

## Year 4 Science progression document

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<u>Electricity</u>	Electricity	Living things and their	Animals including	States of Matter	<u>Sound</u>
E1: I can identify	E4: I can recognise	<u>habitats</u>	<u>humans</u>	M1: I can compare	S1: I can identify how
common appliances	that a switch opens	L1: I can recognise	A1: I can describe the	and group materials	sounds are made,
that run on	and closes a circuit	that living things can	simple functions of	together, according	associating some of
electricity.	and associate this	be grouped in a	the basic parts of the	to whether they are	them with something
	with whether or not a	variety of ways	digestive system in	solids, liquids or	vibrating.
E2: I can construct a	lamp lights in a		humans.	gases.	
simple series	simple series circuit.	L1: I can explore and			S2: I can recognise
electrical circuit,		use classification keys	A2:I can identify the	M2: I can observe	that vibrations from
identifying and	E5: I can recognise	to help group,	different types of	that some materials	sounds travel through
naming its basic	some common	identify and name a	teeth in humans and	change state when	a medium to the ear.
parts, including cells,	conductors and	variety of living things	their simple functions	they are heated or	
wires, bulbs, switches	insulators, and	in their local and		cooled, and measure	S3: I can find patterns
and buzzers.	associate metals with	wider environments.	A3: I can construct	or research the	between the pitch of
	being good		and interpret a	temperature at which	a sound and features
E3: I can identify	conductors.	L3: I can recognise	variety of food	this happens in	of the object that
whether or not a		that environments	chains, identifying	degrees Celsius (°C).	produced it.
lamp will light in a		can change and that	producers, predators		S4: I can find patterns
simple series circuit,		this can sometimes	and prey.	M3: I can identify the	between the volume
based on whether or		pose dangers to living		part played by	of a sound and the
not the lamp is part		things.		evaporation and	strength of the
of a complete loop				condensation in the	vibrations that
with a battery.				water cycle and	produced it.
				associate the rate of	

				evaporation with temperature.	S5: I can recognise that sounds get fainter as the distance from the sound source increases.
<u>Scientists to study:</u> Thomas Edison	Scientists to study: Lewis Latimer (A Scientist who invented the carbon filament, which made lightbulbs more useful.)	<u>Scientists to study:</u> Cindy Looy (Environmental change and extinction)	Scientists to study: Modern: Paul Sharpe (Bioengineer who studies how to regrow teeth if they become damaged) Historical: William Beaumont (Surgeon who first observed and studied human digestion as it occurs in the stomach).	Scientists to study: Anders Celsius (A scientist who invented the Celsius temperature scale).	Scientists to study: Aristotle (A philosopher who developed the concept that sound travels through the air due to the movement of air particles).
Working scientifically skills . Making observations Communicating results Asking questions Observing Setting up a test	Working scientifically skills Making observations Communicating results Asking questions Observing Setting up a test	Working scientifically skills Asking questions and communicating information. Making observations and recording information.	Working scientifically skills Making observations. Asking questions, setting up tests and recording data. Making observations, naming and identifying. Researching	Working scientifically skills Asking questions and making predictions. Setting up tests. Making observations over time. Fair testing. Communicating information.	Working scientifically skills Asking questions and making observations. Making observations, recording data and evaluating. Measuring. Recording data. Communicating results.

			Presenting information		
	5	ubject specific vocabular	У		
Appliances Cells (batteries) Wires Switches Circuit Series Parallel Buzzers Bulbs Mains electricity	Appliances Cells (batteries) Wires Switches Circuit Series Parallel Buzzers Bulbs Mains electricity Insulators Conductors	Fish, reptiles, mammals, birds, amphibians, insects Environment Habitat Variety Classification Vertebrate Invertebrate Exo skeleton Human impact Positive Negative	Mouth Tongue Teeth Canine Incisor Molar Oesophagus Stomach Small intestine Large intestine Digestive system Function Herbivore Carnivore Omnivore Food chain Producers Predators	Solid Liquid Gas Temperature Heating Freezing point Boiling point Particles Evaporation Condensation Thermometer Thermal insulation Degrees Celsius	Volume Vibration Sound wave Loud Soft Pitch Tone Speaker Amplitude Frequency Travel Fainter Distance

Term:	Unit:	Key end points:	Prior learning:	Future learning:	Common
					misconceptions:

Autumn	Electricity	By the end of this unit children will be able		Associate the brightness of a	Some children may think:
		to:		lamp or the loudness of a	Electricity flows to bulbs,
		Talk about objects that use electricity.		buzzer with the number and	not through them.
		Talk about how electricity is used to produce		voltage of cells used in the	Electricity flows out of
		heat, warmth, movement and light and give		circuit. (Y6 – Electricity)	both ends of a battery.
		examples.		Compare and give reasons	Electricity simply works
		Make an electrical circuit and name the		for variations in how	by simply coming out of
		components.		components function,	one end of a battery into
		Control a circuit using a switch.		including the brightness of	the component.
		Identify and classify conductors and		bulbs, the loudness of	
		insulators.		buzzers and the on/off	
		Research how electricity is produced in a		position of switches. (Y6 –	
		variety of ways.		Electricity)	
				Used recognised symbols	
				when representing a simple	
				circuit diagram. (Y6 –	
				Electricity)	
Spring 1	Living things	By the end of this unit children will be able	Identify and name a variety of	Describe the differences in	Some children may think:
	and their	to:	common wild and garden	the life cycles of a mammal,	The death of one or the
	habitats.	Talk about and describe a range of habitats	plants, including deciduous	amphibian, an insect and a	parts of a food chain or
		and their plants and animals. (building on	and evergreen tress. (Y1 –	bird. (Y5 – Living things and	web has no or limited
		from Y2 work)	Plants)	their habitats)	consequences on the
		Compare animals and plants.	Identify and describe the basic	Describe the life processes	rest of the chain.
		Ack and answor yos (no quastions			
		Ask and answer yes/no questions.	structure of a variety of	of reproduction in some	There is always plenty of
		Identify plants and animals using a	structure of a variety of common flowering plants,	of reproduction in some plants and animals. (Y5 –	There is always plenty of food for wild animals.
		Identify plants and animals using a classification key.	structure of a variety of common flowering plants, including trees. (Y1 – Plants)	of reproduction in some plants and animals. (Y5 – Living things and their	There is always plenty of food for wild animals. Animals are only land-
		Identify plants and animals using a classification key. Group animals and plants in a variety of	structure of a variety of common flowering plants, including trees. (Y1 – Plants) Identify and name a variety of	of reproduction in some plants and animals. (Y5 – Living things and their habitats)	There is always plenty of food for wild animals. Animals are only land- living creatures.
		Identify plants and animals using a classification key. Group animals and plants in a variety of ways and give reasons.	structure of a variety of common flowering plants, including trees. (Y1 – Plants) Identify and name a variety of common animals including	of reproduction in some plants and animals. (Y5 – Living things and their habitats) Describe how living things	There is always plenty of food for wild animals. Animals are only land- living creatures. Animals and plants can
		Identify plants and animals using a classification key. Group animals and plants in a variety of ways and give reasons. Construct classification keys to help others	structure of a variety of common flowering plants, including trees. (Y1 – Plants) Identify and name a variety of common animals including fish, amphibians, reptiles,	of reproduction in some plants and animals. (Y5 – Living things and their habitats) Describe how living things are classified into broad	There is always plenty of food for wild animals. Animals are only land- living creatures. Animals and plants can adapt to their habitats,
		Identify plants and animals using a classification key. Group animals and plants in a variety of ways and give reasons. Construct classification keys to help others to identify animals and plants.	structure of a variety of common flowering plants, including trees. (Y1 – Plants) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 –	of reproduction in some plants and animals. (Y5 – Living things and their habitats) Describe how living things are classified into broad groups according to	There is always plenty of food for wild animals. Animals are only land- living creatures. Animals and plants can adapt to their habitats, however they change.
		Identify plants and animals using a classification key. Group animals and plants in a variety of ways and give reasons. Construct classification keys to help others to identify animals and plants. Construct and interpret a variety of food	structure of a variety of common flowering plants, including trees. (Y1 – Plants) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 – Animals including humans)	of reproduction in some plants and animals. (Y5 – Living things and their habitats) Describe how living things are classified into broad groups according to common observable	There is always plenty of food for wild animals. Animals are only land- living creatures. Animals and plants can adapt to their habitats, however they change. All changes to habitats
		Identify plants and animals using a classification key. Group animals and plants in a variety of ways and give reasons. Construct classification keys to help others to identify animals and plants. Construct and interpret a variety of food chains, identifying producers, predators and	structure of a variety of common flowering plants, including trees. (Y1 – Plants) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 – Animals including humans) Describe and compare the	of reproduction in some plants and animals. (Y5 – Living things and their habitats) Describe how living things are classified into broad groups according to common observable characteristics and based on	There is always plenty of food for wild animals. Animals are only land- living creatures. Animals and plants can adapt to their habitats, however they change. All changes to habitats are negative.
		Identify plants and animals using a classification key. Group animals and plants in a variety of ways and give reasons. Construct classification keys to help others to identify animals and plants. Construct and interpret a variety of food chains, identifying producers, predators and prey.	structure of a variety of common flowering plants, including trees. (Y1 – Plants) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 – Animals including humans) Describe and compare the structure of a variety of	of reproduction in some plants and animals. (Y5 – Living things and their habitats) Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences	There is always plenty of food for wild animals. Animals are only land- living creatures. Animals and plants can adapt to their habitats, however they change. All changes to habitats are negative.
		Identify plants and animals using a classification key. Group animals and plants in a variety of ways and give reasons. Construct classification keys to help others to identify animals and plants. Construct and interpret a variety of food chains, identifying producers, predators and prey.	structure of a variety of common flowering plants, including trees. (Y1 – Plants) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 – Animals including humans) Describe and compare the structure of a variety of common animals (fish,	of reproduction in some plants and animals. (Y5 – Living things and their habitats) Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences including micro-organisms,	There is always plenty of food for wild animals. Animals are only land- living creatures. Animals and plants can adapt to their habitats, however they change. All changes to habitats are negative.

		Give examples of how an environment has changed due to human impact or natural	mammals, including pets) (Y1 – Animals including humans)	Living things and their habitats)	
		phenomena.	Identify and name a variety of	Give reasons for classifying	
		' Talk about actions they could take to protect	plants and animals in their	plants and animals based on	
		our planet.	habitat including	' specific characteristics. (Y6 –	
			microhabitats. (Y2 – Living	Living things and their	
			things and their habitats.)	habitats)	
Spring 2	Animals	By the end of this unit children will be able	Identify and name a variety of	Identify and name the main	Some children may think:
	including	to:	common animals that are	parts of the human	Your stomach is where
	humans.	Talk about their teeth and how to care for	carnivores, herbivores and	circulatory system, and	your belly button is.
		them.	omnivores. (Y1 – Animals	describe the functions of the	Food is digested only in
		Describe the functions of the different types	including humans)	heart, blood vessels and	the stomach.
		of teeth.	Find out about and describe	blood. (Y6 – Animals	When you have a meal,
		Explain how food/drinks can affect teeth.	the basic needs of animals,	including humans)	your food goes down one
		Compare human teeth with those of other	including humans, for survival	Recognise the impact of	tube and your drink
		animals.	(water, food, air) (Y2 –	diet, exercise, drugs and	down another.
		Identify and name the main parts of the	Animals including humans)	lifestyle on the way their	The food you eat
		digestive system.	Describe the importance for	bodies function. (Y6 –	becomes 'poo' and the
		Order the main parts of the digestive	humans of exercise, eating the	Animals including humans)	drink becomes 'wee'.
		system.	right amounts of different	Describe the ways in which	
		Describe what happens in each part of the	food and hygiene. (Y2 –	nutrients and water are	
		digestive system.	Animals including humans)	transported within animals,	
		Explain how to keep their digestive system	Identify that animals including	including humans. (Y6 -	
		healthy.	humans, need the right types	Animals including humans)	
			and amount of nutrition, and		
			that they cannot make their		
			own food; they get nutrition		
			from what they eat. (Y3 –		
			Animals including humans)		
Summer 1	States of	By the end of this unit children will be able	Distinguish between an object	Compare and group	Some children may think:
	Matter	to:	and the material from which it	together everyday materials	Solid is another word for
		Talk about solids, liquids and gases.	is made. (Y1 – Everyday	on the basis of their	hard or opaque.
		Describe the properties of solids, liquids and	materials)	properties, including their	Solids are hard and
		gases.	Identify and name a variety of	hardness, solubility,	cannot break or change
		Describe what happens when objects melt,	everyday materials including	transparency, conductivity	shape easily and are
		freeze or solidify.	wood, plastic, glass, metal,	(electrical and thermal) and	often in one piece.

Cive eventday eventees of molting and the sustained reals (V1 Eventday response to megnetate	VE Substances made of yory
Give everyday examples of melting and water and rock. (Y1 – Everyday response to magnets	Substances made of very
freezing. (Properties of materials) Properties of materials	als) small particles like sugar
Talk about temperature being how hot or Describe the simple physical Know that some mat	erials or sand cannot be solids.
cold something is. properties of a variety of will dissolve in liquid	to form Particles in liquids are
Talk about how we measure temperature. everyday materials (Y1 – a solution, and descr	ibe how further apart than in
Measure temperature using a variety of Everyday materials) to recover a substant	ce from solids and they take up
thermometers. Compare and group together a solution. (Y5 – Prop	perties more space.
a variety of everyday materials of materials)	When air is pumped into
on the basis of their simple Use knowledge of so	lids, balloons, they become
physical properties. (Y1 – liquids and gases to d	decide lighter.
Everyday materials) how mixtures might	be Water in different forms
Identify and compare the separated, including	through – steam, water, ice – are
suitability of a variety of filtering, sieving and	all different substances.
everyday materials, including evaporating. (Y5 – Pr	operties All liquids boil at the
plastic, wood, metal, glass, and changes of mate	rials) same the temperature as
brick, rock, paper and Give reasons, based	on water (100 degrees)
cardboard. (Y2 – Uses of evidence from comp	arative Melting, as a change of
everyday materials) and fair tests, for the	state, is the same as
Find out how the shapes of particular uses of ever	eryday dissolving.
solid objects made from some materials, including r	netals, Steam is visible water
materials can be changed by wood and plastic. (Y	5 – vapour – (only the
squashing, bending, twisting Properties and change	ges of condensing water
and stretching. (Y2 – Uses of materials)	droplets can be seen)
everyday materials) Demonstrate that dis	ssolving. Clouds are made of
mixing and changes of	of state water vapour or steam.
are reversible change	es. (Y5 – The substance on
Properties and change	zes of windows etc. is
materials)	condensation rather
Explain that some ch	anges than water
result in the formation	on of The changing states of
new materials and t	hat this water (illustrated by the
kind of change is not	usually water cycle) are
	changes irreversible
associated with hum	ing and Evanorating or boiling
the action of acid on	water makes it vanish
	water makes it variisti.

				Properties and changes of	Evaporation is when the
				materials.)	Sun sucks up the water,
					or when the water is
					absorbed into a
					surface/material.
Summer 2	Sound	By the end of this unit children will be able	Identify, name, draw and label		Some children may think:
		to:	the basic parts of the human		Sound is only heard by
		Experience a variety of sounds around us,	body and say which part of the		the listener.
		observe and describe them,	body is associated with each		Sound only travels in one
		Order sounds in a variety of ways e.g.	sense. (Y1 – Animals including		direction from the
		loudest to quietest, highest to lowest.	humans)		source.
		Compare sounds using words and decibels.			Sound can't travel
		Explain how we use sounds in everyday life.			through solids and
		Be able to explain how sounds travels.			liquids.
		Describe how volume and pitch are			High sounds are loud and
		produced by a variety of simple instruments.			low sounds are quiet.
		Describe how sounds get fainter as the			
		distance from the sound source increases.			
		Explain how the ear works and how we can			
		protect our hearing.			