

## Long Term Individual Subject Curriculum Plan

Subject: Science

Links between our school vision and mathematics Belonging:

- **Inclusivity**: All students have access to science, fostering a sense of belonging.
- Collaboration: Teamwork in experiments helps students connect and work together.
- Active Participation: Hands-on, inquiry-based learning engages every student.

Serving:

- **Real-World Impact**: Science helps students apply knowledge to solve community and environmental issues.
- Critical Thinking: Students develop skills to make informed, responsible decisions.
- Social Responsibility: Topics like sustainability teach students to serve society and the planet.

Succeeding:

- Skill Development: Science nurtures key skills for academic and personal success.
- Curiosity: Encourages problem-solving and builds confidence through discovery.
- Celebrating Achievement: Success is recognised through exploration and progress.

		Scien	ce in Key Stages	1 and 2		
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y6 (Knowledge / Skills / Vocabulary)	Animals, including Humans - The Circulatory System - 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.	<ul> <li>Evolution and Inheritance</li> <li>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> </ul>	Living Things and their Habitats - Classification • 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.	Light and Astronomy • Recognise that light 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 or from light sources to objects and 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.	<ul> <li>Electricity <ul> <li>Associate the</li> <li>brightness of a lamp</li> <li>or the volume of a</li> <li>buzzer with the</li> <li>number and voltage</li> <li>of cells used in the</li> <li>circuit.</li> </ul> </li> <li>Compare and give <ul> <li>reasons for</li> <li>variations in how</li> <li>components</li> <li>function, including</li> <li>the brightness of</li> </ul> </li> <li>bulbs, the loudness <ul> <li>of buzzers and the</li> <li>on/off position of</li> <li>switches.</li> </ul> </li> <li>Use recognised <ul> <li>symbols when</li> <li>representing a</li> <li>simple circuit in a</li> <li>diagram.</li> </ul> </li> </ul>	Famous Scientists and Inventors

Skills –	Skills –	Skills –	Skills –	Skills –	Skills –
Recording data and	Identifying scientific	Recording data	Planning different	Planning different	Identifying
results of	evidence that has	and results of	types of scientific	types of scientific	scientific evidence
increasing	been used to	increasing	enquiries to answer	enquiries to	that has been used
complexity using	support or refute	complexity using	questions,	answer questions,	to support or
scientific diagrams	ideas or arguments	scientific	including	including	refute ideas or
and labels,	Children answer their	diagrams and	recognising and	recognising and	arguments
classification keys,	own and others'	labels,	controlling	controlling	Children talk about
tables, scatter	questions based on	classification	variables where	variables where	how their scientific
graphs, bar and line	observations they	keys, tables,	necessary	necessary	ideas change due to
graphs	have made,	scatter graphs,	Children	Given a wide range	new evidence that
The children decide	measurements they	bar and line	independently ask	of resources, the	they have gathered.
how to record and	have taken or	graphs	scientific questions,	children decide for	Children talk about
present evidence.	information they have	Children record	stimulated by a	themselves how to	how new
They record	gained from	classifications	scientific experience.	gather evidence to	discoveries change
measurements using	secondary sources.	using tables and	The children select	answer a scientific	scientific
tables and line	When doing this, they	classification keys.	from a range of	question.	understanding.
graphs.	discuss whether other	They record	practical resources to	Recording data and	
Planning different	evidence (from	measurements	gather evidence to	results of	
types of scientific	secondary sources	using tally charts.	answer their	increasing	
enquiries to answer	and their scientific	Planning	questions.	complexity using	
questions,	understanding)	different types of	Children select from	scientific diagrams	
including	supports or refutes	scientific	a range of practical	and labels,	
recognising and	their answer.	enquiries to	resources to gather	classification keys,	
controlling	Children talk about	answer	evidence to answer	tables, scatter	
variables where	how their scientific	questions,	their questions. They	graphs, bar and	
necessary	ideas change due to	including	carry out fair tests,	line graphs	
Children decide for	new evidence that	recognising and	recognising and	Children record	
themselves how to	they have gathered.	controlling	controlling variables.	observations using	
gather evidence to	Children talk about	variables where	They decide what	labelled scientific	
answer a scientific	how new discoveries	necessary	observations or	diagrams.	
question. They	change scientific	Children recognise	measurements to	Reporting and	
choose a type of	understanding.	how secondary	make over time and	presenting findings	
enquiry to carry out		sources can be	for how long.	from enquiries,	
and justify their		used to answer	Taking	including	
choice.		questions that	measurements,	conclusions,	
They carry out fair		cannot be	using a range of	causal	
tests, recognising		answered through	scientific	relationships and	
and controlling		practical work.	equipment, with	explanations of	

variables. They	increasing accuracy and degree of trust
decide what	and precision, in results, in oral
observations or	taking repeat and written forms
measurements to	readings when such as displays
make over time and	appropriate and other
for how long. They	Children select presentations
look for patterns and	measuring equipment In their conclusions,
relationships using a	to give the most children: identify
suitable sample.	precise result – a causal relationships
Children recognise	ruler. and patterns in the
how secondary	Recording data and natural world from
sources can be used	results of their evidence;
to answer questions	increasing identify results that
that cannot be	complexity using do not fit the overall
answered through	scientific diagrams pattern; and explain
their own practical	and labels, their findings using
work.	classification keys, their subject
Taking	tables, scatter knowledge.
measurements,	graphs, bars and Children evaluate,
using a range of	line graphs for example, the
scientific	The children record choice of method
equipment, with	observations using used, the control of
increasing	labelled diagrams. variables, the
accuracy and	Reporting and precision and
precision, taking	presenting findings accuracy or
repeat readings	from enquiries, measurements.
when appropriate	including Children identify any
During an enquiry,	conclusions, causal limitations that
children make	relationships and reduce the trust they
decisions as to	explanations of and have in their data.
whether they need to	degree of trust in Taking
take repeat readings	results, in oral and measurements,
to ensure fair testing.	written forms such using a range of
Ť	as displays and scientific
	other presentations equipment, with
	In their conclusions, increasing
	children: identify accuracy and
	causal relationships precision, taking
	and patterns in the

		natural worl their eviden identify resu do not fit the pattern; and their finding their subjec knowledge. Children communica findings to a audience us relevant sciu language ar illustrations. Using test make predi set up furth comparative fair tests Children us scientific kn gained from work to mak predictions can investig comparative tests.	Acce;when appropriateJlts thatDuring an enquiry, children makee overallDuring an enquiry, children maked explaindecisions as toys usingwhether they need to increase the sample size in order to get accurate data (closer to the true value).te theirusing test results to makeanUsing test results to makeentificpredictions to set up furtherndup further comparative and fair testschildren use the scientific knowledge ye andChildren use the scientific knowledge gained from enquiry work to makee the nowledge n enquirypredictions that they can investigate using comparative and fair tests.	
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	Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle	Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non- flowering	As for Year 3 - Light, plus straight lines, light rays	Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage	
Y5 (Knowledge / Skills / Vocabulary)	Living Things and Their Habitats • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • Describe the life process of reproduction in some plants and animals	<ul> <li>Properties and Chainer</li> <li>Compare and group materials on the basis including their hard transparency, conduct thermal), and responer</li> <li>Know that some materials on the basis including their hard thermal), and responer</li> <li>Know that some materials of the source of the</li></ul>	together everyday of their properties, dness, solubility, tivity (electrical and onse to magnets. erials will dissolve in n, and describe how ce from a solution. solids, liquids and mixtures might be through filtering, vaporating. d on evidence from sts, for the particular aterials, including and plastic. solving, mixing and eversible changes. hanges result in the erials, and that this usually reversible, pociated with burning I on bicarbonate of	<ul> <li>Earth and Space</li> <li>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</li> <li>Describe the movement of the Moon relative to the Earth.</li> <li>Describe the Sun, Earth and Moon as approximately spherical bodies.</li> <li>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</li> </ul>	<ul> <li>Forces <ul> <li>Explain that</li> <li>Explain that</li> </ul> </li> <li>explain that</li> <li>unsupported objects <ul> <li>fall towards the</li> <li>Earth because of the</li> <li>force of gravity</li> <li>acting between the</li> <li>Earth and the falling</li> <li>object.</li> </ul> </li> <li>Identify the effects <ul> <li>of air resistance,</li> <li>water resistance and</li> <li>friction, that act</li> <li>between moving</li> <li>surfaces.</li> <li>Recognise that</li> <li>some mechanisms,</li> <li>including levers,</li> <li>pulleys and gears,</li> <li>allow a smaller force</li> <li>to have a greater</li> <li>effect</li> </ul> </li> </ul>	Animals including Humans • Describe the changes as humans develop to old age.

Life cy	cle, reproduce,	Thermal/electrical insulator/conductor,	Earth, Sun, Moon,	Force, gravity, Earth,	Puberty – the
se	xual, sperm,	change of state, mixture, dissolve, solution,	(Mercury, Jupiter,	air resistance, water	vocabulary to
fertil	ises, egg, live	soluble,	Saturn, Venus, Mars,	resistance, friction,	describe sexual
	young,	insoluble, filter, sieve, reversible/non-	Uranus, Neptune),	mechanisms, simple	characteristics
me	tamorphosis,	reversible change, burning, rusting, new	spherical, solar	machines, levers,	
	ual, plantlets,	material	system,	pulleys, gears.	
	ners, bulbs,		rotates, star, orbit,	1 3 7 3	
	cuttings		planets		
Skills		Skills –	Skills –	Skills –	Skills –
Recor	ding data and	Recording data and results of increasing	Recording data and	Planning different	Recording data
result		complexity using scientific diagrams	results of	types of scientific	and results of
increa	isina	and labels, classification keys, tables,	increasing	enquiries to	increasing
comp	lexity using	scatter graphs, bar and line graphs	complexity using	answer questions,	complexity using
	tific diagrams	Record classifications using Venn	scientific diagrams	including	scientific diagrams
and la		diagrams, Carroll diagrams and	and labels,	recognising and	and labels,
	fication keys,	classification keys.	classification keys,	controlling	classification keys,
	s, scatter	They record observations using annotated	tables, scatter	variables where	tables, scatter
	s, bar and line	photographs, videos, labelled diagrams,	graphs, bar and line	necessary	graphs, bar charts
graph		observational drawings, labelled scientific	graphs	Children select from	and line graphs
Recor		diagrams or writing.	Children record	a range of practical	Children record
classif	ications using	Children decide how to record and present	observations using	resources to gather	observations in
Venn	diagrams.	evidence. They record measurements	videos.	evidence to answer	writing and in
	en present the	using tables.	Identifying	their questions. They	pictures.
	data in	Planning different types of scientific	scientific evidence	carry out fair tests,	Record
differe	nt ways in	enquiries to answer questions, including	that has been used	recognising and	classifications in
order	to help with	recognising and controlling variables	to support or refute	controlling variables.	Venn diagrams.
	ring questions.	where necessary	ideas or arguments	Recording data and	Children present the
	en record	Children independently ask scientific	Children answer	results of	same data in
measu	urements using	questions. They may be stimulated by a	questions based on	increasing	different ways in
bar ch	arts, line	scientific experience or involve asking	observations they	complexity using	order to help with
graphs	s and scatter	further questions based on their developed	have made and	scientific diagrams	answering
graphs		understanding following an enquiry.	measurements they	and labels,	questions.
	ing different	Using test results to make predictions to	have taken.	classification keys,	Children record
	of scientific	set up further comparative and fair tests	Reporting and	tables, scatter	measurements
enqui	ries to answer	Children use scientific knowledge gained	presenting findings	graphs, bar and	using bar charts,
quest	ions,	from enquiry work to make predictions they	from enquiries,	line graphs	line graphs and
incluc	ling	can investigate using comparative and fair	including	Children decide how	scatter graphs.
recog	nising and	tests.	conclusions, causal	to record and	Identifying
contro	olling		relationships and	present evidence.	scientific evidence

va	ariables where	Taking measurements, using a range of	explanations of and	They record	that has been used
ne	ecessary	scientific equipment, with increasing	degree of trust in	measurements using	to support or
Ch	hildren recognise	accuracy and precision, taking repeat	results, in oral and	tables.	refute ideas or
ho	ow secondary	readings when appropriate	written forms such	They record	arguments
SO	ources can be used	During the enquiry, children make decisions	as displays and	observations e.g.	Children answer
to	answer questions	as to whether they need to adjust the	other presentations	using annotated	questions based on
tha	at cannot be	observation period and frequency, in order	In their conclusions,	photographs, videos,	their observations
an	nswered through	to get accurate data.	children identify	labelled diagrams,	and information from
pra	actical work.	The children select measuring equipment to	causal relationships	observational	secondary sources.
		give the most precise results.	and patterns in the	drawings, labelled	Planning different
		Planning different types of scientific	natural world from	scientific diagrams	types of scientific
		enquiries to answer questions, including	their evidence.	or writing.	enquiries to
		recognising and controlling variables	Children encouraged	Taking	answer questions,
		where necessary	to check the	measurements,	including
		Children independently ask scientific	credibility of	using a range of	recognising and
		questions. This may be stimulated by a	secondary sources	scientific	controlling
		scientific experience or involve asking	used.	equipment, with	variables where
		further questions based on their developed	Planning different	increasing	necessary
		understanding following an enquiry.	types of scientific	accuracy and	Children recognise
		The children select from a range of	enquiries to answer	precision, taking	how secondary
		practical resources to gather evidence to	questions,	repeat readings	sources can be
		answer their questions. They carry out fair	including	when appropriate	used to answer
		tests, recognising and controlling variables.	recognising and	Children select	questions that
		They decide what observations or	controlling	measuring	cannot be answered
		measurements to make over time and for	variables where	equipment to give	through practical
		how long. They look for patterns and	necessary	the most precise	work.
		relationships using a suitable sample.	Children recognise	results.	Taking
		Reporting and presenting findings from	how secondary	Using test results	measurements,
		enquiries, including conclusions, causal	sources can be used	to make	using a range of
		relationships and explanations of and	to answer questions	predictions to set	scientific
		degree of trust in results, in oral and	that cannot be	up further	equipment, with
		written forms such as displays and	answered through	comparative and	increasing
		other presentations	practical work.	fair tests	accuracy and
		In their conclusions, children identify causal	Taking	Children use	precision, taking
		relationships from their evidence, identify	measurements,	scientific knowledge	repeat readings
		results that do not fit the overall pattern and	using a range of	gained from	when appropriate
		explain their findings using their subject	scientific	enquiries to make	Children consider
		knowledge.	equipment, with	predictions they can	the need to check
		-	increasing accuracy	investigate using	further secondary

	They communicate their findings to an audience using relevant scientific language and illustrations. Children should evaluate the choice of method used and the control of variables. The children identify any limitations that reduce the trust they have in their data. <b>Identifying scientific evidence that has been used to support or refute ideas</b> Children answer questions based on observations they have made. When doing this, they decide whether evidence from other groups supports or refutes their answer.	and precision, taking repeat readings when appropriate Children consider the need to check further secondary sources in order to ensure accurate data.	comparative and fair tests. Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations In their conclusions, children identify causal relationships from their evidence, identify results that do not fit the overall pattern and explain their findings using their subject knowledge. They communicate their findings to an audience using relevant scientific language and illustrations. Evaluate the choice of method used, the control of variables, the precision and accuracy of measurements.	sources in order to ensure accurate data. <b>Reporting and</b> <b>presenting</b> <b>findings, including</b> <b>conclusions,</b> <b>causal</b> <b>relationships and</b> <b>explanations of</b> <b>and degree of trust</b> <b>in results, in oral</b> <b>and written forms</b> <b>such as displays</b> <b>and other</b> <b>presentations</b> Children encouraged to check the credibility of secondary sources used. In their conclusions, children identify causal relationships and patterns in the natural world from the evidence, identify results that do not fit the overall pattern and explain their findings using their subject knowledge.
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Y4	Sound	Electricity	States of Matter	Animals including	Living things and their habitats
	<ul> <li>Identify how sounds</li> </ul>	<ul> <li>Identify common</li> </ul>	Compare and	humans	<ul> <li>Recognise that living things can be</li> </ul>
(knowledge	are made,	appliances that run on	group materials	<ul> <li>Describe the simple</li> </ul>	grouped in a variety of ways.
•	associating some of	electricity.	together,	functions of the basic	<ul> <li>Explore and use classification keys to help</li> </ul>
/ skills /	them with something	<ul> <li>Construct a simple</li> </ul>	according to	parts of the digestive	group, identify and name a variety of living
vocabulary)	vibrating.	series electrical	whether they are	system in humans.	things in their local and wider environment. •
vocabalary	<ul> <li>Recognise that</li> </ul>	circuit, identifying and	solids, liquids or	<ul> <li>Identify the different</li> </ul>	Recognise that environments can change
	vibrations from	naming its basic	gases.	types of teeth in	and that this can sometimes pose dangers
	sounds travel	parts, including cells,	<ul> <li>Observe that</li> </ul>	humans and their	to living things.
	through a medium to	wires, bulbs, switches	some materials	simple functions.	
	the ear.	and buzzers.	change state when	<ul> <li>Construct and</li> </ul>	
	<ul> <li>Find patterns</li> </ul>	<ul> <li>Identify whether or</li> </ul>	they are heated or	interpret a variety of	
	between the pitch of	not a lamp will light in	cooled, and	food chains,	
	a sound and features	a simple series circuit,	measure or	identifying producers,	
	of the object that	based on whether or	research the	predators and prey.	
	produced it.	not the lamp is part of	temperature at		
	<ul> <li>Find patterns</li> </ul>	a complete loop with	which this		
	between the volume	a battery.	happens in		
	of a sound and the	<ul> <li>Recognise that a</li> </ul>	degrees Celsius		
	strength of the	switch opens and	(°C). • Identify the		
	vibrations that	closes a circuit and	part played by		
	produced it.	associate this with	evaporation and		
	Recognise that	whether or not a lamp	condensation in		
	sounds get fainter as	lights in a simple	the water cycle		
	the distance from the	series circuit.	and associate the		
	sound source	Recognise some	rate of evaporation		
	increases.	common conductors	with temperature.		
		and insulators, and			
		associate metals with			
		being good			
		conductors.	1		

Sound, source,	Electricity, electrical	Solid, liquid, gas,	Digestive system,	Classification, classification keys,
vibrate, vibration,	appliance/device,	state change,	digestion, mouth,	environment, habitat, human impact,
travel, pitch (high,	mains, plug, electrical	melting, freezing,	teeth, saliva,	positive, negative, migrate, hibernate
low), volume, faint,	circuit, complete	melting point,	oesophagus,	
loud, insulation	circuit, component,	boiling point,	stomach, small	
	cell, battery,	evaporation,	intestine, nutrients,	
	positive, negative,	temperature,	large	
	connect/connections,	water cycle	intestine, rectum,	
	loose connection,	mater eyele	anus, teeth, incisor,	
	short circuit, crocodile		canine, molar,	
	clip, bulb, switch,		premolars, herbivore,	
	buzzer,		carnivore, omnivore,	
	motor, conductor,		producer,	
	insulator, metal, non-		predator, prey, food	
	metal, symbol		chain	
Skills –	Skills –	Skills –	Skills –	Skills –
Asking relevant	Gathering,	Asking relevant	Making systematic	Asking relevant questions and using
questions and	recording,	questions and	and careful	different types of scientific enquiries to
using different	classifying and	using different	observations and,	answer them
types of scientific	presenting data in a	types of scientific	where appropriate,	Recognise when secondary sources can be
enquiries to answer	variety of ways to	enquiries to	taking accurate	used to answer questions that cannot be
them	help in answering	answer them	measurements	answered through practical work.
Given a range of	questions.	Recognise when	using standard	Gathering, recording, classifying and
resources, children	Recording findings	secondary sources	units, using a range	presenting data in a variety of ways to
decide for	using simple	can be used to	of equipment,	help in answering questions. Recording
themselves how to	scientific language,	answer questions	including	findings using simple scientific
gather evidence to	drawings, labelled	that cannot be	thermometers and	language, drawings, labelled diagrams,
answer the question.	diagrams, keys, bar	answered through	data loggers	keys, bar charts and tables
Making systematic	charts and tables	practical work.	Children make	Children record observations using pictures.
and careful	Children decide how	Gathering,	systematic and	Record classifications – sometimes using
observations and,	to record and present	recording,	careful observations.	Venn and Carroll diagrams.
where appropriate,	evidence.	classifying and	Children use	Setting up simple practical enquiries,
taking accurate	Children record	presenting data	equipment to	comparative and fair tests
measurements	classifications using	in a variety of	measure	Children carry out observations and tests to
using standard	Venn diagrams.	ways to help in	temperature. They	classify.
units, using a range	Record observations	answering	use standard units for	Reporting on findings from enquiries,
of equipment,	using pictures and	questions.	their measurements.	including oral and written explanations,
including	labelled diagrams.	Recording	Gathering,	displays or presentations of results and
monumy		findings using	recording,	conclusions
		intanigs using	recording,	CONCLUSIONS

thermome	eters and Setting up simple	le simple scientific	classifying and	Communicate findings to an audience in
data logge	ers practical enquiries,	ies, language,	presenting data in a	writing, using appropriate scientific
The childre	en make comparative and fai	d fair drawings,	variety of ways to	vocabulary.
systematic	and tests	labelled	help in answering	
careful obs	servations. Children plan to carry	carry diagrams, keys,	questions.	
The childre	en use a out comparative tests	ests. bar carts and	Recording findings	
data logge	r to Using	tables	using simple	
measure th	ne volume. straightforward	Record their	scientific language,	
They use s	standard scientific evidence	observations using	drawings, labelled	
units for th	eir to answer questions	ions labelled diagrams.	diagrams, keys, bar	
measurem	ents. or to support their	eir Reporting on	charts and tables	
Setting up	simple findings	findings from	Record	
practical		enquiries,	classifications using	
comparati			a Venn diagram.	
fair tests	based on	and written	Record observations	
Children pl	an to carry observations they	explanations,	using labelled	
out compa	rative have made,	displays or	diagrams and in	
tests.	measurements they	ney presentations of	writing.	
Carry out s	simple fair have taken. The	results and	Setting up simple	
tests.	answers are	conclusions	practical enquiries,	
Gathering	, consistent with the	e Communicate their	comparative and	
recording	, evidence.	findings to an	fair tests	
classifyin	g and Identifying	audience both	Children select from	
presenting	g data in a differences,	orally and in	a range of practical	
variety of	ways to similarities or	writing, using	resources to gather	
help in an	swering changes related to	to appropriate	evidence to answer	
questions	simple scientific	scientific	questions.	
Recording	findings ideas and processe	sses vocabulary.	They follow their plan	
using sim		a to Identifying	to carry out fair tests,	
scientific		differences,	observations over	
drawings,	labelled comparative	similarities or	time and pattern	
diagrams,	keys, bar statements. They	changes related	seeking.	
charts and		to simple	Using	
They recor		g scientific ideas or	straightforward	
measurem			scientific evidence	
tables.	relationships.	Interpret their data	to answer	
Identifying	g Using results to		questions or to	
difference	es, draw simple	comparative	support their	
similaritie	s or conclusions, make	ake statements. They	findings	

changes related to	predictions for new	begin to identify	Children answer	
simple scientific	values, suggest	naturally occurring	questions based on	
ideas and	improvements and	patterns.	observations they	
processes	raise further	Using	have made and	
Interpret their data to	questions	straightforward	measurements they	
generate simple	Draw conclusions	scientific	have taken. The	
comparative	based on their	evidence to	answers are	
statements. They	evidence and current	answer questions	consistent with the	
begin to identify	subject knowledge.	or to support	evidence.	
naturally occurring	Identify ways in which	their findings	Using results to	
patterns and causal	they adapted their	Children answer	draw simple	
relationships.	method as they	questions based	conclusions, make	
Using results to	progressed or how	on observations	predictions for new	
draw simple	they would do it	they have made.	values, suggest	
conclusions, make	differently if they	The answers are	improvements and	
predictions for new	repeated the enquiry.	consistent with the	raise further	
values, suggest	Reporting on	evidence.	questions	
improvements and	findings from	Making	Children draw	
raise further	enquiries, including	systematic and	conclusions based on	
questions	oral and written	careful	their evidence and	
They draw	explanations,	observations	current subject	
conclusions based	displays or	and, where	knowledge.	
on their evidence	presentations of	appropriate,	Reporting on	
and current subject	results and	taking accurate	findings from	
knowledge.	conclusions	measurements	enquiries, including	
Children identify	Children	using standard	oral and written	
ways in which they	communicate their	units, using a	explanations,	
adapted their method	findings to an	range of	displays or	
as they progressed	audience orally, using	equipment,	presentations of	
or how they would do	appropriate scientific	including	results and	
it differently if they	vocabulary.	thermometers	conclusions	
repeated the enquiry.		and data loggers	They communicate	
Children use their		The children make	their findings to an	
evidence to suggest		systematic and	audience both orally	
values for different		careful	and in writing, using	
items tested using		observations.	appropriate scientific	
the same method.		Setting up simple	vocabulary.	
Reporting on		practical	Identifying	
findings from		enquiries,	differences,	

enquiries, including oral and written explanations, displays or presentations of results and conclusions They communicate their findings to an audience in writing, using scientific vocabulary.	comparative and fair testssimilarities or changes related to simple scientific ideas and processesOut observations over time.similarities or changes related to simple scientific ideas and processesThe children select from a range of practical resources to gather evidence to answer questions.children begin to identify naturally occurring patterns and causal relationships.	
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Y3	Rocks and soils	Animals including	Forces and	Light	Animals	Plants
	Compare and group	humans –	Magnets	<ul> <li>Recognise that they</li> </ul>	including	<ul> <li>Identify and</li> </ul>
(knowledge	together different	nutrition	<ul> <li>Compare how</li> </ul>	need light in order to	humans –	describe the
•	kinds of rocks on the	<ul> <li>Identify that animals,</li> </ul>	things move on	see things and that	skeletons and	functions of different
/ skills /	basis of their	including humans,	different surfaces.	dark is the absence	muscles	parts of flowering
vocabulary)	appearance and	need the right types	<ul> <li>Notice that some</li> </ul>	of light.	<ul> <li>Identify that</li> </ul>	plants: roots,
	simple physical	and amount of	forces need	<ul> <li>Notice that light is</li> </ul>	humans and some	stem/trunk, leaves
	properties.	nutrition, and that	contact between	reflected from	other animals have	and flowers.
	Describe in simple	they cannot make	two objects, but	surfaces.	skeletons and	Explore the
	terms how fossils are	their own food; they	magnetic forces	Recognise that light	muscles for support,	requirements of
	formed when things	get nutrition from	can act at a	from the sun can be	protection and	plants for life and
	that have lived are	what they eat.	distance. •	dangerous and that	movement.	growth (air, light,
	trapped within rock.		Observe how	there are ways to		water, nutrients from
	Recognise that     soils are made from		magnets attract or	protect their eyes. <ul> <li>Recognise that</li> </ul>		soil, and room to grow) and how they
	rocks and organic		repel each other	shadows are formed		vary from plant to
	matter.		and attract some materials and not	when the light from a		plant.
	matter.		others.	light source is		<ul> <li>Investigate the way</li> </ul>
			Compare and	blocked by an		in which water is
			group together a	opaque object.		transported within
			variety of everyday	• Find patterns in the		plants.
			materials on the	way that the size of		<ul> <li>Explore the part</li> </ul>
			basis of whether	shadows change.		that flowers play in
			they are attracted			the life cycle of
			to a magnet, and			flowering plants,
			identify some			including pollination,
			magnetic			seed formation and
			materials.			seed dispersal.
			Describe			
			magnets as having			
			two poles. •			
			Predict whether			
			two magnets will			
			attract or repel			
			each other, depending on			
			which poles are			
			facing			
			Tacing		1	

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	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water	Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous	Skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints	Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)
Skills –	Skills –	Skills –	Skills –	Skills –	Skills –
Asking relevant	Gathering,	Gathering,	Asking relevant	Asking relevant	Asking relevant
questions and	recording,	recording,	questions and	questions and	questions and
using different	classifying and	classifying and	using different	using different	using different
types of scientific	presenting data in a	presenting data	types of scientific	types of scientific	types of scientific
enquiries to answer	variety of ways to	in a variety of	enquiries to answer	enquiries to	enquiries to
them	help in answering	ways to help in	them	answer them	answer them
Given a range of	questions.	answering	Children answer	The children	The children
resources, the	Recording findings	questions.	questions posed by	consider their prior	consider their prior
children decide for	using simple	Recording	the teacher.	knowledge when	knowledge when
themselves how to	scientific language,	findings using	Setting up simple	asking questions.	asking questions.
gather evidence to	drawings, labelled	simple scientific	practical enquiries,	They independently	They independently
answer the question.	diagrams, keys, bar	language,	comparative and	use a range of	use a range of
Children recognise	charts and tables	drawings,	fair tests	question stems.	question stems.
when secondary	Children record	labelled	Children carry out	Where appropriate,	Where appropriate,
sources can be used	classifications using	diagrams, keys,	comparative tests	they answer these	they answer these
to answer questions	Venn diagrams.	bar charts, and	and observations	questions.	questions.
that cannot be	Using	tables	over time.	The children	The children
answered through	straightforward	The children	Gathering,	recognise when	recognise when
practical work.	scientific evidence	sometimes decide	recording,	secondary sources	secondary sources
Gathering,	to answer questions	how to record and	classifying and	can be used to	can be used to
recording,	or support their	present evidence.	presenting data in a	answer questions	answer questions
classifying and	findings		variety of ways to	that cannot be	that cannot be

presenting data in a	Children answer their	Children record	help in answering	answered through	answered through
variety of ways to	own and others'	classifications	questions.	practical work.	practical work.
help in answering	questions based on	using Venn	Recording findings	Gathering,	Gathering,
questions.	information they have	diagrams and	using simple	recording,	recording,
Recording findings	gained from	tables.	scientific language,	classifying, and	classifying, and
using simple	secondary sources.	Children record	drawings, labelled	presenting data in	presenting data in
scientific language,		measurements	diagrams, keys, bar	a variety of ways to	a variety of ways
drawings, labelled		using a table and a	charts, and tables	help in answering	to help in
diagrams, keys, bar		bar chart (given	Children record	questions.	answering
charts and tables		templates, if	classifications using	Recording findings	questions.
The children record		required).	Venn diagrams.	using simple	Recording findings
their observations		Children are	Children record	scientific language,	using simple
using labelled		supported to	measurements using	drawings, labelled	scientific
diagrams.		present the same	tables.	diagrams, keys, bar	language,
The children record		data in different	Children record	charts, and tables	drawings, labelled
their measurements		ways in order to	observations using	Record	diagrams, keys,
using tables.		help with	photographs/pictures.	classifications using	bar charts, and
Setting up simple		answering the	Using results to	tables.	tables
practical enquiries,		question.	draw simple	Using results to	Record
comparative and		Setting up simple	conclusions, make	draw simple	classifications using
fair tests		practical	predictions for new	conclusions, make	tables.
The children select		enquiries,	values, suggest	predictions for new	Using results to
from a range of		comparative and	improvements and	values, suggest	draw simple
practical resources to		fair tests	raise further	improvements and	conclusions, make
gather evidence to		Children plan to	questions	raise further	predictions for
answer questions		carry out	Children use their	questions	new values,
generated by the		observations and	evidence to suggest	Following a scientific	suggest
teacher.		tests to classify	values for different	experience, the	improvements and
They follow their plan		and comparative	items tested using	children ask further	raise further
to carry out		tests.	the same method.	questions which can	questions
comparative tests.		Making	Children draw	be answered by	Following a scientific
Identifying		systematic and	conclusions based on	extending the same	experience, the
differences,		careful	their evidence and	enquiry.	children ask further
similarities or		observations	current subject		questions which can
changes related to		and, where	knowledge.		be answered by
simple scientific		appropriate,	Ŭ		extending the same
ideas and		taking accurate			enquiry.
processes		measurements			Setting up simple
· · ·		using standard			practical enquiries,

Children	interpret	units, a range of	comparative and
	to generate	equipment,	fair tests
	omparative	including	Children carry out
	ts based on	thermometers	pattern seeking.
	ence. They	and data loggers	pattern seeking.
begin to i		Children use	
	lationships.	equipment for	
	systematic	measuring length.	
and care		They use standard	
	ions and,	units for their	
	· · · · · · · · · · · · · · · · · · ·		
	opropriate,	measurements –	
taking ac		cm/m.	
measure		Using	
using sta		straightforward	
	ing a range	scientific	
of equip		evidence to	
including		answer questions	
	neters and	or to support	
data logo		their findings	
Children		Children answer	
equipmer		their own and	
measure	capacity.	others' questions	
Using		based on	
straightf		observations they	
scientific	c evidence	have made.	
to answe	er	Using results to	
question	s or to	draw simple	
support	their	conclusions,	
findings		make predictions	
Children	answer their	for new values,	
own and	others'	suggest	
questions	s based on	improvements	
observati		and raise further	
have mad		questions	
	ments they	Children draw	
have take		conclusions based	
answers		on their evidence	
consisten		and current	
evidence			
evidence	•		

	subject
	knowledge.
	Children identify
	ways in which they
	adapted their
	method as they
	progressed or how
	they would do it
	differently if they
	repeated the
	enquiry.
	Asking relevant
	questions and
	using different
	types of scientific
	enquiries to
	answer them
	Given a range of
	resources, the
	children decide for
	themselves how to
	gather evidence to
	answer the
	question. They
	identify the type of
	enquiry that they
	have chosen to
	answer their
	question.
	900000

Y2 (knowledge / skills / vocabulary)	<ul> <li>Living Things and Their Habitats         <ul> <li>Explore and compare the differences between things that are living, dead, and things that have never been alive.</li> </ul> </li> <li>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</li> <li>Identify and name a variety of plants and animals in their habitats, including microhabitats.</li> <li>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</li> </ul>	<ul> <li>Fighting Fit – Animals, including humans</li> <li>Notice that animals, including humans, have offspring which grow into adults.</li> <li>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</li> </ul>	Plants and Living <u>Things</u> • Observe and describe how seeds and bulbs grow into mature plants. • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Materials and Their 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 some materials can be changed by squashing, bending, twisting and
				twisting and stretching.

	Living, dead, never been alive, suited, 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.	Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)	As for Year 1 plus light, shade, sun, warm, cool, water, grow, healthy	Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, non- reflective, flexible, rigid Shape, push/pushing, pull/puling, twist/twisting, squash/squashing, bend/bending, stretch/stretching
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<ul> <li>Skills –</li> <li>Asking simple questions and recognising that they can be answered in different ways</li> <li>The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.</li> <li>Identifying and classifying</li> <li>Children use their observations and testing to compare objects, materials and living things.</li> <li>Gathering and recording data to help in answering questions</li> <li>Children record their observations in writing.</li> <li>They classify using simple prepared tables and sorting rings.</li> <li>Children record their measurements using tally charts, pictograms and block graphs.</li> <li>Using their observations and ideas to suggest answers to questions.</li> <li>Children use their experiences of the world around them to suggest appropriate answers to questions they have made and information they have gathered from secondary sources.</li> <li>Children recognise 'best and worst' from their data.</li> </ul>	Skills – Asking simple questions and recognising that they can be answered in different ways The children develop their ability to ask questions. The children are involved in planning how to use resources provided to answer questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered. Identifying and classifying The children sort and group objects, identifying their own criteria for sorting. Gathering and recording data to help in answering questions They classify using simple prepared tables and sorting rings. Children record observations using photographs, videos, drawings and writing. Performing simple tests Children use practical resources provided to gather evidence to answer questions. They make observations over time and carry out comparative tests. They also complete pattern seeking enquiries. Observing closely, using simple equipment Children make careful observations to support them in noticing change. They use appropriate senses, aided by digital microscopes, to make their observations.	Skills – Asking simple questions and recognising that they can be answered in different ways The children are involved in planning to how to use resources provided to answer the question using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered. Identifying and classifying Children use their observations to compare objects. They sort and group these things, identifying their own criteria for sorting. Observing closely, using simple equipment Explore the word around them and make careful	Skills – Asking simple questions and recognising that they can be answered in different ways Children plan how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered. Identifying and classifying Children use their observations to compare objects and materials. They sort and group these things, identifying their own criteria for sorting. Gathering and recording data to help in answering questions Record observations in writing. Using their
	microscopes, to make their observations.	Explore the word around them and	Record observations

	information they have gained from	Take measurements	Children use their
	secondary sources.	using non-standard	experiences of the
		units.	world around them
		Performing simple	to suggest
		tests	appropriate answers
		The children use	to questions. They
		practical resources	are supported to
		provided to gather	relate these to their
		evidence to answer	evidence –
		questions generated.	observations they
		They carry out	have made.
		comparative tests,	Chest recognise
		pattern seeking	'best and worst'.
		enquiries and make	Performing simple
		observations over	tests
		time.	Use practical
		Use their	resources provided
		observations and	to gather evidence
		ideas to suggest	to answer questions.
		answers to	They carry out tests
		questions	to classify and
		Children use their	comparative tests.
		experiences of the	
		world around them	
		to suggest	
		appropriate answers	
		to questions. They	
		are supported to	
		relate these to their	
		evidence -	
		observations they	
		have made and	
		measurements they	
		have made.	
		Children recognise	
		'best and worst' from	
		their data.	
		Gathering and	
		recording data to	

	help in answering questions Record observations as drawings and in writing. Children record their measurements using prepared tables and block graphs.	

Head, body, ey ears, mouth, te leg, tail, wing, o fin, scales, feathers, fur, bo paws, hoove Names of anim experienced fi hand from ea vertebrate gro Parts of the bo Senses – touch, smell, taste, he fingers (skin), e nose, ear and tongue	eeth, claw, eak, es nals rst- ch pup ody , see, ear, eyes, eetc.) Seasons (winter, summer, spring, autumn) Sun, sunrise, sunset, day length	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud Names of trees in the local area Names of garden and wild flowering plants in the local area	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through
Skills – Observe closely using simple equipment Children explore world around the using appropriat senses – touch, smell and hear. Children begin to take measureme by comparisons. Identifying and classifying Children use the observations to compare living things. They sort	using simple equipmente theChildren explore the world around them. They make careful observations to support them in noticing change.onoticing change. Ask questions and recognise these can be answered in different wayseirThe children answer questions developed with the teacher often	Skills – Observe closely, using simple equipment Children explore the world around them. They make careful observations to support identification and comparison. They use appropriate senses, aided by magnifying glasses, to make their observations. Perform simple tests The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out tests to make observations over time. Identifying and classifying Children use their observations to compare living things. They sort and group these things, identifying their own criteria for	Skills – Perform simple tests Children use practical resources provided to gather evidence to answer questions. They carry out comparative tests. Identifying and classifying Children use their observations and testing to compare objects and materials. They sort and group these things based on their own criteria. Gathering and recording data to help in answering questions Children record observations in writing. They record their measurements using prepared tables. They classify using simple prepared tables and sorting rings. Using their observations and ideas to
group these thin identifying their of criteria for sortin	gs, The children are own involved in planning	sorting. They use simple secondary sources (such as identification sheets) to name living	suggest answers to questions Children use their experiences of the world around them to suggest appropriate answers to questions. They are supported

Gathering and recording data to help in answering questions Children record their observations using drawings and labelled diagrams. Children classify using simple prepared tables and sorting rings. Using their observations and ideas to suggest answers to questions Children recognise the 'biggest and smallest'.	the questions using different types of enquiry. Identifying and classifying Children use their observations to compare living things. They sort and group these things, identifying their own criteria for sorting. Gathering and recording data to help in answering questions The children record their measurements using pictograms.	things. They describe the characteristics they used to identify a living thing. <b>Gathering and recording data to help in</b> <b>answering questions</b> The children record their observations using drawings and labelled diagrams. They classify using simple prepared tables and sorting rings.	to relate these to their evidence e.g. observations they have made. The children recognise 'best and worst' from their data.
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## Science in EYFS. Characteristics of Effective Learning (CofEL)

## Playing and Exploring

Realise that their actions have an effect on the world, so they want to keep repeating them.

Plan and think ahead about how they will explore or play with objects.

Guide their own thinking and actions by referring to visual aids or by talking to themselves whilst playing.

Make independent choices.

Bring their own interests and fascinations into early years settings.

Respond to new experiences that you bring to their attention.

## Active Learning

Begin to predict sequences because they know routines.

Begin to correct their mistakes themselves.

Keep on trying when things are difficult.

<u>Creating and Thinking Critically</u> Take part in simple pretend play. Sort materials. Review their progress as they try to achieve a goal. Solve real problems. Know more, so feel confident about coming up with their own ideas. Make more links between those ideas.	
Concentrate on achieving something that's important to them. Birth to 5 Matters.	Development Matters.
	·
Range 3 and 4 (Nursery) Range 3:	<u>3 &amp;4 year olds (Nursery)</u> Use all their senses in hands-on exploration of natural materials (UW).
Understanding the World	Explore collections of materials with similar and/or different properties. (UW).
<ul> <li>Exploration and Curiosity: Begins to explore and respond to different natural phenomena in their environment, such as water, light, or shadows.</li> <li>Noticing Changes: Shows interest in objects, materials, and how things work, experimenting with actions like pushing, pulling, or dropping.</li> <li>Engaging with Nature: Enjoys exploring the outdoors and noticing features such as plants, animals, or weather changes.</li> </ul>	Talk about what they see, using a wide vocabulary. (UW).
	Plant seeds and care for growing plants. (UW).
	Understand the key features of the life cycle of a plant and an animal. (UW).
	Begin to understand the need to respect and care for the natural environment and all living things. (UW).
Expressive Arts and Design	Explore and talk about different forces they can feel. (UW).
explore objects and materials, noticing differences in textures, sounds, ances.	Talk about the differences between materials and changes they notice. (UW).
Range 4:	
Understanding the World	
• <b>Cause and Effect</b> : Explores cause-and-effect relationships, such as pressing a button to see a light come on or pouring water to see it flow.	
<ul> <li>Observation Skills: Notices detailed features of objects, living things, and the natural world, such as the shape of leaves, the color of flowers, or the behavior of animals.</li> </ul>	

<ul> <li>Awareness of Change: Shows interest in and curiosity about changes over time, such as seeds growing into plants or ice melting.</li> <li>Environmental Engagement: Shows curiosity about the natural environment, talking about what they see, hear, or feel, such as <i>the wind is blowing</i> or <i>the bird is chirping</i>.</li> <li>Physical Development</li> <li>Hands-On Exploration: Develops fine motor skills through physical engagement with natural materials like sand, soil, water, or leaves.</li> </ul>	
<ul> <li>Range 5 &amp; 6 (Reception)</li> <li>Range 5: Understanding the World</li> <li>Exploring Natural Phenomena: Explores and talks about forces and how things work, such as why objects float or sink, or how magnets attract.</li> <li>Noticing Changes: Observes and comments on the changes they see in the environment, like leaves changing color or the weather becoming colder.</li> <li>Animal and Plant Awareness: Develops an interest in living things, observing animals and plants, and talking about features like shapes, sizes, or colors.</li> <li>Cause and Effect: Explores and begins to understand cause-and-effect relationships, such as what happens when water is poured, sand is dug, or seeds are planted.</li> <li>Materials and Properties: Shows curiosity about different materials, exploring their textures, shapes, and uses, and identifying similarities or differences.</li> </ul>	Children in Reception Explore the natural world around them (UW). Describe what they see, hear and feel whilst outside. (UW). Recognise some environments that are different from the one in which they live. (UW). Understand the effect of changing seasons on the natural world around them. (UW).

Communication and Language		
• Uses a widening vocabulary to talk about what they see, hear, and experience, including terms like <i>soft</i> , <i>hard</i> , <i>wet</i> , <i>dry</i> , <i>growing</i> , or <i>changing</i> .		
Range 6:		
Understanding the World		
<b>C</b>		
<ul> <li>Living Things and Habitats: Talks about similarities and differences in living things, exploring their habitats and how they meet their needs (e.g., animals in water or on land).</li> <li>Observation and Explanation: Notices, observes, and explains changes in the natural world, such as the growth of plants, melting ice, or changes in the weather.</li> <li>Scientific Inquiry: Explores and questions how things work, such as what makes wheels roll or how shadows are formed, beginning to make simple predictions.</li> <li>Sustainability and Care: Develops an understanding of how to care for the environment, such as watering plants, feeding birds, or picking up litter.</li> <li>Seasons and Weather: Recognises and talks about patterns in weather and seasons, identifying how they affect people, animals, and plants.</li> </ul>		
Physical Development		
<ul> <li>Engages in activities that develop fine motor skills while exploring scientific materials, such as planting seeds, digging soil, or sorting objects by size or texture.</li> </ul>		
Early Learning Goals (ELG).		
<ul> <li>Explore the natural world around them, making observations and drawing pictures of animals and plants. (UW – The Natural World)</li> <li>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. (UW – The Natural World)</li> </ul>		

Understand some important processes and changes in the natural worl	d around them, including the seasons and changing states of matter. (UW – The Natural World)
What Science Looks like in Nursery In nursery, science is woven into everyday experiences, fostering curiosity, exploration, and observation of the natural and physical world. Children use all their senses to investigate natural materials, noticing textures, colors, and patterns, and engage with collections of objects to compare properties like hard and soft or heavy and light. They observe and discuss changes, such as seeds growing, ice melting, or leaves changing color, building an understanding of cause and effect. Outdoor play is integral, offering opportunities to explore weather, seasons, and local wildlife, encouraging respect and care for living things and the environment. Children experiment with forces, such as pushing and pulling or rolling objects, and explore contrasting environments, like comparing parks and beaches. Practitioners model rich vocabulary, supporting children to describe what they see, hear, and feel, while playful, hands-on activities lay the foundation for scientific thinking and inquiry. Through these experiences, science in nursery becomes an exciting and meaningful part of their world.	<b>By the End of Nursery, a Child at the Expected Level of Development Will Know</b> By the end of Nursery, a child at the expected level of development in science will have developed a strong sense of curiosity about the world around them. They will have explored and observed living things, such as plants, animals, and insects, showing interest in how they grow and change. Children will notice and talk about changes in their environment, such as the weather, the seasons, or how materials like ice or water behave. They will begin to understand cause and effect, such as noticing that things float or sink or that plants need water to grow. Through hands-on exploration, they will have used their senses to investigate natural materials and will be able to describe their observations using simple scientific language like <i>wet</i> , <i>dry</i> , <i>big</i> , <i>small</i> , <i>soft</i> , or <i>rough</i> . Children will begin to care for living things and the environment, showing respect for nature and understanding basic concepts of change and growth. They will express their ideas with increasing confidence, using their growing vocabulary to talk about what they see and experience in the natural world.
What Science Looks like in Reception.	By the End of Reception, a Child at the Expected Level of Development Will Know.
In Reception, science becomes a more focused and purposeful exploration of the world, building on children's natural curiosity. Children begin to ask questions about how and why things happen, using their observations and experiences to make simple predictions and explanations. They explore changes in the natural world, such as how plants grow, how weather changes over time, and how animals and people adapt to their environments. Hands-on investigations, like planting seeds, experimenting with water, or observing living creatures, help children develop a deeper understanding of living things, materials, and forces. They begin to use scientific vocabulary to describe their findings, such as <i>growing, changing, heavier, lighter, cold</i> , and <i>hot</i> . Through guided discovery and practical activities, children learn to make observations, notice patterns, and talk about the relationships between cause and effect. Science in Reception emphasises exploration, enquiry, and experimentation, supporting children's developing understanding of the world around them and nurturing their ability to think like young scientists.	By the end of Reception, a child at the expected level of development in science will have a growing understanding of the natural world and the changes around them. They will be able to observe and describe how plants and animals grow, change, and adapt to their environments, using simple scientific vocabulary like <i>growth</i> , <i>lifecycles</i> , <i>habitat</i> , and <i>seasons</i> . Children will understand basic concepts of force and motion, such as pushing, pulling, and the effects of gravity. They will have explored and noticed the properties of materials, identifying whether things are hard, soft, rough, or smooth, and how they change, like water turning to ice. Children will demonstrate an understanding of cause and effect through experiments and observations, such as recognising the need for light and water for plant growth. They will be able to make simple predictions and express their ideas using appropriate vocabulary. Through hands-on exploration and enquiry, they will develop a sense of wonder and an understanding of how things work, while also showing respect for the environment and living things.

Scientific Specific Vocabulary Nursery Explore, Investigate, Observe, Look, Touch, Feel, See, Hear, Smell, Taste
Hard, Soft, Smooth, Rough, Wet, Dry, Cold, Hot, Heavy, Light, Bumpy, Sticky, Squishy, Shiny, Fluffy, Crunchy, Warm
Plant, Tree, Flower, Leaf, Seed, Roots, Grow, Petal, Fruit, Vegetable, Animal, Insect, Bug, Bird, Fish, Dog, Cat, Butterfly, Ladybird
Sky, Sun, Cloud, Rain, Snow, Wind, Mud, Sand, Soil, Water, Ice, Shadow, Light, Snow
Change, Grow, Grow bigger, Shrink, Change shape, Melt, Freeze, Harder, Soften, Hotter, Colder
Why?, Because, Happen, Effect, Action, Reaction, Push, Pull
Roll, Slide, Bounce, Float, Sink, Jump, Fly
Up, Down, Under, Over, In, Out, On, Off, Next to, Behind, In front of
Sunny, Rainy, Windy, Cloudy, Cold, Hot, Dry, Wet, Stormy
Magnifying glass, Binoculars, Telescope, Bucket, Shovel, Watering can
Scientific Specific Vocabulary Reception Explore, Investigate, Observe, Look, Touch, Feel, See, Hear, Smell, Taste, Question, Predict, Explain
Hard, Soft, Smooth, Rough, Wet, Dry, Cold, Hot, Heavy, Light, Bumpy, Sticky, Squishy, Shiny, Fluffy, Crunchy, Warm, Transparent, Opaque, Flexible, Brittle, Absorb, Float, Sink
Plant, Tree, Flower, Leaf, Seed, Roots, Stem, Petal, Fruit, Vegetable, Animal, Insect, Bug, Bird, Fish, Dog, Cat, Butterfly, Ladybird, Habitat, Lifecycles, Grow, Decay, Feed, Care, Alive, Dead
Sky, Sun, Cloud, Rain, Snow, Wind, Mud, Sand, Soil, Water, Ice, Shadow, Light, Weather, Moon, Stars, Day, Night, Seasons (Spring, Summer, Autumn, Winter)
Change, Grow, Grow bigger, Shrink, Change shape, Melt, Freeze, Harder, Soften, Hotter, Colder, Ripen, Germinate, Grow taller, Sprout, Blossom
Why?, Because, Happen, Effect, Action, Reaction, Push, Pull, Force, Motion, Bounce, Roll, Move
Roll, Slide, Bounce, Float, Sink, Jump, Fly, Twist, Spin, Stretch, Squeeze, Expand
Up, Down, Under, Over, In, Out, On, Off, Next to, Behind, In front of, Between, Above, Below, Around, Through

Sunny, Rainy, Windy, Cloudy, Cold, Hot, Dry, Wet, Stormy, Foggy, Lightning, Thunder, Freezing, Melting, Temperature

Magnifying glass, Binoculars, Telescope, Bucket, Shovel, Watering can, Microscope, Ruler, Scale, Thermometer, Sandpaper, Sponge, Tongs