## Progression of **Skills and Knowledge** for SUBJECT: Science

## Blue: Class Topics (DO NOT CHANGE)

Grey: Subject Specific areas e.g. Art might be Drawing, Painting, and Textiles...

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS						
Year 1	Brilliant	Birmingham	Frozen	Worlds	Going	on Safari
Knowledge	Everyday Materials Chemistry	Everyday Materials Chemistry	Plants Biology	Plants Biology	Naming animals and body parts	Humans
and Skills	Ask questions Observing closely Using simple equipment to make observations Grouping and classifying Comparative tests Using scientific language to describe Labelled diagrams Table Tally charts Venn diagrams Carroll diagrams Using observations to answer questions		Ask questions Observing closely Using simple equipment to make observations Grouping and classifying Using scientific language to describe Labelled diagrams Table Venn diagrams Carroll diagrams Using observations to answer questions Growing locally, there will be a vast array of plants		Ask questions Observing closely Grouping and classifying Researching using secondary sources of information Using scientific language to describe Labelled diagrams Venn diagrams Carroll diagrams Using observations to answer questions Animals vary in many ways having different	Ask questions Observing closely Using simple equipment to make observations Noticing patterns Comparative tests Using scientific language to describe Labelled diagrams Table Tally charts Using observations to answer questions
	All objects are made of one or more materials. Some objects can be made from different materials e.g. plastic, metal or wooden		which all have specific names. These can be identified by looking at the key characteristics of the plant. Plants have common parts, but they		structures e.g. wings, tails, ears etc. They also have different skin coverings e.g. scales, feathers, hair. These key features can be	trom person to person. Humans (and other animals) find out about the world using their senses. Humans have five senses - sight, touch,

	Materials can be	different types of plants.	Animals eat certain	smelling. These senses
	described by their	Some trees keep their	things - some eat other	are linked to particular
	properties e.g. shiny,	leaves all year while other	animals, some eat plants,	parts of the body.
	stretchy, rough etc.	trees drop their leaves	some eat both plants	
	Some materials e.g.	during Autumn and grow	and animals.	
	plastic can be in	them again during spring.		
	different forms with			
	very different			
	properties.			
Vocabulary	Object, material, wood,	Leaf, flower, blossom,	Head, body, eyes, ears,	Parts of the body
,	plastic, glass, metal,	petal, fruit, berry, root,	mouth, teeth, leg, tail,	including those linked to
	water, rock, brick,	seed, trunk, branch, stem,	wing, claw, fin, scales,	PSHE teaching
	paper, fabric, elastic,	bark, stalk, bud, plant,	feathers, fur, beak,	Senses - touch, see,
	foil, card/cardboard,	tree	paws, hooves	smell, taste, hear, fingers
	rubber, wool, clay,	Names of trees in the	• Names of animals	(skin), eyes, nose, ear and
	hard, soft, stretchy,	local area such as oak, ash,	experienced first-hand	tongue
	stiff, bendy, floppy,	silver birch, horse	from each vertebrate	
	waterproof, absorbent,	chestnut, magnolia	group	
	breaks/tears, rough,	Names of garden and wild		
	smooth, shiny, dull,	flowering plants in the		
	see-through, not see-	local area such as poppy,		
	through	geranium, rose, daffodil,		
		tulip		

Year 2	We live of	on an Island	What's going on down under?		Turrets and Tiaras	
	Use of Everyday	Use of Everyday	Habitats and Simple Food	Plants	Health and Growth	
Knowledge	Materials	Materials	Chains	Biology	Biology	
and Skills	Chemistry	Chemistry	Biology			
	Ask questions		Ask questions	Ask questions	Ask questions	
	Observing closely		Observing closely	Observing closely	Observing closely	
	Using equipment to		Using equipment to make	Using equipment to make	Using equipment to make	
	make observations		observations	observations	observations	
	Using equipment to		Using equipment to	Using equipment to	Using equipment to	
	measure		measure	measure	measure	
	Observing changes over		Observing changes over	Observing changes over	Observing changes over	
	time		time	time	time	
	Grouping and		Grouping and classifying	Researching using	Grouping and classifying	
	classifying		Comparative tests	secondary sources of	Comparative tests	
	Comparative tests		Researching using	information	Researching using	
	Using scientific		secondary sources of	Using scientific language	secondary sources of	
	language to describe		information	to describe	information	
	Labelled diagrams		Using scientific language	Labelled diagrams	Using scientific language	
	Table		to describe	table	to describe	
	Venn diagrams		Labelled diagrams	Pictogram/block diagram	Labelled diagrams	
	Carroll diagrams		Table	Using observations to	Carroll diagrams	
	Pictogram/block		Using observations to	answer questions	Pictogram/block diagram	
	diagram		answer questions	Developing explanations	Using observations to	
	Using observations to		Developing explanations		answer questions	
	answer questions				Developing explanations	
	Developing explanations		All objects are either	Plants may grow from		
			living, dead or have never	either seeds or bulbs.		
			been alive. Living things	These then germinate	Animals, including	
	All objects are made of		are plants (including	and grow into seedlings	humans, have offspring	
	one or more materials		seeds) and animals. Dead	which then continue to	which grow into adults.	
	that are chosen		things include dead animals	grow into mature plants.	In humans and some	
	specifically because		and plants and parts of	I hese mature plants	animals, these offspring	
	they have suitable		plants and animals that are	may have tlowers which	will be young, such as	
	properties for the		no longer attached e.g.	then develop into seeds,	bables or kittens, that	
	task. For example, a		leaves and twigs, shells,	berries, truits etc.	grow into adults. In	

water bottle is made of	fur, hair and feathers Seeds and bulbs need to other animal
plastic because it is	(This is a simplification, be planted outside at chickens or
transparent allowing	but appropriate for Year 2 particular times of year there may b
you to see the drink	children.) and they will germinate that hatch t
inside and waterproof	An object made of wood is and grow at different other stages
so that it holds the	classed as dead. Objects rates. Some plants are grow to adul
water. When choosing	made of rock, metal and better suited to growing young of son
what to make an object	plastic have never been in full sun and some grow do not look l
from, the properties	alive (again ignoring that better in partial or full parents e.g.
needed are compared	plastics are made of fossil shade. Plants also need All animals, i
with the properties of	fuels). different amounts of humans, have
the possible materials,	Animals and plants live in a water and space to grow needs of fee
identified through	habitat to which they are well and stay healthy. drinking and
simple tests and	suited, which means that that must be
classifying activities. A	animals have suitable order to sur
material can be	features that help them grow into he
suitable for different	move and find food and they also ne
purposes and an object	plants have suitable amounts and
can be made of	features that help them to food and ex
different materials.	grow well. The habitat Good hygien
Objects made of some	provides the basic needs important in
materials can be	of the animals and plants - infections and
changed in shape by	shelter, food and water.
bending, stretching,	Within a habitat there are
squashing and twisting.	different micro-habitats
For example, clay can	e.g. in a woodland - in the
be shaped by	leaf litter, on the bark of
squashing, stretching,	trees, on the leaves. These
rolling, pressing etc.	micro-habitats have
This can be a property	different conditions e.g.
of the material or	light or dark, damp or dry.
depend on how the	These conditions affect
material has been	which plants and animals
processed e.g.	live there. The plants and
thickness.	animals in a habitat
	depend on each other for
	food and shelter etc. The
	way that animals obtain
	their food from plants and

ls, such as insects, e eggs laid to young or s which then lts. The ne animals like their tadpoles. including e the basic eding, l breathing e satisfied in rvive. To althy adults, ed the right l types of ercise. e is also preventing nd illnesses.

			other animals can be shown in a food chain.		
Vocabulary	Names of materials - wood, metal, plastic, glass, brick, rock, paper, cardboard Properties of materials - 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 opaque, transparent and translucent, reflective, non-reflective, flexible, rigid Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching		<ul> <li>Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed</li> <li>Names of local habitats e.g. pond, woodland etc.</li> <li>Names of micro-habitats e.g. under logs, in bushes etc.</li> </ul>	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, plant, tree, light, shade, sun, warm, cool, water, grow, healthy Names of trees in the local area such as oak, ash, silver birch, horse chestnut, magnolia Names of garden and wild flowering plants in the local area such as poppy, geranium, rose, daffodil, tulip	Offspring, re growth, child stages (exan chick/hen, baby/child/d caterpillar/b exercise, hed breathing, hy germs, diseas types (exam fish, vegetab rice, pasta)
Year 3	In the forest	Stone Age to Iron Age	Road Trij	b to Italy	
	Plants Biology	Rocks Chemistry	Skeletons and Nutrition Biology	Skeletons and Nutrition Biology	Forces and Physics

eproduction, l, young/old 1ples –	
adult, putterfly), artbeat, giene, se, food oles - meat, oles, bread,	
Doudines	ar Poudicoa 2
Bondicca	
Magnets	Light Physics

Knowledge	Asking relevant	Asking relevant questions	Asking relevant questions	Asking relevant	Asking relevant questions
and Skills	questions	Setting up simple tests	Setting up simple tests	questions	Setting up simple tests
	Setting up simple tests	Making careful	Making careful	Setting up simple tests	Making careful
	Making careful	observations	observations	Making careful	observations
	observations	Making systematic and	Pattern seeking	observations	Making systematic and
	Making systematic and	accurate measurements	Identifying and classifying	Pattern seeking	accurate measurements
	accurate measurements	Observing over time	Researching	Identifying and	Observing over time
	Observing over time	Identifying and	Ideas over time	classifying	Pattern seeking
	Pattern seeking	classifying	Labelled drawings	Researching	Comparative tests
	Identifying and	Comparative tests	Tables	Ideas over time	Fair test
	classifying	Researching	Venn/Carroll diagrams	Labelled drawings	Researching
	Comparative tests	Ideas over time	Drawing conclusions	Tables	Labelled drawings
	Fair tests	Labelled drawings	Using evidence to answer	Venn/Carroll diagrams	Tables
	Researching	Tables	questions or to support	Drawing conclusions	Bar charts
	Ideas over time	Identification keys	findings	Using evidence to	Drawing conclusions
	Labelled drawings	Bar charts	Relating to scientific ideas	answer questions or to	Using evidence to answer
	Tables	Drawing conclusions	and processes	support findings	questions or to support
	Venn/Carroll diagrams	Using evidence to answer	Raising further questions	Relating to scientific	findings
	Identification keys	questions or to support		ideas and processes	Relating to scientific
	Drawing conclusions	findings		Raising further	ideas and processes
	Using evidence to	Relating to scientific	Animals, unlike plants	questions	Using results to make
	answer questions or to	ideas and processes	which can make their own	seeking	predictions for new
	support findings	Raising further questions	food, need to eat in order		values
	Relating to scientific		to get the nutrients they		
	ideas and processes		need. Food contains a	A force is a push or a	
	Using results to make	Rock is a naturally	range of different	pull. When an object	We see objects because
	predictions for new	occurring material. There	nutrients – carbohydrates	moves on a surface, the	our eyes can sense light.
	values	are different types of	(including sugars), protein,	texture of the surface	Dark is the absence of
	Suggesting	rocke.g. sandstone,	vitamins, minerals, fats,	and the object affect	light. We cannot see
	improvements to	limestone, slate etc.	sugars, water - and fibre	how it moves. It may	anything in complete
	practical enquiries	which have different	that are needed by the	help the object to move	darkness. Some objects,
	Raising further	properties. Rocks can be	body to stay healthy. A	better or it may hinder	for example, the sun,
	questions	hard or soft. They have	piece of food will often	its movement e.g. ice	light bulbs and candles
		different sizes of grain	provide a range of	skater compared to	are sources of light.
		or crystal. They may	nutrients.	walking on ice in normal	Objects are easier to see
	Many plants, but not	absorb water. Rocks can		shoes.	if there is more light.

all, have roots,	be different shapes and	Humans, and some other	A magnet at
stems/trunks, leaves	sizes (stones, pebbles,	animals, have skeletons	magnetic ma
and flowers/blossom.	boulders). Soils are made	and muscles which help	Iron and nic
The roots absorb water	up of pieces of ground	them move and provide	other mater
and nutrients from the	down rock which may be	protection and support.	containing th
soil and anchor the	mixed with plant and		stainless ste
plant in place. The stem	animal material (organic		magnetic. Th
transports water and	matter). The type of		strongest po
nutrients/minerals	rock, size of rock pieces		magnet are <sup>.</sup>
around the plant and	and the amount of		Magnets hav
holds the leaves and	organic matter affect		poles – a nor
flowers up in the air to	the property of the soil.		and a south
enhance	Some rocks contain		two like pole
photosynthesis,	fossils. Fossils were		north poles,
pollination and seed	formed millions of		brought toge
dispersal. The leaves	years ago. When		will push awa
use sunlight and water	plants and animals		each other -
to produce the plant's	died, they fell to the		two unlike po
food. Some plants	seabed. They		north and so
produce flowers which	became covered and		brought toge
enable the plant to	squashed by other		will pull toge
reproduce. Pollen,	material. Over time		attract.
which is produced by	the dissolving animal		For some for
the male part of the	and plant matter is		there must b
flower, is transferred	replaced by minerals		e.g. a hand op
to the female part of	from the water.		door, the win
other flowers			the trees. So
(pollination). This forms			can act at a c
seeds, sometimes			magnetism. T
contained in berries			does not need
or fruits which are			the object th
then dispersed in			attracts.
different ways.			
Different plants			
require different			
conditions for			

ttracts	Some surfaces reflec
aterial.	light. Objects are ea
kel and	to see when there is
rials	light if they are
hese, e.g.	reflective.
eel, are	The light from the si
he	can damage our eyes
arts of a	therefore we should
the poles.	look directly at the s
ve two	and can protect our e
rth pole	by wearing sunglasse
pole. If	sunhats in bright ligh
es, e.g. two	Shadows are formed
are	a surface when an
ether they	opaque or translucer
ay from	object is between a
- repel. If	source and the surf
oles, e.g. a	and blocks some of t
outh, are	light. The size of th
ether they	shadow depends on •
ether -	position of the sour
	object and surface.
rces to act,	
be contact	
pening a	
nd pushing	
ome forces	
distance e.g.	
The magnet	
d to touch	
hat it	
	1

ome surfaces reflect ht. Objects are easier see when there is less ht if they are eflective. he light from the sun an damage our eyes and nerefore we should not ok directly at the sun nd can protect our eyes wearing sunglasses or inhats in bright light. shadows are formed on surface when an paque or translucent bject is between a light source and the surface and blocks some of the ight. The size of the hadow depends on the position of the source,

	germination and growth.					
Vocabulary	Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)	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, skeleton bones, muscles, joints, support, protect, move, skull, ribs, spine		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, nirror, sunlight, dangerous
Year 4	Along (	g the Nile Egypt)	Axes and (Anglo	l Sheilds Saxons)	Neara	and Far
			(·			
	States of Matter Chemistry	States of Matter Chemistry	Electricity Physics	Sound Physics	Living things and Habitats Biology	Teeth, Eating and Digestion Biology
Knowledge and Skills	Asking relevant questions Setting up simple tests Making careful observations Making systematic and accurate measurements Observing over time Identifying and classifying Comparative tests Researching Labelled drawings Tables	3	Asking relevant questions Setting up simple tests Making careful observations Pattern seeking Identifying and classifying Researching Ideas over time Labelled drawings Tables Drawing conclusions Using evidence to answer questions or to support findings	Asking relevant questions Setting up simple tests Making careful observations Making systematic and accurate measurements Identifying and classifying Comparative tests Fair tests Researching Ideas over time Labelled drawings Tables	Asking relevant questions Setting up simple tests Making careful observations Identifying and classifyin Comparative tests Labelled drawings Tables Identification keys Drawing conclusions Using evidence to answer questions or to support findings Relating to scientific idea and processes	Asking relevant questions Setting up simple tests Making careful g observations Observing over time Pattern seeking Identifying and classifying Researching Labelled drawings Identification keys Drawing conclusions s Using evidence to answer questions or to
	Using evidence to answer questions or to		Relating to scientific ideas and processes	Using evidence to answer questions or to support	Raising further questions	support tindings Relating to scientific

support findings	Suggesting improvements	findings		ideas and processes
Relating to scientific	to practical enquiries	Relating to scientific	A solid keeps its shape and	
ideas and processes	Raising further questions	ideas and processes	has a fixed volume. A	
Using results to make		Using results to make	liquid has a fixed volume	A solid keeps its shape
predictions for new		predictions for new	but changes in shape to fit	and has a fixed volume.
values	A solid keeps its shape	values	the container. A liquid can	A liquid has a fixed
Suggesting	and has a fixed volume. A	Suggesting improvements	be poured and keeps a	volume but changes in
improvements to	liquid has a fixed volume	to practical enquiries	level, horizontal surface. A	shape to fit the
practical enquiries	but changes in shape to	Raising further questions	gas fills all available space;	container. A liquid can
Raising further	fit the container. A liquid		it has no fixed shape or	be poured and keeps a
questions	can be poured and keeps		volume. Granular and	level, horizontal
	a level, horizontal	A solid keeps its shape	powdery solids like sand	surface. A gas fills all
	surface. A gas fills all	and has a fixed volume. A	can be confused with	available space; it has
A solid keeps its shape	available space; it has no	liquid has a fixed volume	liquids because they can	no fixed shape or
and has a fixed volume.	fixed shape or volume.	but changes in shape to	be poured, but when	volume. Granular and
A liquid has a fixed	Granular and powdery	fit the container. A liquid	poured they form a heap	powdery solids like
volume but changes in	solids like sand can be	can be poured and keeps	and they do not keep a	sand can be confused
shape to fit the	confused with liquids	a level, horizontal	level surface when tipped.	with liquids because
container. A liquid can	because they can be	surface. A gas fills all	Each individual grain	they can be poured, but
be poured and keeps a	poured, but when poured	available space; it has no	demonstrates the	when poured they form
level, horizontal	they form a heap and	fixed shape or volume.	properties of a solid.	a heap and they do not
surface. A gas fills all	they do not keep a level	Granular and powdery	Melting is a state change	keep a level surface
available space; it has	surface when tipped.	solids like sand can be	from solid to liquid.	when tipped. Each
no fixed shape or	Each individual grain	confused with liquids	Freezing is a state change	individual grain
volume. Granular and	demonstrates the	because they can be	from liquid to solid. The	demonstrates the
powdery solids like	properties of a solid.	poured, but when poured	freezing point of water is	properties of a solid.
sand can be confused	Melting is a state change	they form a heap and	0°C. Boiling is a change of	Melting is a state
with liquids because	from solid to liquid.	they do not keep a level	state from liquid to gas	change from solid to
they can be poured, but	Freezing is a state	surface when tipped.	that happens when a liquid	liquid. Freezing is a
when poured they form	change from liquid to	Each individual grain	is heated to a specific	state change from
a heap and they do not	solid. The freezing point	demonstrates the	temperature and bubbles	liquid to solid. The
keep a level surface	of water is 0°C. Boiling is	properties of a solid.	of the gas can be seen in	freezing point of water
when tipped. Each	a change of state from	Melting is a state change	the liquid. Water boils	is 0°C. Boiling is a
individual grain	liquid to gas that happens	from solid to liquid.	when it is heated to 100°C.	change of state from
	when a liquid is heated to	Freezing is a state	Evaporation is the same	liquid to gas that

demonstrates the		a specific temperature	change from liquid to	state change
properties of a so	lid.	and bubbles of the gas	solid. The freezing point	(liquid to gas
Melting is a state		can be seen in the liquid.	of water is 0°C. Boiling is	happens slov
change from solid	to	Water boils when it is	a change of state from	temperature
liquid. Freezing is	a	heated to 100°C.	liquid to gas that happens	the surface
state change from	ו	Evaporation is the same	when a liquid is heated to	Evaporation
liquid to solid. The	2	state change as boiling	a specific temperature	quickly if the
freezing point of	water	(liquid to gas), but it	and bubbles of the gas	is higher, th
is 0°C. Boiling is a		happens slowly at lower	can be seen in the liquid.	spread out o
change of state fi	rom	temperatures and only at	Water boils when it is	Condensation
liquid to gas that		the surface of the liquid.	heated to 100°C.	back from a
happens when a lig	uid is	Evaporation happens more	Evaporation is the same	caused by co
heated to a specif	ic	quickly if the	state change as boiling	Water at the
temperature and		temperature is higher,	(liquid to gas), but it	seas, rivers
bubbles of the gas	s can	the liquid is spread out or	happens slowly at lower	evaporates i
be seen in the liqu	id.	it is windy. Condensation	temperatures and only at	vapour (a ga
Water boils when	it is	is the change back from a	the surface of the liquid.	cools and co
heated to 100°C.		gas to a liquid caused by	Evaporation happens	into a liquid
Evaporation is the	same	cooling.	more quickly if the	clouds. Whe
state change as be	oiling	Water at the surface of	temperature is higher,	water has co
(liquid to gas), but	· it	seas, rivers etc.	the liquid is spread out or	water drople
happens slowly at	lower	evaporates into water	it is windy. Condensation	cloud get to
temperatures and	only	vapour (a gas). This	is the change back from a	fall back dov
at the surface of	the	rises, cools and	gas to a liquid caused by	snow,sleet e
liquid. Evaporation	ı –	condenses back into a	cooling.	back into riv
happens more quic	kly if	liquid forming clouds.	Water at the surface of	is known as p
the temperature i	S	When too much water	seas, rivers etc.	This is the v
higher, the liquid	is	has condensed, the	evaporates into water	
spread out or it is		water droplets in the	vapour (a gas). This	
windy. Condensation	on is	cloud get too heavy and	rises, cools and	
the change back f	roma	fall back down as rain,	condenses back into a	
gas to a liquid cau	sed	snow,sleet etc. and	liquid forming clouds.	
by cooling.		drain back into rivers	When too much water	
Water at the surf	face	etc. This is known as	has condensed, the	
of seas, rivers etc			water droplets in the	

e as boiling s), but it wly at lower es and only at of the liquid. ne liquid is or it is windy. ooling. e surface of etc. into water s). This rises, ondenses back forming n too much ondensed, the ets in the o heavy and wn as rain, etc. and drain vers etc. This precipitation. water cycle.

happens when a liquid is heated to a specific temperature and bubbles of the gas can be seen in the liquid. happens more Water boils when it is e temperature heated to 100°C. Evaporation is the same state change as boiling on is the change (liquid to gas), but it gas to a liquid happens slowly at lower temperatures and only at the surface of the liguid. Evaporation happens more quickly if the temperature is higher, the liquid is spread out or it is windy. Condensation is the change back from a gas to a liquid caused by cooling. Water at the surface of seas, rivers etc. evaporates into water vapour (a gas). This rises, cools and condenses back into a liquid forming clouds. When too much water has condensed, the water droplets in the cloud get too heavy and fall back down as rain, snow, sleet etc.

	· · ·		· · · · · · · · · · ·	1 1	
	evaporates into water		precipitation. This is the	cloud get too heavy and	
	vapour (a gas). This		water cycle.	fall back down as rain,	
	rises, cools and			snow,sleet etc. and	
	condenses back into a			drain back into rivers	
	liquid forming clouds.			etc. This is known as	
	When too much water			precipitation. This is the	
	has condensed, the			water cycle.	
	water droplets in the				
	cloud get too heavy				
	and fall back down as				
	rain, snow, sleet etc.				
	and drain back into				
	rivers etc. This is				
	known as				
	precipitation This is				
	the water cycle				
	Solid, liquid, gas, state		Electricity, electrical	Sound, source, vibrate,	Classification,
Vocabulary	change, melting,		appliance/device, mains,	vibration, travel, pitch	classification
	freezing, melting point,		plug, electrical circuit,	(high, low), volume,	environment,
	boiling point,		complete circuit,	faint, loud, insulation	human impact
	evaporation,		component, cell, battery,		negative, migr
	temperature, water		positive, negative,		hibernate
	cycle		connect/connections, loose	2	
	,		connection, short circuit,		
			crocodile clip, bulb, switch		
			buzzer motor conductor.	, 	
			insulator metal non-meta	1	
			symbol	· /	
			57.11201		
Year 5	Ghost from th	ne past (Victorians)	Ghost from the	past (Victorians)	
	Earth and Space	Earth and Space	Life Cycles and Reproduction	Humans As They	Properties and
	Physics	Physics	Biology	Grow Biology	Chemistry
Knowledge and	Asking relevant			Asking relevant	Asking releva
Skills	questions that can be			questions	questions

0n	and drain back into rivers etc. This is known as precipitation. This is the water cycle.
on, on keys,	classified as producers,
it, habitat,	predators and prey
act, positive,	according to their
Monst	rous Mayans
and Changes	Forces Physics
evant	Asking relevant

answered through	Asking relevant questions	that can be answered	that can be answered	that can be answered
different types of	that can be answered	through different	through different	through different
enquiry	through different types	types of enquiry	types of enquiry	types of enquiry
Observing over time	of enquiry	taking repeat readings	using scientific	using scientific
Pattern seeking	Observing over time	when appropriate	equipment to take	equipment to take
Researching	Identifying and classifying	pattern seeking	accurate and precise	accurate and precise
Ideas over time	Researching	Researching	readings	readings
Labelled drawings	Labelled drawings	Reporting methods	taking repeat readings	taking repeat readings
Drawing tables to	Classification keys	used in written form	when appropriate	when appropriate
record repeat readings	Using data to draw	Drawing tables to	observing over time	pattern seeking
and mean average	conclusions	record repeat readings	pattern seeking	comparative tests
calculations	relating conclusions to	and mean average	identifying and	fair tests
Bar charts	scientific ideas and	calculations	classifying	ideas over time
Line and scatter graphs	processes	Using data to draw	comparative tests	Reporting methods
Using data to draw	Raising further questions	conclusions	fair tests	used in written form
conclusions		relating conclusions to	Reporting methods	Labelled drawings
Relating conclusions to	As part of their life	scientific ideas and	used in written form	Drawing tables to
scientific ideas and	cycle plants and animals	processes	Labelled drawings	record repeat readings
processes	reproduce. Most animals	describing casual	Drawing tables to	and mean average
Describing the degree	reproduce sexually. This	relationships	record repeat readings	calculations
of trust in the results	involves two parents	identifying data that	and mean average	Bar charts
collected	where the sperm from the	supports or refutes	calculations	Line and scatter graphs
Raising further	male fertilises the female	ideas or arguments	Bar charts	Using data to draw
questions	egg. Animals, including	using results to make	Line and scatter graphs	conclusions
	humans, have offspring	predictions for new	Using data to draw	relating conclusions to
The Sun is a star. It is	which grow into adults. In	values	conclusions	scientific ideas and
at the centre of our	humans and some animals,	suggesting	relating conclusions to	processes
solar system. There are	these offspring will be	improvements to	scientific ideas and	describing casual
8 planets (can choose	born live, such as babies	practical enquiries	processes	relationships
to name them, but not	or kittens, and then grow	Raising further	describing casual	identifying data that
essential). These travel	into adults. In other	questions	relationships	supports or refutes
around the Sun in fixed	animals, such as chickens		identifying data that	ideas or arguments
orbits. Earth takes	or snakes, there may be		supports or refutes	describing the degree
365‡ days to complete	eggs laid that hatch to	When babies are young	ideas or arguments	of trust in the results
its orbit around the	young which then grow to	they grow rapidly. They	describing the degree	collected
Sun. The Earth rotates	adults. Some young	are very dependent on	ot trust in the results	using results to make
(spins) on its axis every	undergo a further change	their parents. As they	collected	predictions for new
24 hours. As Earth	before becoming adults e.g	develop, they learn		values
rotates halt faces the		many skills. At puberty	,	

Cup (day) and half in	a a tan will and the buttle office	a abild'a badu abayaaa		
Sun (day) and hair is	The second secon	a chila's boay changes	using results to make	suggesting
facing away from the	This is called a	and develops primary	predictions for new	improvements to
Sun (night). As the	metamorphosis.	and secondary sexual	values	practical enquiries
Earth rotates, the Sun	Plants reproduce both	characteristics. This	suggesting	Raising turther
appears to move across	sexually and asexually.	enables the adult to	improvements to	questions
the sky. The Moon	Bulbs, tubers, runners and	reproduce.	practical enquiries	
orbits the Earth. It	plantlets are examples of	This needs to be	Raising further	
takes about 28 days to	asexual plant reproduction	taught alongside PSHE.	questions	A force causes an
complete its orbit. The	which involves only one			object to start moving,
Sun, Earth and Moon	parent. Gardeners may			stop moving, speed up,
are approximately	force plants to reproduce		Materials have	slow down or change
spherical.	asexually by taking cuttings	3.	different uses	direction. Gravity is a
	Sexual reproduction occurs	5	depending on their	force that acts at a
	through pollination, usually		properties and state	distance. Everything is
	involving wind or insects.		(liquid, solid, gas).	pulled to the Earth by
			Properties include	gravity. This causes
			hardness,	unsupported objects to
			transparency,	fall.
			electrical and thermal	Air resistance, water
			conductivity and	resistance and friction
			attraction to magnets.	are contact forces
			Some materials will	that act between
			dissolve in a liquid and	moving surfaces. The
			form a solution while	object may be moving
			others are insoluble	through the air or
			and form sediment.	water, or the air and
			Mixtures can be	water may be movina
			separated by filtering	over a stationary
			sieving and evaporation	object
			Some changes to	A mechanism is a
			dissolving, mixing and	device that allows a
			changes of state are	small force to be
			changes such as	increased to a larger
			and mixing vinegar with	force. The new back is
			bicarbonate of soda result in the formation	that it requires a
			of new materials and	onacton movement The
			reversible.	greuter movement. The
				long distance and the
				iony distance and the
				resulting large force

						moves a small distance, e.g. a crowbar or bottle top remover. Pulleys, levers and gears are all mechanisms, also known as simple machines.
Vocabulary	Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets		Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings	Puberty, menstruation, periods, ovary, vagina, womb, sperm, testicles, gestation, hormones, embryo, hygiene, fetus, vulva	Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non- reversible change, burning, rusting, new material	Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears
Year 6	Magnifice	ent Mountains	Groovy G	reeks	The World a	at War (WW11)
Knowledge	Classifying, including Microorganisms Biology	Classifying, including Microorganisms Biology	Light Physics	Electricity physics	Heart and circulation Biology	Evolution and Inheritance Biology
	Asking relevant questions that can be answered through different types of enquiry using scientific equipment to take accurate and precise readings taking repeat readings when appropriate identifying and classifying comparative tests Drawing tables to record repeat readings and mean average calculations		Asking relevant questions that can be answered through different types of enquiry using scientific equipment to take accurate and precise readings taking repeat readings when appropriate pattern seeking fair tests researching ideas over time Reporting methods used in written form Labelled drawings	Asking relevant questions that can be answered through different types of enquiry using scientific equipment to take naccurate and precise readings taking repeat readings when appropriate identifying and classifying fair tests Reporting methods used in written form Labelled drawings	Asking relevant questions that can be answered through different types of enquiry using scientific equipment to take accurate and precise readings taking repeat readings when appropriate observing over time comparative tests fair tests researching Reporting methods used in written form	Asking relevant questions that can be answered through different types of enquiry using scientific equipment to take accurate and precise readings observing over time pattern seeking identifying and classifying comparative tests researching ideas over time Labelled drawings

 Classification keys	Drawing tables to record
identifying data that	repeat readings and mean
supports or refutes	average calculations
ideas or arguments	Line and scatter araphs
Raising further	Using data to draw
questions	conclusions
	relating conclusions to
	scientific ideas and
Living things can be	processes
formally around	describing casual
according to	relationships
characteristics Plants	identifying data that
and animals are two	supports or refutes ideas
main arouns but there	or arguments
are other livings things	describing the degree of
that do not fit into	trust in the results
these arouns e a	collected
micro-organisms such	using results to make
as bacteria and yeast	nredictions for new values
and toadstools and	suggesting improvements to
mushrooms Plants can	practical enquiries
make their own food	Paising further questions
whereas animals	raising fur mer questions
cannot	
Animals can be divided	light appears to travel in
(vertebrates); and	straight lines and we see
hose that do not	objects when light from
(invertebrates)	them goes into our eves
Vertebrates can be	The light may come directly
divided into five small	from light sources but for
arouns: fish	other objects some light
amphibians: reptiles:	must be reflected from the
birds' and mammals	object into our eyes for the
Each aroun has	object to be seen
common	Objects that block light
characteristics	(are not fully transparent)
Invertebrates can be	will cause shadows Recause
divided into a number	light travels in straight
of groups, including	lines the shape of the

Drawing tables to record repeat readings Bar charts and mean average calculations Line and scatter graphsconclusions Using data to draw conclusions relating conclusions to scientific ideas and processes describing casual relationships identifying data that supports or refutes ideas or arguments describing the degree of trust in the results collected alues using results to make nts to predictions for new values suggesting improvements to practical enquiries Raising further questions

rectly Adding more cells to a around to the t for complete circuit will make a bulb brighter, a blood and car m the motor spin faster or a or the buzzer make a louder sound. If you use a battery with a higher voltage, the same thing body. Nutrie cause happens. Adding more bulbs to a circuit will make each bulb less

Labelled drav Line and scat Using data to relating conc scientific ide processes describing ca relationships identifying do supports or r ideas or argu describing th of trust in th collected using results predictions f values suggesting improvements practical engi Raising furth questions

The heart pu in the blood v Oxygen goes dioxide is rer The blood go the heart and pumped arou and oxygen a transported blood to the

wings	Using data to draw
	conclusions
tter graphs	relating conclusions to
o draw	scientific ideas and
	processes
lusions to	identifying data that
as and	supports or refutes
	ideas or arguments
asual	Raising further
	questions
ata that	
refutes	All living things have
iments	offspring of the same
ne degree	kind, as features in the
ne results	offspring are inherited
	from the parents. Due
to make	to sexual reproduction,
or new	the offspring are not
	identical to their
	parents and vary from
s to	each other.
uiries	Plants and animals have
ier	characteristics that
	make them suited
	(adapted) to their
	environment. If the
imps blood	environment changes
vessels	rapidly, some variations
e lungs.	of a species may not
into the	suit the new
rbon	environment and will
moved.	die. If the environment
es back to	changes slowly, animals
d is then	and plants with
nd the	variations that are
ents, water	best suited survive in
re	greater numbers to
in the	reproduce and pass
muscles	

	insects, spiders, snails and worms. Plants can be divided broadly into two main groups: flowering plants; and non- flowering plants.	shadow will be the same as the outline shape of the object.	bright. Using more motors or buzzers, each motor will spin more slowly and each buzzer will be quieter. Turning a switch off (open) breaks a circuit so the circuit is not complete and electricity cannot flow. Any bulbs, motors or buzzers will then turn off as well. You can use recognised circuit symbols to draw simple circuit diagrams	and other parts of the body where they are needed. As they are used, they produce carbon dioxide and other waste products. Carbon dioxide is carried by the blood back to the heart and then the cycle starts again as it is transported back to the lungs to be removed from the body. This is the humar circulatory system. Diet, exercise, drugs and lifestyle have an impact on the way our bodies function. They can affect how well out heart and lungs work, how likely we are to suffer from conditions such as diabetes, how clearly we think, and generally how fit and well we feel. Some conditions are caused by deficiencies in our	their characteristics on to their young. Over time, these inherited characteristics become more dominant within the population. Over a very long period of time, these characteristics may be so different to how they were originally that a new species is created. This is evolution. Fossils give us evidence of what lived on the Earth millions of year ago and provide evidence to support the theory of evolution. More recently, scientists such as Darwin and Wallace observed how living things adapt to different environments to become distinct varieties with their own characteristics.
				by deficiencies in our diet e.g. lack of vitamins.	
Vocabulary	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non- flowering	light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous, straight lines light rays	Circuit, complete circuit, circuit diagram circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage	Heart, pulse, rate, ,pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system	Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils

		diet, exercise, drugs, lifestyle	