Science Curriculum Progression- knowledge

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	Children know about	Identify and name	Observe and	Identify and describe the	Recognise that living	Describe	Describe how
	similarities and	a variety of	describehow seeds	functions of different parts	things can be grouped in	the life	living things are
	differences in relation	common wild and	and bulbs grow	offlowering plants: roots,	a variety ofways. (Y4 -	process of	classified into
	toplaces, objects,	garden plants,	into mature	stem/trunk, leaves and	Living things and their	reproductio	broad groups
	materials and living	including deciduous	plants.	flowers.	habitats)	n in some	according to
	things. They talk	and evergreen trees.				plants and	common
	about the features of		Find out and	Explore the requirements	Explore and use	animals.	observable
	their own immediate	Identify and	describe how	of plants for life and	classification keys to help	(Y5 - Living	characteristics
	environment and	describe the basic	plants need water,	growth (air, light, water,	group, identify and	things and	and based on
	how environments	structure of a	light and a suitable	nutrients from soil, and	name a variety of living	their	similarities and
	might vary from one	variety of common	temperature to	room to grow) and how	things in their local and	habitats)	differences,
	another. They make	flowering plants,	grow and stay	they vary from plant to	wider environment. (Y4 -		including micro-
	observations of	including trees.	healthy.	plant.	Living things and their		organisms, plants
	animals and plants				habitats)		and animals. (Y6 –
	and explain why		Identify and name	Investigate the way in			Living things and
	some things occur		a variety of plants	which water is	Recognise that		their habitats)
	and talk about		and animals in	transported within	environments can		
	changes.		their habitats,	plants.	change and that this		Give reasons for
			including		cansometimes pose		classifying plants
			microhabitats. (Y2	Explore the part that	dangers to living things.		and animals based
			- Living things and	flowers play in the life	(Y4 - Living things and		on specific
			their habitats)	cycle of flowering plants,	their habitats)		characteristics. (Y6
				including pollination, seed			- Living things and
				formation and seed			their habitats)
				dispersal.			
Vocab		Leaf, flower, blossom,	As for Year 1 plus	Photosynthesis, pollen,			
		petal, fruit, berry, root.	light, shade, sun, warm,	insect/wind pollination, seed			
		seed, trunk, branch,	cool, water, grow,	formation, seed			
		stem, bark, stalk, bud	healthy	dispersal (wind dispersal,			
		Names of trees in the		animal dispersal, water			
		local area		dispersal)			
		Names of garden and					
		wild flowering plants					
		in					
		the local area					

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Living things	Children know	Identify and name a	Explore and compare	Explore the	Recognise that	Describe the	Describe how
andtheir	about similarities	variety ofcommon wild	the differences between	part that	living things can be	differences	living things are
habitats	and differences	and garden plants,	thingsthat are living,	flowers	grouped in a variety	inthe life	classified into
	in relation to	including deciduous and	dead, and things that	play in the	of ways.	cycles of a	broad groups
	places, objects,	evergreen trees. (Y1 -	have never beenalive.	life cycle of		mammal, an	according to
	materials and	Plants)		flowering	Explore and use	amphibian,	common
	living things.		Identify that most living	plants,	classification keys	an insect	observable
		Identify and describe the	things live in habitats to	including	to help group,	and abird.	characteristics
	They talk about	basicstructure of a variety	which they are suited and	pollination,	identify and name a		and based on
	the features of	of common flowering	describe how different	seed	variety of living	Describe the	similarities and
	their own	plants, including trees. (Y1	habitats providefor the	formation	things in their local	life process	differences,
	immediate	- Plants)	basic needs of different	andseed	and wider	of	including
	environment and		kinds of animals and	dispersal.	environment.	reproduction	microorganisms,
	how environments	Identify and name a	plants, and how they	(Y3		insome	plants and
	might vary from	variety of common animals	depend oneach other.	- Plants)	Recognise that	plants and	animals.
	one another.	including fish, amphibians,			environments can	animals.	
		reptiles, birds and	Identify and name a		change and that this		Give reasons for
	They make	mammals. (Y1 - Animals	variety ofplants and		can sometimes pose		classifying plants
	observations of	including humans)	animals in their habitats,		dangersto living		and animals based
	animals and		including microhabitats.		things.		on specific
	plants and	Identify and name a					characteristics.
	explain why	variety of common	Describe how animals		Construct and		
	some things	animals that are	obtaintheir food from		interpret a variety of		
	occur and talk	carnivores, herbivores	plants and other		food chains,		
	about changes.	and omnivores. (Y1 -	animals, using the idea		identifying		
		Animals including	of a simple food chain,		producers, predators		
		humans)	and identify and name		and prey. (Y4		
		Describe and compare	different sources of food.		- Animals,		
		Describe and compare	Notice that animals,		including humans)		
		the structure of a variety of common animals (fish,			nunians)		
			including humans, have offspring which grow into				
		amphibians, reptiles, birds andmammals,	adults. (Y2 - Animals				
		including pets). (Y1 –	including humans)				
		Animals, including					
		humans)					
		Observe changes across the					

four seasons. (Y1 - Seasonal change)			
Vocab Living, dead, never been alive, suitable, basic needs, food, food chain, shelter, move, feed • Names of local habitats e.g. pond, woodland etc. • Names of micro-habitats e.g. under logs, in bushes etc.	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate	sexual, sperm, fertilises, egg, live young,	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non- flowering

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animal	Children	Identify and name a	Notice that animals,	Identify that	Describe the	Describe the	Identify and name the
S-	know	variety of common	including humans, have	animals,	simple functions of	changes as	mainparts of the
includi	about	animals including fish,	offspring which grow into	including	the basicparts of	humans	human circulatory
ng	similarities	amphibians, reptiles, birds	adults.	humans, need	the digestive	developto	system, and describe
human	and	and mammals.		the right types	system in humans.	old age.	the functions of the
S	differences		Find out about and	and amount of			heart, blood vessels
	in relation	Identify and name a variety of	describe the basic needs	nutrition, and	Identify the different	Describe the	andblood.
	to places,	common animals that are	of animals, including	thatthey	types of teeth in	differences	
	objects,	carnivores, herbivores and	humans, for survival	cannot make	humans and their	inthe life	Recognise the impact
	materials	omnivores.	(water, food and air).	their own food;	simple functions.	cycles of a	of diet, exercise,
	and living			they get		mammal, an	drugs and lifestyle on
	things.	Describe and compare the	Describe the importance	nutritionfrom	Construct and	amphibian,	the way theirbodies
	They talk	structure of a variety of	for humans of exercise,	what they eat.	interpret a variety of	an insect	function.
	about the	common animals (fish,	eating theright amounts		food chains,	and abird.	
	features of	amphibians, reptiles, birds and	of different types of food,	Identify that	identifying	(Y5 - Living	Describe the ways in
	their own	mammals, including pets).	and hygiene.	humans and	producers, predators	things and	which nutrients and
	immediate	The state of the second s		some other	and prey.	their	water are transported
	environme	Identify, name, draw and		animals have		habitats)	within animals,
	nt and how	label the basic parts of the		skeletons and muscles for		Describe the	including humans.
	environme	human body andsay which part of the body is				life process	Describe how living
	ntsmight	associated with each sense.		support, protection and		of	things are classified
	vary from	ussociated with each sense.		movement.		reproduction	into broad groups
	one			movement.		insome	according to common
	another.					plants and	observable
	ano men					animals. (Y5	characteristics and
	They					- Living	based on similarities
	make					things and	and differences,
	observatio					their	including micro-
	ns of					habitats)	organisms, plants and
	animals						animals. (Y6 - Living
	and plants						things and their
	and						habitats)
	explain						
	why some						Give reasons for
	things						classifyingplants and
	occurand						animals based on
	talk about						specific characteristics.
	changes.						

						(Y6 - Living things and
						their
						habitats)
Voca	Head, body, eyes, ears, mouth,	Offspring, reproduction,	Nutrition,	Digestive system,	Puberty — the	Heart, pulse, rate,
D	teeth, leg, tail, wing, claw, fin, scales,	growth, child, young/old stages	nutrients,	digestion, mouth, teeth,	vocabulary to	pumps, blood, blood vessels,
	feathers, fur, beak, paws, hooves	(examples - chick/hen,	carbohydrates,	saliva, oesophagus,	describe sexual	transported, lungs, oxygen,
	\cdot Names of animals experienced	baby/child/adult,	sugars, protein,	stomach, small	characteristics	carbon dioxide, nutrients,
	first-hand from each vertebrate	caterpillar/butterfly),	vitamins, minerals,	intestine, nutrients,		water,
	group	exercise, heartbeat,	fibre, fat, water,	large		muscles, cycle, circulatory
	 Parts of the body including those 	breathing, hygiene, germs,	skeleton, bones,	intestine, rectum, anus,		system, diet, exercise,
	linked to PSHE	disease,	muscles, support,	teeth, incisor, canine,		drugs, lifestyle
	 Senses – touch, see, smell, taste, 	food types (examples — meat,	protect, move,	molar, premolars,		
	hear, fingers (skin), eyes, nose, ear	fish, vegetables, bread, rice,	skull, ribs, spine,	herbivore, carnivore,		
	and tongue	pasta)	muscles, joints	omnivore, producer,		
				predator, prey, food		
				chain		

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evolution	Children know		Identify that	Describe in	Recognise that		Recognise that living
and	about similarities		most living things	simple terms how	environments		things have changed
inheritance	and differences in		live in habitats	fossils areformed	can change and		over time and that fossils
	relation to places,		to which they are	when things that	that this can		provide information
	objects, materials		suited and	have lived are	sometimes pose		about living things that
	and living things.		describe how	trapped within	dangers to living		inhabited the Earth
	They talk about		different habitats	rock. (Y3 - Rocks)	things. (Y4 -		millions of years ago.
	the features of		provide for the		Living things		
	their own		basic needs of		and their		Recognise that living
	immediate		different kinds of		habitats)		things produce offspring of
	environment and		animals and				the same kind, but
	how environments		plants, and how				normally offspring vary
	might vary from		they depend on				and arenot identical to
	one another. They		each other.(Y2 -				their parents.
	make observations		Living things and				
	of animals and		their habitats)				Identify how animals and
	plants and explain						plants are adapted to
	why some things						suit their environment in
	occur and talk						different ways and that
	about changes.						adaptation may lead to
	_						evolution.
Vocab							Offspring, sexual
							reproduction, vary,
							characteristics, suited,
							adapted, environment,
							inherited, species, fossils

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal change	Children know	Observe		Recognise that		Use the idea of	
	about similarities	changes across		light from the		the Earth's	
	and differences in	the four		sun can be		rotation to	
	relationto places,	seasons.		dangerous and		explain day and	
	objects, materials			that there are		night and the	
	and living things.	Observe and		ways to protect		apparent	
	They talk about	describe weather		their eyes. (Y3 -		movement of the	
	the features of	associated with		Light)		Sun across the	
	their own	the seasons and		-		sky. (Y5 - Earth	
	immediate	how day length				and space)	
	environment and	varies.					
	how environments						
	might vary from						
	one another. They						
	make observations						
	of animals and						
	plants and explain						
	why some things						
	occur and talk						
	about changes.						
Voca		Weather					
b		(sunny, rainy,					
		windy, snowy					
		etc.)					
		• Seasons					
		(winter,					
		summer,					
		spring,					
		autumn)					
		• Sun, sunrise,					
		sunset, day length					

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Yec 6
Material s	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 environment s might vary from one another. They make observation s of animals and plants and explain why some things occur and talk about changes.	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. 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.	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from somematerials can be changed by squashing, bending, twisting and stretching.	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Y3 - Rocks) Describe in simple terms howfossils are formed when things that have lived are trapped within rock. (Y3 - Rocks) Notice that some forces need contact between two objects, but magnetic forces can act at a distance. (Y3 - Forces and magnets)	Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change state whenthey are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	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. 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. 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 and the action of acid on bicarbonate of soda.	
Vocab		Object, material, wood,	Names of materials – wood,		Solid, liquid, gas,	Thermal/electrical insulator/conductor,	
		plastic, glass, metal,	metal, plastic, glass, brick,		state change,	change of state, mixture, dissolve,	

water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber,	rock, paper, cardboard Properties of materials – as for Year 1 plus opaque,	melting, freezing, melting point, boiling point,	solution, soluble, insoluble, filter, sieve, reversible/non- reversible change, burning, rusting, new
wool, clay, hard, soft, stretchy,	transparent and translucent, reflective, nonreflective,	evaporation, temperature,	material Common misconcepti
stiff, bendy, floppy, waterproof, absorbent,	flexible, rigid Shape, push/pushing,	water cycle	
breaks/tears, rough, smooth, shiny, dull, see-through, not	pull/puling, twist/twisting, squash/squashing,		
see-through	bend/bending, stretch/stretching		

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Rocks	Children know	Distinguish between	Identify and	Compare and			Recognise that
	about similarities	an object and the	compare the	group together			living things
	and differences in	material from which	suitability of a	different kinds of			have changed
	relation to places,	it is made. (Y1 -	variety of	rocks on the basis			over time and
	objects, materials	Everyday materials)	everyday	of their			that fossils
	and living things.		materials,	appearance and			provide
	They talk about the	Identify and name	including wood,	simplephysical			information
	features of their own	a variety of	metal, plastic,	properties.			about living
	immediate	everyday	glass, brick, rock,				things that
	environment and	materials, including	paper and	Describe in simple			inhabited the
	how environments	wood, plastic,	cardboard for	terms how fossils			Earth millions of
	might vary from one	glass, metal,	particular uses.	areformed when			years ago. (Y6 -
	another. They make	water, and rock.	(Y2 - Uses of	things that have			Evolution and
	observations of	(Y1 - Everyday	everyday	lived are trapped			inheritance)
	animals and plants	materials)	materials)	within rock.			
	and explain why						
	some things occur	Describe the simple		Recognise that			
	and talk about	physical properties of		soils are made			
	changes.	a variety of		from rocksand			
		everyday materials.		organic matter.			
		(Y1 - Everyday					
		materials)					
		Compare and group					
		together a variety of					
		everyday materials					
		on the basis of their					
		simplephysical					
		properties. (Y1 -					
		Everyday materials)					
Vocab				Rock, stone,			
				pebble, boulder,			
				grain, crystals,			
				layers, hard, soft,			
				texture, absorb			
				water, soil, fossil,			
				marble, chalk,			
				granite, sandstone,			

		slate, soil, peat, sandy/chalk/clay soil		

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Light	Children know	Identify, name,		Recognise that			Recognise that
	about	draw and label		they need light in			light appears to
	similarities and	the basic parts of		order to see things			travel in straight
	differences in	the human body		and that dark is			lines.
	relation to	and say which		the absence of			
	places, objects,	part of the body		light.			Use the idea that
	materials and	is associated with					light travels in
	living things.	eachsense. (Y1 -		Notice that light			straight lines to
	They talk	Animals,		is reflected from			explain that
	about the	including		surfaces.			objects are seen
	features of	humans)					because they give
	their own			Recognise that			out or reflect light
	immediate			light from the			into the eye.
	environment			sun can be			
	and how			dangerous and			Explain that we
	environments			that there are			see things because
	might vary			ways to protect			light travels from
	from one			their eyes.			light sources to
	another. They			J J			our eyes orfrom
	make			Recognise that			light sources to
	observations of			shadows are			objects and then
	animals and			formed when the			to our eyes.
	plants and			light from a light			5
	explain why			source is blocked			Use the idea that
	some things			by an opaque			light travels in
	occur and talk			object.			straight lines to
	about changes.			5			explain why
				Find patterns in			shadowshave the
				the way that the			same shape as
				size of shadows			the objects that
				change.			cast them.
Vocab			l I	Light, light source,			As for Year 3 -
				dark, absence of			Light, plus straight lines,
				light,			
				transparent,			light rays
				translucent,			
				opaque, shiny, matt,			
				surface,			

		shadow, reflect,		
		mirror, sunlight,		
		dangerous		

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit Forces	 EYFS 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. They make observations of animals and plants and explain whysome things occur and talk about changes. 	Tear I	Year 2 Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)	Year 3 Compare how things move on different surfaces. Notice that some forces need contact between two 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 two poles.	Year 4	Year 5 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 smallerforce to have a greater effect.	Year 6
				Predict whether two magnets willattract or repel each other, depending on which poles are facing.			
Vocab				Force, push, pull, twist, contact force, non-contact force, magneticforce, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole		Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears	

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sound					Identify how		
	Children know	Identify, name,			sounds are made,		
	about	draw and label			associatingsome		
	similarities and	the basic parts of			of them with		
	differences in	the human body			something		
	relation to	and say which			vibrating.		
	places, objects,	part of the body			5		
	materials and	is associated with			Recognise that		
	living things.	eachsense. (Y1 -			vibrations from		
	They talk	Animals,			sounds travel		
	about the	including			through a medium		
	features of	humans)			to the ear.		
	their own						
	immediate				Find patterns		
	environment				betweenthe pitch		
	and how				of a sound and		
	environments				features of the		
	might vary				object that		
	from one				produced it.		
	another. They				'		
	make				Find patterns		
	observations of				between the		
	animals and				volume of a sound		
	plants and				and the strength of		
	explain why				the vibrations that		
	some things				produced it.		
	occur and talk				1		
	about changes.				Recognise that		
	5				sounds get fainter		
					as the distance		
					from the sound		
					source increases.		
Vocab					Sound, source,		
					vibrate,		
					vibration, travel,		
					pitch (high,		
					low), volume,		
					faint, loud,		
					insulation		

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electricity	Children know				Identify common		Associate the
	about				appliances that run on		brightness of a
	similarities and				electricity.		lamp or the
	differences in				5		volume of a buzzer
	relation to				Construct a simple series		with the number
	places, objects,				electrical circuit, identifying		and voltage ofcells
	materials and				and naming its basic parts,		used in the circuit.
	living things.				including cells, wires, bulbs,		
	They talk				switches and buzzers.		Compare and give
	about the						reasons for
	features of				Identify whether or not a		variations in how
	their own				lamp willlight in a simple		components
	immediate				series circuit, based on		function, including
	environment				whether or not the lamp is		thebrightness of
	and how				part of a complete loop with		bulbs, the
	environments				a battery.		loudness of
	might vary				J		buzzers and the
	from one				Recognise that a switch		on/off position of
	another. They				opens and closes a circuit		switches.
	make				and associate this with		
	observations of				whether or not a lamp lights		Use recognised
	animals and				in a simple series circuit.		symbols when
	plants and						representing a
	explain why				Recognise some common		simple circuit in a
	some things				conductors and insulators,		diagram.
	occur and talk				and associate metals with		
	about changes.				being good		
					conductors.		
Vocab					Electricity, electrical appliance/device, mains, plug		Circuit, complete
						,	circuit, circuit
					electrical circuit, complete circuit,		diagram, circuit
					component, cell, battery,		symbol, cell,
					positive, negative,		battery, bulb, buzzer,
					connect/connections, loose		motor, switch,
					,		voltage
					connection, short circuit,		
					crocodile clip, bulb, switch, buzzer,		
					motor, conductor, insulator,		

	metal,	
	non-metal, symbo	

Unit	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Earth and space	Children know	Observe				Describe the	
	about similarities	changes across				movement of the	
	and differences in	the four				Earth, and other	
	relationto places,	seasons. (Y1 -				planets, relative	
	objects, materials	Seasonal				to the Sun in	
	and living things.	changes)				the solar system.	
	They talk about						
	the features of	Observe and				Describe the	
	their own	describe weather				movement of the	
	immediate	associated with				Moon relative to	
	environment and	the seasons and				the Earth.	
	how environments	how day length					
	might vary from	varies.(Y1 -				Describe the	
	one another. They	Seasonal changes)				Sun, Earth and	
	make observations					Moon as	
	of animals and					approximately	
	plants and explain					spherical	
	why some things					bodies.	
	occur and talk						
	about changes.					Use the idea of	
	Ĵ					the Earth's	
						rotation to	
						explain day and	
						night and the	
						apparent	
						movement of the	
						sun	
						across the sky.	
Vocab						Earth, Sun,	
l						Moon, (Mercury,	
						Jupiter, Saturn,	
						Venus, Mars,	
						Uranus,	
						Neptune),	
						spherical, solar	
						system,	
						rotates, star,	
						orbit, planets	