupils use their previous
				Pupils should be			knowledge of fossils
				taught to:			from year three where
				 compare and group 			they look closely at how
				together different			fossils are studied to
				kinds of rocks on			identify changes in
				the basis of their			animals over time.
				appearance and			Pupils should be taught
				11			'
				simple physical			to:
				properties			• recognise that living
			ľ	• describe in simple			things have changed
				terms how fossils			over time and that
				are formed when			fossils provide
				things that have			information about
				lived are trapped			living things that
				within rock			inhabited the Earth
				recognise that soils			millions of years ago
				are made from			 recognise that living
				rocks and organic			things produce
				matter			offspring of the
							same kind, but
							normally offspring
							vary and are not

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			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
Explore magnets Forces and Magnets	Pupils should be taught to: 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	Pupils should be taught to: • 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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	 describe magnets as having 2 poles predict whether 2 magnets will 	
	attract or repel each other,	
	depending on which	
	poles are facing	
Explore light and Light	Pupils should be	Pupils should be taught
colour	taught to:	to:
	recognise that they	 recognise that light
	need light in order	appears to travel in
	to see things and	straight lines
	that dark is the	• use the idea that
	absence of light	light travels in
	notice that light is	straight lines to
	reflected from	explain that objects
	surfaces	are seen because they
	recognise that light	give out or reflect
	from the sun can	light into the eye
	be dangerous and	explain that we see
	that there are ways	things because light
	to protect their eyes	travels from light
	recognise that	sources to our eyes
	shadows are	or from light sources
	formed when the	to objects and then
	light from a light	to our eyes
	source is blocked by	• use the idea that
	an opaque object	light travels in
	• find patterns in	straight lines to
	the way that the	explain why shadows
	size of shadows	have the same shape
	change	as the objects that
		cast them



Flortwicitu	Pupils should be taught	Pupils should be taught
Electricity		
	to:	to:
	• identify common	• associate the
	appliances that run on	brightness of a lamp
	electricity	or the volume of a
	• construct a simple series	buzzer with the
	electrical circuit,	number and voltage
	identifying and naming	of cells used in the
	its basic parts,	circuit
	including cells, wires,	 compare and give
	bulbs, switches and	reasons for
	buzzers	variations in how
	identify whether or not	components function,
	a lamp will light in a	including the
	simple series circuit,	brightness of bulbs,
	based on whether or	the loudness of
	not the lamp is part of	buzzers and the
	a complete loop with a	on/off position of
	battery	switches
	 recognise that a switch 	 use recognised
	opens and closes a	symbols when
	circuit and associate	representing a simple
	this with whether or	circuit in a diagram
	not a lamp lights in a	
	simple series circuit	
	• recognise some common	
	conductors and	
	insulators, and	
	associate metals with	
	being good conductors	
Earth and Space	Pupils should be taught	
	to:	
	describe the movemen	
	of the Earth and	

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		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	
Sound	Pupils should be taught to: • 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		
Scientists and Inventors	Pupils should be taught	Pupils should be taught	Pupils should be	Pupils should be taught	Pupils should be taught	Pupils should be taught
	to:	to:	taught to:	to:	to:	to:
	·identify and name a	· find out and describe	\cdot explore the	·recognise that	·describe the differences	·give reasons for
	variety of common	how plants need	requirements of	environments can change	in the life cycles of a	classifying plants and
	wild and garden	water, light and a	plants for life and	and that this can	mammal, an amphibian,	animals based on
	plants, including	suitable temperature to	growth (air, light,	sometimes pose dangers to	an insect and a bird;	specific characteristics;
	deciduous and	grow and stay	water, nutrients	living things;	·compare and group	·identify and name the
	evergreen trees;	healthy;	from soil, and room	·identify the different	together everyday	main parts of the
	· describe and compare	· describe how animals	to grow) and how	types of teeth in humans	materials on the basis of	human circulatory
	the structure of a	obtain their food	they vary from plant	and their simple	their properties,	system, and describe
	variety of common	from plants and other	to plant;	functions;	including their hardness,	the functions of the
	animals (fish,	animals, using the	·identify that	· compare and group	solubility, transparency,	heart, blood vessels
	amphibians, reptiles,	idea of a simple food	humans and some	materials together,	conductivity (electrical	and blood;
	birds and mammals	chain, and identify	other animals have	according to whether	and thermal), and	•recognise the impact
	including pets);	and name different	skeletons and muscles	they are solids, liquids or	response to magnets;	of diet, exercise, drugs
	·identify, name, draw	sources of food;	for support,	gases;	•use knowledge of solids,	and lifestyle on the
	and label the basic	· describe the	protection and	• observe that some	liquids and gases to	way their bodies
	parts of the human	importance for	movement;	materials change state	decide how mixtures	function;
	body and say which part of the body is	humans of exercise, eating the right	compare and group together different	when they are heated or cooled, and measure or	might be separated, including through	recognise that living things have changed
	associated with each	amounts of different	kinds of rocks on the	research the temperature	filtering, sieving and	over time and that
	sense;	types of food, and	basis of their	at which this happens in	evaporating;	fossils provide
	· describe the simple	hygiene;	appearance and	degrees Celsius (°C);	· describe the movement	information about
	physical properties of	·identify and compare	simple physical	·recognise that vibrations	of the Earth, and other	living things that
	a variety of everyday	the suitability of a	properties;	from sounds travel	planets, relative to the	inhabited the Earth
	materials;	variety of everyday	· describe in simple	through a medium to the	Sun in the solar system;	millions of years ago;
	·compare and group	materials, including	terms how fossils are	ear;	· find out about the work	·use recognised symbols
	together a variety of	wood, metal, plastic,	formed when things	·identify common	of naturalists and	when representing a
	everyday materials on	glass, brick, rock,	that have lived are	appliances that run on	animal behaviourists	simple circuit in a
	the basis of their		trapped within rock;	electricity;	(non-statutory);	diagram.

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simple physical properties; • observe and describe weather associated with the seasons and how day length varies.	paper and cardboard for particular uses; • find out about people who have developed new materials (non- statutory).	 notice that light is reflected from surfaces; observe how magnets attract or repel each other and attract some materials and 	 construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers; recognise that a switch 	•describe how scientific ideas have changed over time (non-statutory).
now day length varies.	statutory).		·recognise that a switch opens and closes a circuit	
			and associate this with whether or not a lamp lights in a simple series circuit.	

Physics

Chemistry