

This Curriculum Overview shows what your child will learn in Science during their time at The Free School Norwich. This is reviewed annually and may be adapted to meet the needs of individual children or classes, and where appropriate, will be linked to events or places in our local environment.

	Year 1 Science						
Harvest	Christmas	Winter	Spring	Whitsun	Summer		
The Human Body Biology	Materials Chemistry	Planting A Biology	Animals (Cont). Biology	Plants Biology	Growing and Cooking Sustainability		
Sequence: Name and identify parts of the human body Draw and label parts of the human body Identify humans use their eyes to see Identify humans use their ears to hear Identify humans use their tongues to taste Identify touch is sensed by the skin Identify humans use their nose to smell Vocabulary: Hair, ear, teeth, neck, arm, knee, leg, hand, elbow, mouth, nose, eye, feet, light, dark, blind, hear, loud, noisy, sweet, salty, bitter, savoury, rough,	Sequence: Explore wood, plastic, glass, metal and sort these into categories Explore and observe rocks Identify objects and their materials Explore melting and freezing Identify materials that float or sink Identify materials that absorb water Investigate a range of materials in a comparative test Vocabulary: Material, soft, hard, shiny, dull, rock, heavy, light, rough, smooth, object, material, metal, wood, plastic, glass, wool, solid, liquid, melt, freeze, ice, float, sink, absorb, variable,	Sequence: Explore plant growth over time – plant seeds and observe any changes over the rest of the term Vocabulary: Plant, flower, leaf, stem, roots, seed, soil National Curriculum Links: Identify and describe the basic structure of a variety of common flowering plants, including trees Working Scientifically – Asking simple questions and recognising that they can be answered in different ways.	Sequence: Explore herbivores and their key features Identify and name animals that are omnivores Vocabulary: Animal, herbivore, fruit, plant, vegetable, omnivore National Curriculum Links: Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Working Scientifically – Identifying and classifying.	Sequence: Name and identify parts of a plant Identify and name tree parts Name and identify common wildflowers and garden plants Identify plants in the local area Know that deciduous trees lose leaves in autumn Know that evergreen trees keep their leaves all year round Identify trees in the local area Vocabulary: Flower, petal, leaf, stem, roots, trunk, branch, fruit, wildflower, daisy, garden plant, sunflower, nettle, buttercup, dandelion,	Sequence: Explore how some plants can be grown and eaten for food Reflect on the plants they have grown this year Vocabulary: Crops, fruit, vegetable, seed, farmer, plant, cook National Curriculum Links: Working Scientifically – Asking simple questions and recognising that they can be answered in different ways Using their observations and ideas to suggest answers to questions.		

smooth, hard, soft, smell, scent, stench National Curriculum Links: Identify, name, draw and label the basic parts of the

human body and say which part of the body is associated with each sense.

Working scientifically – Asking simple questions and recognising that they can be answered in different ways. Using their observations and ideas to suggest answers to questions. Working scientifically – Performing simple tests. independent, dependent, controlled, transparent, opaque **National Curriculum Links:** Describe the simple physical properties of a variety of everyday materials. Identify and name a variety

of everyday materials, including wood, plastic, glass, metal, water and rock. Distinguish between an object and the material from which it is made. Compare and group together a variety of everyday materials on the basis of their simple

Working Scientifically – Identifying and classifying. Observing closely, using simple equipment. Performing simple tests. Gathering and recording data to help in answering questions. Using their observations and ideas to suggest answers to questions.

physical properties.

deciduous, horse chestnut, oak, sycamore, evergreen,

National Curriculum Links: Identify and describe the basic structure of a variety of common flowering plants, including trees. Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.

pine, holly, needles

Working Scientifically – Identifying and classifying. Observing closely, using simple equipment. Gathering and recording data to help in answering questions. Using their observations and ideas to suggest answers to questions.



Seasonal Changes	Seasonal Changes	Animals	Caring for the planet	Planting C	Seasonal Changes
Biology	Biology	Biology	Sustainability	Biology	Biology
Sequence:	Sequence:	Sequence:	Sequence:	Sequence:	Sequence:
Know a year is split into 4	Know seasonal changes in	Identify mammals and their	Begin to know actions that	Explore how their seeds	Explore seasonal changes in
seasons	winter	features	are sustainable and the	have changed over time	summer
Understand changes in	Gather and record data in	Explore and identify birds	effect they can have on our	Explore plant growth over	Collect a range of data and
autumn	winter	and their features	planet	time during summer	compare it to other
Collect and record data of		Explore different types of	Know that we all have a		seasons
weather	Vocabulary	fish and their features	responsibility to look after	Vocabulary:	Recap the main changes in
	Season, winter, daylight,	Identify amphibians and	our planet	Flower, leaf, root, stem,	each season
Vocabulary	weather, night, rain, cloud,	their features		seed, soil, measure,	
Season, autumn, daylight,	frost, snow, sun	Explore reptiles and their	Vocabulary:	growth, trowel	Vocabulary:
night, weather, rainfall, rain		features	Earth, plant, animal,		Summer, daylight, weather,
gauge	National Curriculum Links:	Compare and group	helpful, harmful, material,	National Curriculum Links:	night, season, rainy, windy,
	Observe changes across the	animals	recycle, reuse	Identify and name a variety	cloudy, sunny, record,
National Curriculum Links:	four seasons.	Explore different carnivores		of common wild and	autumn, winter, spring
Observe changes across the	Observe and describe	and their key	National Curriculum Links:	garden plants, including	
four seasons.	weather associated with	characteristics	Working Scientifically –	deciduous and evergreen	National Curriculum Links:
Observe and describe	the seasons and how day		Explore the world around	trees.	Observe changes across the
weather associated with	length varies.	Vocabulary:	them and raise their own	Identify and describe the	4 seasons.
the seasons and how day		Animal, mammal, fur, wild	questions (non-statutory).	basic structure of a variety	Observe and describe
length varies.	Working Scientifically –	mammal, pet, bird, wings,	Using their observations	of common flowering	weather associated with
	Asking simple questions	beak, feathers, webbed	and ideas to suggest	plants, including trees.	the seasons and how day
Working scientifically –	and recognising that they	feet, flipper, fish, fin, tail,	answers to questions.		length varies.
Asking simple questions	can be answered in	scales, gills, amphibian,		Working Scientifically –	
and recognising that they	different ways.	frog, toad, newt, reptile,		Observing closely, using	Working Scientifically –
can be answered in	Gathering and recording	scales, lizard, crocodile,		simple equipment.	Asking simple questions
different ways.	data to help in answering	turtle, carnivore, sharp		Gathering and recording	and recognising that they
Working scientifically –	questions.	teeth		data to help in answering	can be answered in
Gathering and recording				questions.	different ways.
data to help in answering		National Curriculum Links:			Gathering and recording
questions.		Identify and name a variety			data to help in answering
		of common animals			questions.
		including fish, amphibians,			Using their observations
		reptiles, birds and			and ideas to suggest
		mammals.			answers to questions.



Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets). Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Working Scientifically – Asking simple questions and recognising that they can be answered in different ways. Gathering and recording data to help in answering questions. Identifying and classifying. Using their observations and ideas to suggest answers to questions.		
	Seasonal Changes Biology	
	Sequence: Identify seasonal changes in Spring Gather and collect data in spring Vocabulary: Spring, daylight, night, weather, season, rain, sleet, cloud, sun, snow, wind	



	National Curriculum Links: Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies Working Scientifically – Asking simple questions and recognising that they can be answered in different ways. Gathering and recording data to help in answering questions.	
	Planting B Biology	
	Sequence: Explore how the seeds they planted in Planting A have changed over time Explore plant growth over time by planting in spring Vocabulary: Plant, flower, leaf, stem, roots, seed, soil,	
	National Curriculum Links: Identify and describe the basic structure of a variety of common flowering plants, including trees.	



	Working Scientifically –	
	Observing closely, using	
	simple equipment.	
	Gathering and recording	
	data to help in answering	
	questions.	

	Year 2 Science					
Harvest	Christmas	Winter	Spring	Whitsun	Summer	
Animals' Needs for Survival Biology	Materials Chemistry	Plants (Light and Dark) Biology	Living Things and their Habitats (Cont). Biology	Plants (bulbs and seeds) Biology	Plants (bulbs and seeds) Biology	
Sequence:	Sequence:	Sequence:	Sequence:	Sequence:	Sequence:	
Know what a mammal is	Identify, group and sort	Explore a wide range of	Explore microhabitats and	Know the difference	Look at the findings of	
and what it needs to	materials	plants	compare these to habitats	between bulbs and seeds	planting bulbs and seeds	
survive	Explore wood, paper and	Name and identify the	Explore links between	Identify best conditions for		
Know what birds need to	cardboard in more detail	parts of common plants	habitat and diet	plant growth	Vocabulary:	
survive	Look at materials brick and	and trees	Recognise and build simple	Plan an observation over	Bulb, seed, plant, shoot,	
Know what fish need to	rock	Explore conditions plants	food chains	time	roots, sunlight,	
survive	Explore the simple	need to grow	Explore and compare the	Grow bulbs and seeds over	temperature, growth,	
Identify and name common	properties of glass and	Plan a comparative test to	differences between things	different temperature	compost, measurement,	
amphibians, knowing what	plastic	explore plant growth	that are living, things that	conditions	observe	
they need to survive	Explore a range of metallic	Carry out a comparative	are dead and things that			
Identify and name common	objects and perform simple	test to explore plant	have never been alive	Vocabulary:	National Curriculum Links:	
reptiles, knowing what they	tests	growth		Bulb, seed, plant, shoot,	Observe and describe how	
need to survive	Name and identify a range		Vocabulary:	roots, sunlight,	seeds and bulbs grow into	
Identify the needs for	of natural and man-made	Vocabulary:	Microhabitat, insect, snail,	temperature, growth,	mature plants.	
survival in humans	fabrics	Plant, flower, fruit,	spider, habitat, diet,	compost, measurement,		
		vegetable, herb, blossom,	carnivore, herbivore,	observe	Working Scientifically –	
		stem, leaf, trunk, branch,	omnivore, food chain,			



Vocabulary:

Mammal, fur, carnivore, herbivore, omnivore, bird, feathers, beak, insect, insectivore, fish, scales, gills, fin, amphibian, webbed feet, frog, toad, newt, reptile, adult, baby, shelter

National Curriculum Links: Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).

Working scientifically – Asking simple questions and recognising that they can be answered in different ways. Gathering and recording data to help in answering questions. Identifying and classifying. Using their observations and ideas to suggest answers to questions. Explore how different objects can be made from different materials Carry out simple tests to change the shape of an object Plan a comparative test Carry out a comparative test to answer an enquiry question

Vocabulary:

Material, natural, manmade, recycle, smooth, rough, flexible, rigid, rock, stone, pebble, brick, brittle, flexible, transparent, translucent, opaque, hard, shiny, dull, fabric, tough, lightweight, soft, squash, bend, twist, stretch, independent variable, dependent variable, controlled variable, waterproof, strong, breakable

National Curriculum Links: Identify and compare the suitability of a variety of everyday materials,

including wood, metal,

plastic, glass, brick, rock,

paper and cardboard for

particular uses.

independent variable, dependent variable, controlled variable, compost

National Curriculum Links: Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

seed, plant, sunlight, soil,

Working Scientifically -

Observing closely, using simple equipment Asking simple questions and recognising that they can be answered in different ways. Performing simple tests. living, dead, never alive, plant, animal

National Curriculum Links: Identify and name a variety of plants and animals in their habitats, including microhabitats. 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. 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. Explore and compare the differences between things that are living, dead, and things that have never been alive. Working Scientifically – Observing closely, using

simple equipment.

questions.

Gathering and recording

data to help in answering

National Curriculum Links: 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. Working Scientifically – Observing closely, using simple equipment. Record and communicate their findings in a range of ways and begin to use simple scientific language

(non-statutory).

different ways.

Asking simple questions

can be answered in

and recognising that they

Performing simple tests.

Observing closely, using simple equipment.



	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Working Scientifically – Identifying and classifying. Performing simple tests. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (non- statutory). Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Using their observations and ideas to suggest answers to questions.		Identifying and classifying.		
Humans Biology	Plastic Sustainability	Living Things and their Habitats Biology	Plants (Light and Dark) Biology	Growing Up Biology	Growing Up Biology
Sequence: Investigate the effect of exercise on heart rate Identify, name, sort and group different foods	Sequence: Explore how plastic is helpful and harmful Explore how plastic waste can be reduced Vocabulary:	Sequence: Know what a habitat is Explore animals and plants that live in a polar habitat Explore animals and plants that survive in the desert	Sequence: Look at findings from their comparative test in previous Plants block Vocabulary:	Sequence: Identify offspring as animal's young Know the life cycle of a human	Sequence: Record first-hand observations of the life cycle of a butterfly Vocabulary:



Know how to keep clean	Plastic, man-made, recycle,	Explore the habitats of	Plant, seed, soil, sunlight,	Explore simple life cycles of	Life cycle, egg, caterpillar,
and why it is important	single-use plastic	ocean animals	dark, living, dead	a range of mammals	pupa, butterfly, compare
Know how to maintain		Identify animals and plants		Explore the life cycle of a	
good oral hygiene	National Curriculum Links:	that live in woodland	National Curriculum Links:	frog	National Curriculum Links:
	Working Scientifically –	habitats	Find out and describe how	Explore the life cycle of a	Notice that animals,
Vocabulary:	Using their observations		plants need water, light		
Heart, exercise, physical	and ideas to suggest	Vocabulary:	and a suitable temperature	butterfly	including humans, have
health, mental health,	answers to questions.	Habitat, mammal, bird,	to grow and stay healthy.	Compare life cycles of	offspring which grow into
healthy, unhealthy, diet,	Explore the world around	deciduous, evergreen,		different animals	adults.
meat, vegetables, fruit,	them and raise their own	carnivore, herbivore,	Working Scientifically –		
sugar, germs, hygiene,	questions (non-statutory).	hibernate, reptile, cactus,	Gathering and recording	Vocabulary:	Working Scientifically –
disease, doctor, teeth,		rainfall, ocean, seagrass,	data to help in answering	Offspring, growth, egg,	Observing closely, using
plaque, filling, gums		fish, woodland, fern, moss	questions.	adult, parent, baby, child,	simple equipment.
				teenager, adult, life cycle,	
National Curriculum Links:		National Curriculum Links:			
Describe the importance		Identify that most living		mammal, baby, adolescent,	
for humans of exercise,		things live in habitats to		adult, amphibian,	
eating the right amounts of different types of food, and		which they are suited and describe how different		frogspawn, tadpole,	
hygiene.		habitats provide for the		froglet, egg, caterpillar,	
liygiene.		basic needs of different		pupa, butterfly, compare	
Working scientifically –		kinds of animals and plants,			
Gathering and recording		and how they depend on		National Curriculum Links:	
data to help in answering		each other.		Notice that animals,	
questions.		Identify and name a variety		including humans, have	
Identifying and classifying.		of plants and animals in		. .	
Observing closely, using		their habitats, including		offspring which grow into	
simple equipment.		microhabitats.		adults.	
		Working Scientifically –		Working Scientifically –	
		Gathering and recording		Identifying and classifying.	
		data to help in answering		Asking simple questions	
		questions.		and recognising that they	
		Using their observations		can be answered in	
		and ideas to suggest			
		answers to questions.		different ways.	



Identifying and classifying.	Record and communicate	
	their findings in a range of	
	ways and begin to use	
	simple scientific language	
	(non-statutory).	
	Observing closely, using	
	simple equipment.	
	Using their observations	
	and ideas to suggest	
	answers to questions.	
		Wildlife
		Sustainability
		Sequence:
		Explore how wildlife is
		beneficial for humans
		Explore how they can care
		for local wildlife
		Vocabulary:
		Food chain, habitat, crops,
		insect, wildlife, nature,
		local
		National Curriculum Links:
		Working Scientifically –
		Asking simple questions
		and recognising that they
		can be answered in different ways.
		Using their observations
		and ideas to suggest
		answers to questions.



	Year 3 Science					
Harvest	Christmas	Winter	Spring	Whitsun	Summer	
Skeletons Biology	Nutrition and Diet (Cont). Biology	Fossils Chemistry	Light Physics	Plants A Biology	Forces Physics	
Sequence: Name and identify bones in the human body Know the functions of the skeleton and specific bones Name and identify bones in a range of animals Identify animals with and without a spine Explore whether all skeletons are the same Vocabulary Skeleton, skull, pelvis, femur, spine, ribcage, mammal, bird, fish, amphibian, reptile, antennae, insect, exoskeleton National Curriculum Links: Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Sequence: Compare diets Explore the wider animal kingdom to learn about the different dietary requirements of animals Vocabulary: Vegan diet, vegetarian diet, pescatarian diet, omnivorous diet, herbivore, carnivore, omnivore National Curriculum Links: Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Working Scientifically – Identifying differences, similarities or changes related to simple scientific ideas and processes.	Sequence: Explore fossils and know what a fossil is Explore the process of fossilisation Vocabulary: Fossil, rock, skeleton, shell, sediment, fossilisation National Curriculum Links: Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Working Scientifically - Asking relevant questions and using different types of scientific enquiries to answer them. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Sequence: Identify light sources: natural and artificial Know some of the harmful effects of the Sun and how to protect their eyes Explain how we are able to see objects Know how shadows are formed Identify opaque, translucent and transparent materials Plan a fair test to investigate size of shadows Work scientifically to investigate size of shadows Draw conclusions and evaluate an investigation Vocabulary: Light, eyes, light sources, natural, artificial, Sun, sunglasses, protect, reflection, shiny, dull, shadow, opaque, translucent, transparent,	Sequence: Explore the different parts of a plant and their functions Apply knowledge of plant parts Plan a scientific investigation Carry out a plant growth experiment Explore stem and water transportation Know the process of germination Identify the reproductive parts in a plant Know the process of pollination Know how seeds can be dispersed Know the life cycle of a plant Vocabulary: Leaf, stem, roots, flower, soil, dissection, independent variable,	Sequence: Define forces as push or pull Explore friction Plan a comparative test Investigate how different materials affect friction Vocabulary: Push, pull, force, contact force, friction, smooth, rough, independent variable, dependent variable, controlled variable, data, prediction National Curriculum Links: Compare how things move on different surfaces. Working Scientifically – Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific	



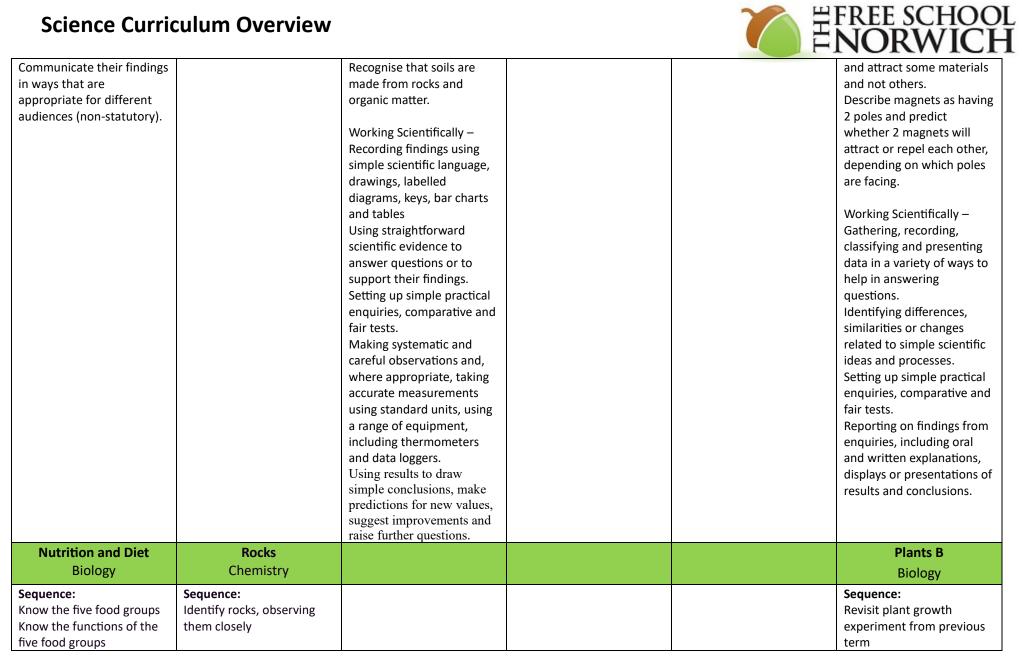
Working scientifically- acking relevant questions acking relevant questions acking relevant questions or to sport their findingsUsing straightforward acking relevant or to support answer questions or to support their findings and using different types of answer questions or to support their findingsUsing straightforward acking relevant or to support distance, conclusion, genuination, seedling, seed, or grans, policy, bar charts, and tables.Using straightforward acking relevant or to support their findings. Straightforward and tables.Using straightforward answer questions or to support their findings and that darkness is the absence of light in order to see things and that darkness is the protection for new values, and tables.International control adsence of light in order to see things and that darkness is the protection for new values, and that ther areasys to protection or evalue.National Curriculum Links: the sum can be dangerous and that ther relevants or protection or evalue.National Curriculum Links: the sum can be dangerous and that ther relevants or protection or evalue.National Curriculum Links: the functions of different parts of flowering plantions, displays or presentations of results and conclusions.National Curriculum Links: the sum can be dangerous and that ther areasys to protect our eyes. Notice that light from a light source is blocked by an opaque that bigst coming plantions, (charge, charge, charge					
and using different types of scientific enquiries to answer them. Recording findings using simple scientific language. Mational Curriculum Links: simple scientific language. drawings, babeled digarams, keys, bar chars, and tables. Talk about criteria for grouping, sorting and classifying (non-statutory). Reporting on findings from enquiries, including oral and writen explanation, displays or presentations of results and conclusions. Here the tight in the sum can be bab enduiries to the sum can bab out criteria for tables. Exporting and classifying (non-statutory). Reporting on findings from enquiries, including oral and subtes. Explore the requirements and conclusions. Here tight is the sum can be dangerous and the sum can be dangerous and there are ways to protect our eyes. Tortice that light is reflected is protect our eyes. Tortice that light is reflected is protect our eyes. Here tight is reflected is protect our eyes. Tortice that light is reflected is protect our eyes. Tortice the sum can the sum the explanations. Tortice that light is reflected is protect our eyes. Tortice the sum the explanations. Tortice the sum the light object. Tortice the sum the explanations. Tortice the sum the explanation the titer the sum the the sum the tig the expl	Working scientifically –	Using straightforward	controlled variable,	controlled variable, seed,	evidence to answer
scientific enquiries to answer them. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Talk about criteria for grouping, sorting and classifying (non-statutory), enquiries, including oral and mitter explanations, seporting on findings from enquiries, including oral and writter explanations, seporting on findings from enquiries, including oral and writter explanations, seporting on findings from enquiries, including oral and writter explanations, displays or presentations of results and conclusions. Recording findings using similar conclusions of results and conclusions. Recording findings using similar conclusions. Recording findings from results and conclusions. Recording findings using similar conclusions. Recording findings from results and conclusions. Recording findings using similar conclusions. Recording findings using similarities or changes related to simple scientifically— diagrams, keys, barcharts, Recording findings using similarities or changes related to simple scientifically— diagrams, keys, barcharts, Recording findings using similarities or changes similarities or c	Asking relevant questions	scientific evidence to	dependent variable,	scales, measuring cylinder,	questions or to support
answer them.Coating, petals, stamon, pistil, eggs, reproductive fair tests.enquiries, comparative and fair tests.Recognise that they need light in order to see things and tables.pistil, eggs, reproductive pollinators, seed dispersal, and tables.enquiries, comparative and fair tests.Talk about criteria for grouping, sorting and classifying (non-statutory).enquiries, comparative and fair tests.enquiries, comparative and fair tests.Recognise that they need light in order to see things and tables.enquiries, comparative and fair tests.single scientific and tables.Recognise that they need rouping, sorting and classifying (non-statutory).enquiries, comparative and fair tests.single scientific and written explanations, dispersal, water dispersalenquiries, comparative and fair tests.Recognise that they need results and conclusions.form a light source is blocked by an opaque object.form a light source is blocked by an opaque object.form a light source is to plant.Working scientifically- identifying differences, similarities or changes related to simple scientific ideas and processe.investing tests form a light source is blocked by an opaque object.investing test the and growting indires.enquiries, comparative and fair tests.Working scientifically- identifying differences, similarities or changes related to simple scientific ideas and processe.form a light source forwers plant to plant.enquiries, comparative and fair tests.Working scientifically- identifying differences, similarities or changes related to simple	and using different types of	answer questions or to	distance, conclusion,	water transportation,	their findings.
Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. National Curriculum Links: Recognise that they need and tables. pistil, eggs, reproductive organs, pollen, pollination, pollinators, seed dispersal, wind dispersal, and dispersal, and dispersal, explosion istretst. Using results to draw simple conclusions, make protections for new values, absence of light. istretst. Pollinators, seed dispersal, wind dispersal, and dispersal, water dispersal istretst. Using results to draw simple conclusions, make protections for new values, suggest improvements and raise further questions. Recognise that light from the Sun can be dangerous and that there are ways to classifying (non-statutory). National Curriculum Links: protect our eyes. National Curriculum Links: light is reflected from surfaces. National Curriculum Links: protect our eyes. National Curriculum Links: light is reflected from surfaces. displays or presentations of results and conclusions. results and conclusions. results hadows are formed when the light from a light source is blocked by an opaque object. stem/trunk, leaves and from a light source is blocked by an opaque of plants for life and room to grow) and how they vary from plant to plant. plant. Vorking scientifically – leantific and processes. grimple scientific language, drawings, labelled diagrams, keys, bar charts, Kporte hart that from and seed Kporte hart that from sing and routients from soil, and room to grow) and how they vary from plant to plant. plant.	scientific enquiries to	support their findings	evaluation	germination, seedling, seed	Setting up simple practical
simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Talk about criteria for grouping, sorting and classifying (non-statutory). Reporting on findings from enquiries, including oral and that there are ways to protect our eyes. Notice that light is reflected and written explanations, displays or presentations of results and conclusions. Recognise that shadows results and recognise that	answer them.			coating, petals, stamen,	enquiries, comparative and
drawings, labelled diagrams, keys, bar charts, and tables. Talk about criteria for grouping, sorting and classifying (non-statutory). Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Here is the spin of the spin	Recording findings using		National Curriculum Links:	pistil, eggs, reproductive	fair tests.
diagrams, keys, bar charts, and tables. Talk about criteria for grouping, sorting and classifying (non-statutory). Reporting on findings from and written explanations, displays or presentations of results and conclusions. Here is the state of light. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Here is the state of shadows results and processes. Recording findings using similarities or change; Here is the state of shadows related to simple scientific related to simple scien			Recognise that they need	organs, pollen, pollination,	Using results to draw
and tables. Talk about criteria for grouping, sorting and classifying (non-statutory). Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Here in the state of shadows results and raise further questions. Here in the state of shadows results and processes. similarities or changes related to simple scientific in the state of processes. related to simple scientific in grouping the infer of the processes. related to simple scientific in the state of processes. related to simple scientific in grouping the scientific in the state of processes. related to simple scientific in the state of the part that in the rece in th	drawings, labelled		light in order to see things	pollinators, seed dispersal,	simple conclusions, make
Talk about criteria for Recognise that light from dispersal, water dispersal raise further questions. Classifying (non-statutory). Reporting on findings from and that there are ways to National Curriculum Links: Reporting on findings from protect our eyes. National Curriculum Links: Identify and describe the and written explanations, from surfaces. of flowering plants: roots, stem/trunk, leaves and results and conclusions. from a light source is blocked by an opaque of plants for life and growth (air, light, water, nutrientes from spinal to: plants for life and growth (air, light, water, root to grow) and how thety ary from plant to plants plants plants vich water is transported ideatifying differences, linvestigate the way in investigate the way in similarities or changes similarities or changes which water is transported within plants. vich water is transported diagrams, keys, bar charts, flowers, plant the glant the state of shadows plants. change. lidentifying differences, similarities or changes	diagrams, keys, bar charts,		and that darkness is the	wind dispersal, animal	predictions for new values,
grouping, sorting and classifying (non-statutory). Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	and tables.		absence of light.	dispersal, explosion	suggest improvements and
grouping, sorting and classifying (non-statutory).the Sun can be dangerous and that there are ways to protect our eyes.National Curriculum Links:enquiries, including oral and written explanations, displays or presentations of results and conclusions.Identify and describe the from surfaces.Identify and describe the functions of different parts of flowering plants: roots, are formed when the light from a light source is blocked by an opaque object.Explore the requirements orop lants for life and growh (air, light, water, nutrients from solin), and room to grow) and how they vary from plant to they vary from plant to they any from plant to<	Talk about criteria for		Recognise that light from	dispersal, water dispersal	raise further questions.
Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.Protect our eyes. Notice that light is reflected from surfaces.National Curriculum Links: (Identify and describe the functions of different parts of flowering plants: roots, are formed when the light from a light source is blocked by an opaque blocked by an opaque blocked by an opaque blocked by an opaque blocked by an opaque chart the size of shadows room to grow) and how that the size of shadows room to grow) and how they vary from plant to blocked by any from plant to that the size of shadows room to grow) and how they vary from plant to blocked by any form plant to they say from plant to they say from plant to they say from plant to blocked by any opaque that the size of shadows results and conclusions.National Curriculum Links: (Identify ing differences, that the size of shadows result to similarities or changes that the size of shadows related to simple scientifically - plant.Investigate the way in which water is transported which water is transported ideas and processes.Reporte he part that flowering plants, roo	grouping, sorting and		the Sun can be dangerous		
Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.Protect our eyes. Notice that light is reflected from surfaces.National Curriculum Links: (Identify and describe the functions of different parts of flowering plants: roots, are formed when the light from a light source is blocked by an opaque blocked by an opaque blocked by an opaque blocked by an opaque blocked by an opaque chart the size of shadows room to grow) and how that the size of shadows room to grow) and how they vary from plant to blocked by any from plant to that the size of shadows room to grow) and how they vary from plant to blocked by any form plant to they say from plant to they say from plant to they say from plant to blocked by any opaque that the size of shadows results and conclusions.National Curriculum Links: (Identify ing differences, that the size of shadows result to similarities or changes that the size of shadows related to simple scientifically - plant.Investigate the way in which water is transported which water is transported ideas and processes.Reporte he part that flowering plants, roo	classifying (non-statutory).		and that there are ways to		
and written explanations, displays or presentations of results and conclusions.			protect our eyes.	National Curriculum Links:	
displays or presentations of results and conclusions. Hecognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change. Hey vary from plant to they vary from plant to they vary from plant to plant. Investigate the way in victim plants. Hey vary from plant to they vary from plants. Explore the part that frowers play in the life cycle of flowers play in the life cycle diagrams, keys, bar charts, formation and seed	enquiries, including oral		Notice that light is reflected	Identify and describe the	
displays or presentations of results and conclusions. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change. Vorking scientifically - Identifying differences, ismilarities or changes related to simple scientific ideas and processes. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how that the size of shadows nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in wich water is transported wich water is transported wich water is transported wich materis transported with materis transported wi	and written explanations,		from surfaces.	functions of different parts	
from a light source is blocked by an opaque object.flowers.Explore the requirements object.of plants for life and growth (air, light, water, nutrients from soil, and change.Working scientifically - ldentifying differences, similarities or changesplant.Investigate the way in which water is transported within plants.investigate the way in within plants.Kecording findings using simple scientific ideas and processes.flowers plant to plants, investigate the specific within plants, induction plants, including pollination, seed diagrams, keys, bar charts,	-		Recognise that shadows	-	
blocked by an opaque object. of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to they vary from plant the var	results and conclusions.		are formed when the light	stem/trunk, leaves and	
object.of plants for life andFind patterns in the way that the size of shadows change.growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant toWorking scientifically -plant.Identifying differences, similarities or changesInvestigate the way in which water is transportedwinch water is transportedwinch water is transportedideas and processes.Explore the part that flowers play in the life cyclegrimple scientific language, drawings, labelledof flowering plants, including pollination, seeddiagrams, keys, bar charts,formation and seed			from a light source is	flowers.	
Find patterns in the way that the size of shadows change.growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant toWorking scientifically - Identifying differences, similarities or changesplant.Identifying differences, similarities or changesInvestigate the way in which water is transportedWorking scientifically - Identifying differences, similarities or changesInvestigate the way in which water is transportedKecording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts,formation and seed			blocked by an opaque	Explore the requirements	
that the size of shadows change.nutrients from soil, and room to grow) and how they vary from plant to plant.Working scientifically – Identifying differences, similarities or changesInvestigate the way in which water is transported within plants.related to simple scientific ideas and processes.Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed diagrams, keys, bar charts,formation and seed			object.	of plants for life and	
change.room to grow) and how they vary from plant toWorking scientifically -plant.Identifying differences,Investigate the way inIdentifying differences,which water is transportedimilarities or changeswhich water is transportedrelated to simple scientificwithin plants.ideas and processes.Explore the part thatRecording findings usingflowers play in the life cyclesimple scientific language,of flowering plants,drawings, labelledincluding pollination, seeddiagrams, keys, bar charts,formation and seed			Find patterns in the way	growth (air, light, water,	
they vary from plant toWorking scientifically –Identifying differences,Investigate the way insimilarities or changeswhich water is transportedrelated to simple scientificideas and processes.Explore the part thatRecording findings usingsimple scientific language,of flowering plants,drawings, labelleddiagrams, keys, bar charts,formation and seed			that the size of shadows	nutrients from soil, and	
Working scientifically -plant.Identifying differences,Investigate the way insimilarities or changeswhich water is transportedrelated to simple scientificwithin plants.ideas and processes.Explore the part thatRecording findings usingflowers play in the life cyclesimple scientific language,of flowering plants,drawings, labelledincluding pollination, seeddiagrams, keys, bar charts,formation and seed			change.	room to grow) and how	
Identifying differences, similarities or changesInvestigate the way in which water is transportedwhich water is transportedwhich water is transportedrelated to simple scientific ideas and processes.Explore the part that flowers play in the life cyclesimple scientific language, drawings, labelled diagrams, keys, bar charts,of flowering plants, including pollination, seed			-	they vary from plant to	
similarities or changes which water is transported within plants. related to simple scientific ideas and processes. Recording findings using flowers play in the life cycle of flowering plants, drawings, labelled including pollination, seed diagrams, keys, bar charts, formation and seed			Working scientifically –	plant.	
related to simple scientific within plants. ideas and processes. Explore the part that Recording findings using flowers play in the life cycle simple scientific language, of flowering plants, drawings, labelled including pollination, seed diagrams, keys, bar charts, formation and seed			Identifying differences,	Investigate the way in	
ideas and processes. Explore the part that Recording findings using flowers play in the life cycle simple scientific language, of flowering plants, drawings, labelled including pollination, seed diagrams, keys, bar charts, formation and seed			similarities or changes	which water is transported	
Recording findings using simple scientific language, drawings, labelledflowers play in the life cycleof flowering plants, including pollination, seedincluding pollination, seed			related to simple scientific	within plants.	
Recording findings using simple scientific language, drawings, labelledflowers play in the life cycleof flowering plants, including pollination, seedincluding pollination, seed			ideas and processes.	Explore the part that	
drawings, labelled including pollination, seed diagrams, keys, bar charts, formation and seed			Recording findings using		
drawings, labelled including pollination, seed diagrams, keys, bar charts, formation and seed					
diagrams, keys, bar charts, formation and seed					



Gathering, recording,	Working Scientifically –	
classifying and presenting	Using straightforward	
data in a variety of ways to	scientific evidence to	
help in answering	answer questions or to	
questions.	support their findings.	
Asking relevant questions	Talk about criteria for	
and using different types of	grouping, sorting and	
scientific enquiries to	classifying (non-statutory).	
answer them.	Asking relevant questions	
Setting up simple, practical	and using different types of	
enquiries, comparative and	scientific enquiries to	
fair tests.	answer them.	
Using results to draw	Setting up simple practical	
simple conclusions, make	enquiries, comparative and	
predictions for new values,	fair tests.	
suggest improvements and	Identifying differences,	
raise further questions.	similarities or changes	
	related to simple scientific	
	ideas and processes.	
	Recording findings using	
	simple scientific language,	
	drawings, labelled	
	diagrams, keys, bar charts,	
	and tables.	
	Use relevant scientific	
	language to discuss their	
	ideas and communicate	
	their findings	
	in ways that are	
	appropriate for different	
	audiences (non-statutory).	
	Identifying differences,	
	similarities or changes	
	related to simple scientific	
	ideas and processes.	



			Reporting on findings from enquiries, including oral and written explanations, displays or presentations of	
			results and conclusions.	
Movement	Food Waste	Soils		Magnets
Biology	Sustainability	Chemistry		Physics
Sequence: Identify different joint types Know how skeletons, joints and muscles work together to allow movement Vocabulary Joint, hinge, ball and socket, skeleton, muscle, bicep, tricep, contract, relax National Curriculum Links: Identify that humans and some other animals have skeletons and muscles for support, protection and movement. Working scientifically – Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations (non-	Sequence: Look at food waste and its impact on the planet Identify ways to reduce food waste Vocabulary: Food waste, landfill, food label, compost National Curriculum Links: Working Scientifically – Asking relevant questions and using different types of scientific enquiries to answer them. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Sequence: Explore different types of soil and what they are made up of Know the importance of soil Plan a comparative test to compare soils Carry out a comparative test on soils Analyse data, make conclusions and evaluate an investigation Vocabulary: Soil, sandy soil, clay soil, peat soil, chalky soil, organic matter, nutrients, habitat loss, deforestation, habitat, independent variable, dependent variable, controlled variable, soil, filter paper, filter funnel, measure, measuring cylinder, absorb, evaluation, data		Sequence: Explore magnets and non- contact forces Explore magnetic and non- magnetic materials Investigate metals Develop understanding of magnets and their poles Vocabulary: Magnet, magnetic, poles, magnetic force, iron, metal, non-metal, attract, steel, aluminium, repel National Curriculum Links: Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnetic materials.
statutory).		National Curriculum Links:		Observe how magnets attract or repel each other



Explore what a balanced diet is and its importance in maintaining good health

Vocabulary:

Carbohydrate, protein, dairy, fats, sugar, fruit, vegetable, energy, calcium, muscle, nutrients, vitamins, balanced diet, balanced meal, nutrition, Eatwell guide

National Curriculum Links: Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.

Working Scientifically – Talk about criteria for grouping, sorting and classifying (non-statutory). Using straightforward scientific evidence to answer questions or to support their findings. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Sort and group rocks based on their physical appearance Perform simple tests on rocks Identify rocks and observe where they are used for building materials

Vocabulary:

Granite, pumice, sandstone, chalk, marble, gneiss, crystals, grains, layers, texture, reaction, hardness, float, sink, brittle, texture, weathering

National Curriculum Links: Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.

Working Scientifically – Making systematic and careful observations. Talk about criteria for grouping, sorting and classifying (non-statutory). Making systematic and careful observations. Gathering, recording, classifying and presenting data in a variety of ways to FREE SCHOOL

Vocabulary: Soil, seed, measure, data

National Curriculum Links:

Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.

Working Scientifically – Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.



help in answering questions.		
	 	Biodiversity Sustainability
		Sequence: Explore what biodiversity is Identify positive actions humans can take to increase biodiversity in the local area
		Vocabulary: Biodiversity, endangered, extinct, rewilding, habitat
		National Curriculum Links: Working Scientifically – Asking relevant questions and using different types of scientific enquiries to
		answer them. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.

Year 4 Science					
Harvest	Christmas	Winter	Spring	Whitsun	Summer
Group and classify living Things	States of Matter (Cont). Chemistry	Sound Physics	Electricity Physics	Data Collection C Biology	The Digestive System Biology



Biology					
Sequence:	Sequence:	Sequence:	Sequence:	Sequence:	Sequence:
Identify, sort and group	Explore how some	Know that sounds are	Identify common	Continue an observation	Explore how an animal's
animals into categories	materials can change states	made when objects vibrate	appliances that use	over time by identifying	diet influences the
based on their features	between a solid, liquid and	Learn how sound reaches	electricity	living things in the local	structure of its teeth
Know the term 'vertebrate'	gas	the ear and how the	Build working circuits and	area	Understand why humans
and 'invertebrate' and use	Work scientifically to	different parts of the ear	explore the role of each	Work scientifically to	have more than one type of
these to describe animals	understand how to use a	allow us to hear sounds	part of these circuits	analyse the data they	tooth
Use simple keys to classify	thermometer and	Explore sound and	Identify problems in a	collected	Know the layers of the
animals correctly	stopwatch accurately	understand how the	circuit and identify ways to	Work scientifically to	teeth
Group plants in a range of	Plan a fair test to	intensity of sound is	fix the circuit	analyse the data they	Plan and set up an
categories	investigate temperature	measured	Know the terms	collected over the whole	investigation into the
Use classification keys to	Carry out an experiment to	Explore how the strength of	'conductors' and	year	effects of different liquids
classify plants based on	investigate temperature	the vibrations affects the	'insulators'		have on the egg
simple physical	Know the water cycle	volume of a sound	Explore which materials are	Vocabulary:	Explore the digestive
characteristics	Plan an investigation into	Explore the term 'pitch'	conductors and insulators	Vertebrate, invertebrate,	system and the route food
	evaporation	Plan a fair test to explore	Explore conductors within a	flowering plant, non-	takes through the body
Vocabulary:	Carry out an investigation	the effect of distance and	circuit	flowering plant, bar chart,	Model the process of
Vertebrate, mammal, bird,	into evaporation, using	volume		pictogram, data, seasonal	digestion
fish, amphibian, reptile,	equipment accurately	Carry out a fair test	Vocabulary:	changes, increase,	Describe the findings of an
vertebrate, invertebrate,	Analyse data, draw	exploring the effect of	Appliances, plug, socket,	decrease, conclusion,	investigation into effects of
exoskeleton, insect, spider,	conclusions and evaluate	distance and volume	cell, electrocuted, circuit,	compare	liquids on an egg
soft-bodied, classification	an experiment	Evaluate an experiment	switch, battery, buzzer,		
key, flowering plant, non-			conductor, insulator, metal,	National Curriculum Links:	Vocabulary:
flowering plant, stamen,	Vocabulary:	Vocabulary:	material	Explore and use	Teeth, carnivore, herbivore,
carpel, fern, moss	Solid, liquid, gas, volume,	Vibration, ear, sound,		classification keys to help	omnivore, incisors, canines,
	states of matter, pouring	volume, pitch, outer ear,	National Curriculum Links:	group, identify and name a	premolars, molars, germs,
National Curriculum Links:	solid, oobleck, flow,	ear bones, cochlea, ear	Identify common	variety of living things in	enamel, root, plaque,
Recognise that living things	freezing, melting, boiling,	canal, ear drum, decibel,	appliances that run on	their local and wider	decay, digestive system,
can be grouped in a variety	condensation, evaporation,	decibel meter, insulate,	electricity.	environment.	mouth, oesophagus,
of ways.	thermometer, stopwatch,	pitch, high-pitched, low-	Construct a simple series		stomach, intestine, rectum,
Explore and use	beaker, temperature,	pitched, independent	electrical circuit, identifying	Working Scientifically:	saliva
classification keys to help	independent variable,	variable, dependent	and naming its basic parts,	Gathering, recording,	
group, identify and name a	dependent variable,	variable, controlled	including cells, wires, bulbs,	classifying and presenting	National Curriculum Links:
variety of living things in	controlled variable, melting	variable, background noise,	switches and buzzers.	data in a variety of ways, to	Comparing the teeth of
	point, precipitation,	conclusion, evaluate		, , , , , , , , , , , , , , , , , , , ,	carnivores and herbivores



their local and wider	atmosphere, global		Identify whether or not a	help in answering	and suggesting reasons for
environment.	warming, water vapour,	National Curriculum Links:	lamp will light in a simple	questions.	differences.
	Petri dish, observations,	Identify how sounds are	series circuit, based on	Recording findings using	Identify the different types
Working Scientifically –	conclusion	made, associating some of	whether or not the lamp is	simple scientific language,	of teeth in humans and
Talk about criteria for		them with vibrating.	part of a complete loop	drawings, labelled	their simple functions.
grouping, sorting and	National Curriculum Links:	Recognise that vibrations	with a battery.	diagrams, keys, bar charts	Describe the simple
classifying	Compare and group	from sounds travel through	Recognise that a switch	and tables.	functions of the basic parts
Asking relevant questions	materials together,	a medium to the ear.	opens and closes a circuit		of the digestive system in
and using different types of	according to whether they	Find patterns between the	and associate this with		humans.
scientific enquiries to	are solids, liquids or gases.	volume of a sound and the	whether or not a lamp		
answer them	Observe that some	strength of the vibrations	lights in a series circuit.		Working Scientifically –
Gathering, recording,	materials change state	that produced it.	Recognise some common		Identifying differences,
classifying and presenting	when they are heated or	Find patterns between the	conductors and insulators,		similarities or changes
data in a variety of ways to	cooled, and measure or	pitch of a sound and	and associate metals with		related to simple scientific
help in answering	research the temperature	features of the object that	being good conductors.		ideas and processes.
questions.	at which this happens in	produced it.			Asking relevant questions
Reporting on findings from	degrees Celsius.	Recognise that sounds get	Working Scientifically –		and using different types of
enquiries, including oral	Identify the part played by	fainter as the distance from	Talk about criteria for		scientific enquiries to
and written explanations,	evaporation and	the sound source increases.	grouping, sorting and		answer them.
displays or presentations of	condensation in the water		classifying.		Recognise why and how
results and conclusions.	cycle and associate the rate	Working Scientifically –	Recording findings using		secondary sources might
	of evaporation with	Asking relevant questions	simple scientific language,		help them to answer
	temperature.	and using different types of	drawings, labelled		questions that cannot be
		scientific enquiries to	diagrams, keys, bar charts		answered through practical
	Working Scientifically –	answer them.	and tables.		investigations.
	Talk about criteria for	Recording findings using	Using results to draw		Setting up simple practical
	grouping, sorting and	simple scientific language,	simple conclusions, make		enquiries, comparative and
	classifying.	drawings, labelled	predictions for new values,		fair tests.
	Identifying differences,	diagrams, keys, bar charts	suggest improvements and		Reporting on findings from
	similarities or changes	and tables.	raise further questions.		enquiries, including oral
	related to simple scientific	Making systematic and	Asking relevant questions		and written explanations,
	ideas.	careful observations and,	and using different types of		displays or presentations of
	Asking relevant questions	where appropriate, taking	scientific enquiries to		results and conclusions.
	and using different types of	accurate measurements	answer them.		Using the results to draw
	scientific enquiries to	using standard units, using	Using results to draw		simple conclusions, make
	answer them.	a range of equipment,	simple conclusions, make		predictions for new values,



	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Setting up simple practical enquiries, comparative and fair tests. Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Using results to draw simple conclusions, make predictions for new values, suggest improvements and	including thermometers and data loggers. Setting up simple practical enquiries, comparative and fair tests. Identifying differences, similarities or changes related to simple scientific ideas. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	predictions for new values, suggest improvements and raise further questions.		suggest improvements and raise further questions.
Data Collection A Biology		Data Collection B Biology	Energy Sustainability	Habitats Physics	Food chains Biology
Sequence:		Sequence:	Sequence:	Sequence:	Sequence:
Begin an observation over		Continue their observation	Explore the terms 'energy'	Investigate plants and	Explore food chains and
time enquiry		over time enquiry to name	and 'energy usage'	animals within their locality	identify parts of a food
Decide how to record data		and identify living things in their local area	Learn the different ways in	and how biodiverse these local habitats are	chain Apply their knowledge to
they collect Work scientifically to		Collect data around them	which electricity is generated and the way it is	Explore and create	Apply their knowledge to interpret what individual
analyse the data they			used in their daily lives	classification keys for	food chains show
collected		Vocabulary:	Explore how they can	animals	Create and draw food
		Vertebrate, invertebrate,	reduce their energy usage	Construct a classification	chains
Vocabulary:		flowering plant, non-	at home and in school	keys using the	
		flowering plant,		characteristics of plants	



Vertebrate, invertebrate,		Vocabulary:	Explore human impacts on	Explore the potential
flowering plant, non-	National Curriculum Links:	Electricity, mains	plant and animal habitats	impact of human activity of
flowering plant, bar chart,	Explore and use	electricity, battery-		food chains
pictogram, data	classification keys to help	powered, renewable	Vocabulary:	
	group, identify and name a	energy, non-renewable	Habitat, rural habitat,	Vocabulary:
National Curriculum Links:	variety of living things in	energy, Earth	urban habitat, biodiversity,	Food chain, producer,
Explore and use	their local and wider		classification key,	predator, prey, consumer,
classification keys to help	environment.	National Curriculum Links:	vertebrate, invertebrate,	farming, overfishing,
group, identify and name a	Work scientifically to	Working Scientifically –	flowering plant, non-	hunting
variety of living things in	analyse the data collected.	Using straightforward	flowering plant , natural	
their local and wider	Present data.	scientific evidence to	resources, deforestation,	National Curriculum Links:
environment.		answer questions or to	rewilding, nature reserve	Construct and interpret a
	Working scientifically –	support their findings.		variety of food chains,
Working scientifically –	Gathering, recording,	Gathering, recording,	National Curriculum Links:	identifying producers,
Gathering, recording,	classifying and presenting	classifying and presenting	Recognise that living things	predators and prey.
classifying and presenting	data in a variety of ways to	data in a variety of ways to	can be grouped in a variety	
data in a variety of ways to	help in answering	help in answering	of ways.	Working Scientifically –
help in answering	questions.	questions.	Explore and use	Using straightforward
questions.	Recording findings using		classification keys to help	evidence to answer
Recording findings using	simple scientific language,		group, identify and name a	questions or to support
simple scientific language,	drawings, labelled		variety of living things in	their findings.
drawings, labelled	diagrams, keys, bar charts		their local and wider	Recording findings using
diagrams, keys, bar charts	and tables.		environment.	simple scientific language,
and tables.			Recognise that	drawings, labelled
			environments can change,	diagrams, keys, bar charts
			and that this can	and tables.
			sometimes pose dangers to	Reporting on findings from
			living things.	enquiries, including oral
				and written explanations,
			Working Scientifically –	displays or presentations of
			Asking relevant questions	results and conclusions.
			and using different types of	
			scientific enquiries to	
			answer them.	
			Gathering, recording,	
			classifying and presenting	



	data in a variety of ways to
	help in answering
	questions.
	Reporting on findings from
	enquiries, including oral
	and written explanations,
	displays or presentations of
	results and conclusions.
States of Matter	Deforestation
Chemistry	Sustainability
Sequence:	Sequence:
Explore solids, liquids and	Look at the effects of
gases	deforestation locally and
Explore materials more	globally
difficult to categorise as a	Explore how deforestation
solid, liquid or gas	impacts habitats in their
	local area and the rest of
Vocabulary:	the world
Solid, liquid, gas, volume,	
states of matter, pouring	Vocabulary:
solid, oobleck, flow,	Natural resource,
freezing, melting, boiling,	deforestation, habitat
condensation, evaporation,	destruction, biodiversity,
thermometer, stopwatch,	palm oil, extinct,
beaker, temperature,	endangered, sustainable
independent variable,	
dependent variable,	National Curriculum Links:
controlled variable, melting	Working Scientifically –
point, precipitation,	Asking relevant questions
atmosphere, global	and using different types of
warming, water vapour,	scientific enquiries to
Petri dish, observations,	answer them.
conclusion	Reporting on findings from
	enquiries, including oral
National Curriculum Links:	and written explanations,



Compare and group		displays or presentations of	
materials together,		results and conclusions.	
according to whether they			
are solids, liquids or gases.			
Observe that some			
materials change state			
when they are heated or			
cooled, and measure or			
research the temperature			
at which this happens in			
degrees Celsius.			
Identify the part played by			
evaporation and			
condensation in the water			
cycle and associate the rate			
of evaporation with			
temperature.			
Working Scientifically –			
Talk about criteria for			
grouping, sorting and			
classifying.			
Identifying differences,			
similarities or changes			
related to simple scientific			
ideas.			
Asking relevant questions			
and using different types of			
scientific enquiries to			
answer them.			
Making systematic and			
careful observations and,			
where appropriate, taking			
accurate measurements			
using standard units, using			
a range of equipment,			

Science Curriculum Overview			The school of th)L H
including thermometers				
and data loggers.				
Setting up simple practical enquiries, comparative and				
fair tests.				
Gathering, recording,				
classifying and presenting				
data in a variety of ways to				
help in answering				
questions.				
Using results to draw				
simple conclusions, make				
predictions for new values,				
suggest improvements and				
raise further questions.				

Year 5 Science					
Christmas	Winter	Spring	Whitsun	Summer	
Space <i>(Cont).</i> Physics	Properties of Materials Chemistry	Animals including Humans (Cont). Biology	Reproduction A Biology	Reversible and Irreversible Changes (Cont). Chemistry	
Sequence: Know the parts of the Solar System Know the eight planets and their features Use models as representations of the Solar System and the	Sequence: Test and group materials based on hardness, transparency and magnetism Test and group materials based on electrical conductivity	Sequence: Explore adolescence and puberty in more detail Explore key changes in adulthood Explore the gestation periods of different mammals	Sequence: Understand the process of fertilisation Name and know the functions of male and female reproductive parts in plants	Sequence: Explore reversible changes Identify irreversible changes – burning Identify irreversible changes – reaction between an acid and bicarbonate of soda	
	Space (Cont). Physics Sequence: Know the parts of the Solar System Know the eight planets and their features Use models as representations of the	ChristmasWinterSpace (Cont). PhysicsProperties of Materials ChemistrySequence: Know the parts of the Solar SystemSequence: Test and group materials based on hardness, transparency and magnetismKnow the eight planets and their features Use models as representations of the Solar System and theTest and group materials based on electrical conductivity	ChristmasWinterSpringSpace (Cont). PhysicsProperties of Materials ChemistryAnimals including Humans (Cont). BiologySequence: Know the parts of the Solar System Know the eight planets and their features Use models as representations of the Solar System and theSequence: Test and group materials based on hardness, transparency and magnetismSequence: Explore adolescence and puberty in more detail Explore key changes in adulthood Explore the gestation periods of different magmals	ChristmasWinterSpringWhitsunSpace (Cont). PhysicsProperties of Materials ChemistryAnimals including Humans (Cont). BiologyReproduction A BiologySequence: Know the parts of the Solar System Know the eight planets and their featuresSequence: Test and group materials based on hardness, transparency and magnetismSequence: Explore adolescence and puberty in more detail Explore key changes in adulthoodSequence: Understand the process of fertilisation Name and know the functions of male and female reproductive parts in plants	

Science Currio	culum Overview			THE	FREE SCHOOL NORWICH
Carry out a parachute	Explain the movement of	Plan a comparative test to	Explore links between	Explore the process of	
investigation	the planets in the Solar	investigate thermal	gestation period and	pollination in flowering	
Look at results from their	System	insulators	lifespan in animals	plants	Vocabulary:
investigation	Explore how ideas of the	Carry out a comparative		Explore asexual	Mixture, states of matter,
Evaluate and suggest	Solar System have changed	test to investigate thermal	Vocabulary:	reproduction	dissolve, reversible change,
improvements for their	over time	insulators	Adolescent, period,	Plan an observation over	reverse, chemical reaction,
experiment	Explore planet Earth	Analyse data, make	reproduce, hormone,	time enquiry to find out	irreversible change,
Plan a comparative test	Explore day and night	conclusions, evaluate an	puberty, adult, elderly, life	which parts of a parent	burning, heating, vinegar,
Carry out a comparative	Explore the Moon and its	investigation	expectancy, womb, foetus,	plant are best for cloning a	bicarbonate of soda
test	features	Link uses of materials to	gestation, offspring,	plant from	
Know that gravity is a non-		their properties	correlation, anomaly	Conduct an observation	National Curriculum Links:
contact force	Vocabulary:			over time enquiry	Demonstrate that
Look at different	The Solar System, planets,	Vocabulary:	National Curriculum Links:		dissolving, mixing and
mechanisms including	spherical, Sun, stars, orbit,	Transparent, translucent,	Describe the changes as		changes of state are
levers, pulleys and gears	surface, appearance,	opaque, magnetism,	humans develop to old age.	Vocabulary:	reversible changes.
	model, gravity, gravitational	hardness, electrical		Fertilisation, embryo,	Explain that some changes
Vocabulary:	pull, heliocentric,	conductor, electrical	Working Scientifically –	sperm cells, egg cells,	result in the formation of
Force, contact force,	geocentric, spherical, axis,	insulator, circuit, cell, bulb,	Use relevant scientific	sexual reproduction,	new materials, and that
friction, motion, air	rotation, North Pole, South	independent variable,	language and illustrations	anther, stigma, filament,	this kind of change is not
resistance, drag, parachute,	Pole, direction of spin,	dependent variable,	to discuss, communicate	style, ovule, ovary, pollen,	usually reversible, including
independent variable,	night, day, satellite, moon	controlled variable, thermal	and justify their scientific	stamen, pistil, pollination,	changes associated with
dependent variable,		insulator, beaker,	ideas.	clone, runner, tuber, bulb,	burning, and the action of
controlled variable,	National Curriculum Links:	thermometer, temperature,	Identifying scientific	asexual reproduction,	acid on bicarbonate of
streamline, repeatability,	Describe the Sun, Earth and	data, conclusion,	evidence that has been	independent variable,	soda.
precision, surface area,	Moon as approximately	anomalous result,	used to support or refute	dependent variable,	
anomalous result, water	spherical bodies.	properties, wood, metal,	ideas or arguments.	controlled variable, cutting,	Working Scientifically –
resistance, gravity, weight,	Describe the movement of	plastic, lifespan	Recording data and results	parent plant, compost	Use relevant scientific
contact force, non-contact	our Earth and other planets		of increasing complexity		language and illustrations
force, lever, pulley, gear,	relative to the Sun in the	National Curriculum Links:	using scientific diagrams		to discuss, communicate
machine	Solar System.	Compare and group	and labels, classification	National Curriculum Links:	and justify their scientific
	Use the idea of the Earth's	together everyday	keys, tables, scatter graphs,	Describe the process of	ideas.
National Curriculum Links:	rotation to explain day and	materials on the basis of	bar and line charts.	reproduction in some	Identifying scientific
Identify the effects of air	night and the apparent	their properties, including	Reporting and presenting	plants and animals.	evidence that has been
resistance, water resistance	movement of the Sun	their hardness, solubility,	findings from enquiries,		used to support or refute
and friction that act	across the sky.	transparency, conductivity	including conclusions,	Working Scientifically –	ideas or arguments.
between moving surfaces.			causal relationships and		



Explain that unsupported	Describe the movement of	(electrical and thermal) and	explanations of and a	Use relevant scientific	
objects fall towards the	the Moon relative to the	their response to magnets.	degree of trust in results.	language and illustrations	
Earth because of gravity	Earth.	Give reasons, based on		to discuss, communicate	
acting between the Earth		evidence from comparative		and justify their scientific	
and the falling object.	Working Scientifically –	and fair tests, for the		ideas.	
Recognise that some	Identifying scientific	particular uses of everyday		Recording data and results	
mechanisms, including	evidence that has been	materials, including wood,		of increasing complexity,	
levers, pulleys and gears,	used to support or refute	metal and plastic.		using scientific diagrams	
allow a smaller force to	ideas or arguments.			and labels, classification	
have a greater effect.	Use relevant scientific	Working Scientifically –		keys, tables, scatter graphs,	
	language and illustrations	Use and develop keys and		bar charts and line graphs.	
Working Scientifically –	to discuss, communicate	other information records		Reporting and presenting	
Use relevant scientific	and justify their scientific	to identify, classify and		findings from enquiries,	
language and illustrations	ideas.	describe living things and		including conclusions,	
to discuss, communicate	Reporting and presenting	materials.		causal relationships and	
and justify their scientific	findings from enquiries,	Recording data and results		explanations of and a	
ideas.	including conclusions,	of increasing complexity		degree of trust in results, in	
Recognising which	causal relationships and	using scientific diagrams		oral and written forms such	
secondary sources will be	explanations of and a	and labels, classification		as displays and other	
most useful to research	degree of trust in results.	keys, tables, scatter graphs,		presentations.	
their ideas.	Recording data and results	bar and line charts.		Identifying scientific	
Planning different types of	of increasing complexity	Planning different types of		evidence that has been	
scientific enquiries to	using scientific diagrams	scientific enquiries to		used to support or refute	
answer questions, including	and labels, classification	answer questions, including		ideas or arguments.	
recognising and controlling	keys, tables, scatter graphs,	recognising and controlling		Planning different types of	
variables where necessary.	bar and line charts.	variables where necessary.		scientific enquiries to	
Using a range of scientific		Taking measurements,		answer questions, including	
equipment, with increasing		using a range of scientific		recognising and controlling	
accuracy and precision,		equipment, with increasing		variables where necessary.	
taking repeat readings		accuracy and precision,		Taking measurements,	
when appropriate.		taking repeat readings		using a range of scientific	
Reporting and presenting		when appropriate.		equipment, with increasing	
findings from enquiries,		Using test results to make		accuracy and precision,	
including conclusions,		predictions to set up		taking repeat readings	
causal relationships and		further comparative and		when appropriate.	
		fair tests.			



explanations of and a degree of trust in results. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Identifying scientific evidence that has been used to support or refute ideas or arguments.		Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas.			
Space	Global Warming	Animals including	Life Cycles	Reversible and Irreversible	Plastic pollution
Physics	Sustainability	Humans	Biology	Changes	Sustainability
,	,	Biology	0,	Chemistry	
Sequence:	Sequence:	Sequence:	Sequence:	Sequence:	Sequence:
Know the parts of the Solar	Look at the current issues	Learn how humans group	Know the life cycles of	Explore the difference	Explore the causes of
System	around climate change and	and develop	mammals	between soluble and	plastic pollution
	global warming	Explore key milestones in	Explore the life cycle of	insoluble substances	Suggest ways to reduce
Vocabulary:	Explore the effects of global	baby and child	amphibians	Explore the process of	negative impacts of plastic
The Solar System, planets,	warming on living things	development	Explore the life cycle of	filtering and sieving	pollution
spherical, Sun, stars			insects	Explore the process of	
	Vocabulary:	Vocabulary:	Explore the life cycle of	evaporation and how this	Vocabulary:
National Curriculum Links:	Global warming,	Adolescent, baby, foetus,	birds	can be used to separate a	Plastic, habitat, plastic
Describe the Sun, Earth and	greenhouse gases, fossil	elderly, adult, life cycle,		soluble solution from a	pollution, landfill, pollution,
Moon as approximately	fuels, climate change,	milestone, toddler, child,	Vocabulary:	liquid	microplastics
spherical bodies.	glaciers, ice cap, habitat	womb	Monotreme, offspring,		
			mammary gland, mammal,	Vocabulary:	National Curriculum Links:
Working Scientifically –	National Curriculum Links:	National Curriculum Links:	life cycle, amphibian,	Dissolve, soluble, insoluble,	Identifying scientific
Identifying scientific	Working Scientifically –	Describe the changes as	frogspawn, tadpole, froglet,	solution, substance, sieve,	evidence that has been
evidence that has been	Recognise which secondary	humans develop to old age.	metamorphosis, larva,	filter paper, mixture,	used to support or refute
used to support or refute	sources will be most useful	Monthing Coincrtification	pupa, chrysalis, insect, egg,	insoluble, filtering, funnel,	ideas or arguments.
ideas or arguments.	to research their ideas and	Working Scientifically –	hatchling, nestling,	evaporation	Reporting and presenting
			fledgling, adult bird		findings from enquiries,



begin to separate opinion	u , , ,		National Curriculum Links:	including conclusions,
from fact.	scientific enquiries to	National Curriculum Links:	Know that some materials	causal relationships and
Identifying scientific	answer questions, including	Describe the differences in	will dissolve in liquid to	explanations of and degree
evidence that has been	recognising and controlling	the life cycles of a mammal,	form a solution, and	of trust in results, in oral
used to support or refute	variables where necessary.	an amphibian, an insect	describe how to recover a	and written forms such as
ideas or arguments.	Recording data and results	and a bird.	substance from a solution.	displays and other
	of increasing complexity		Use knowledge of solids,	presentations.
	using scientific diagrams	Working Scientifically –	liquids and gases to decide	
	and labels, classification	Use relevant scientific	how mixtures might be	
	keys, tables, scatter graphs,	language and illustrations	separated, including	
	bar and line charts.	to discuss, communicate	through filtering, sieving	
		and justify their scientific	and evaporating.	
		ideas.		
		Recording data and results	Working Scientifically –	
		of increasing complexity	Using test results to make	
		using scientific diagrams	predictions to set up	
		and labels, classification	further comparative and	
		keys, tables, scatter graphs,	fair tests.	
		bar and line charts.	Recording data and results	
		Reporting and presenting	of increasing complexity,	
		findings from enquiries,	using scientific diagrams	
		including conclusions,	and labels, classification	
		causal relationships and	keys, tables, scatter graphs,	
		explanations of and a	bar charts and line graphs.	
		degree of trust in results.	Taking measurements,	
		degree of trust in results.	using a range of scientific	
			equipment, with increasing	
			accuracy and precision,	
			taking repeat readings	
			when appropriate.	
				Reproduction B
				Biology
				Diology



		Look at results from the plant cloning investigation Work scientifically to interpret data from other
		plant experiments. Vocabulary: Asexual reproduction,
		cutting, parent plant, data, line graph, prediction National Curriculum Links:
		Describe the life processes of reproduction in some plants and animals.
		Working scientifically – Using test results to make predictions to set up further comparative and fair tests.

Year 6 Science						
HarvestChristmasWinterSpringWhitsunSummer						
Living Things and their Habitats Biology	Electricity Physics	Light Physics	The circulatory system Biology	Variation Biology	Fossils Biology	
Sequence: Explore conditions for life and the differences between living and non- living things	Sequence: Construct and draw series circuits using symbols Look at complete and incomplete circuits	Sequence: Name and identify simple parts of the human eye and discuss their functions	Sequence: Identify parts of the circulatory system and know that they work to	Sequence: Explore the concept of variation Explore inheritance and characteristics	Sequence: Deepen understanding of the process of fossilisation	

Group animals and plants based on their characteristics Classify a range of animals based on their features Create own questions to classify plants Explore microorganisms Classify microorganisms Explore Linnaeus and his work on taxonomy

Vocabulary:

Organism, excretion, reproduction, living, nonliving, vertebrate, invertebrate, flowering plant, non-flowering plant, classification, classification keys, molluscs, arachnids, deciduous trees, evergreen trees, coniferous trees, microorganisms, bacteria, viruses, fungi, Carl Linnaeus, characteristics

National Curriculum Links:

Describe how living things are classified into broad groups according to common observable characteristics and based on similarities, including microorganisms, plants and animals. Explore variations within circuits and the effects of numbers of components Plan a fair test investigation into effects on a circuit Investigate effects on a circuit Evaluate results and suggest experiment improvements

Vocabulary:

Series circuit, cell, battery, bulb, current, voltage, complete circuit, incomplete circuit, switch, buzzer, independent variable, dependent variable, controlled variable, repeatability, accuracy, evaluation

National Curriculum Links: Use recognised symbols

when representing a simple circuit in a diagram. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Associate the brightness of a lamp or loudness of a buzzer with the number

Identify that light travels in straight lines but it can change direction if reflected Know that shadows are the same shape as the objects that cast them Plan an experiment to investigate shadows Conduct an investigation into shadows Draw conclusions and evaluate an experiment Explore how refraction occurs and explain why this happens Look at different properties of light and how ideas about light were developed

Vocabulary:

Light source, iris, retina, pupil, lens, reflection, ray diagram, angle, periscope, shadow, opaque, translucent, transparent, solar eclipse, independent variable, dependent variable, controlled variable, conclusion, evaluate, refraction, medium, rainbow, prism, coloured filter, spectrum of light

National Curriculum Links:

pump blood around the body Explore the composition and functions of blood Look at the heart and its function Follow blood flow in the heart Follow the path of oxygenated and deoxygenated blood **Vocabulary:**

Circulatory system, heart, blood, veins, artery, capillaries, organ, blood, red blood cells, white blood cells, lungs, nutrients, plasma, oxygen, atria, ventricles, left ventricle, right ventricle, left atrium, right atrium, blood vessels, oxygenated blood, deoxygenated blood

National Curriculum Links: Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Describe the ways in which nutrients and water are transported within animals, including humans.

Vocabulary:

Organism, variation, species, offspring, characteristic, inheritance, desirable characteristic

National Curriculum Links:

Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

Working Scientifically – Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas (non-statutory). Recording data and results of increasing complexity, using scientific diagrams and labels, classification keys, tables, scatter graphs, bar charts and line graphs. Explore a variety of fossils and what scientists can learn from them Know who Mary Anning was and why her contributions were so important

Vocabulary:

Fossil, rock, decompose, skeleton, fossilisation, Charles Darwin, Mary Anning, palaeontologist

National Curriculum Links:

Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

Working Scientifically – Identifying scientific evidence that has been used to support or refute ideas or arguments. Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time (nonstatutory).

The school School School School



Give reasons for classifying	and voltage of cells used in	Explain that we see things		Reporting and presenting
plants and animals based	the circuit.	because light travels from	Working Scientifically –	findings from enquiries,
on specific characteristics.		light sources to our eyes or	Explore ideas and raise	including conclusions,
	Working Scientifically –	from light sources to	different kinds of	causal relationships and
Working Scientifically –	Recording data and results	objects and then to our	questions.	explanations of and a
Identifying scientific	of increasing complexity	eyes.	Use relevant scientific	degree of trust in results, in
evidence that has been	using scientific diagrams	Use the idea that light	language and illustrations	oral and written forms such
used to support or refute	and labels, classification	travels in straight lines to	to discuss, communicate	as displays and other
ideas or arguments.	keys, tables, scatter graphs,	explain that objects are	and justify their scientific	presentations.
Use and develop keys and	bar and line graphs.	seen because they give out	ideas.	
other information records	Reporting and presenting	or reflect light into the eye.		
to identify, classify and	findings from enquiries,	Recognise that light		
describe living things.	including conclusions,	appears to travel in straight		
Identifying scientific	causal relationships and	lines.		
evidence that has been	explanations of and a			
used to support or refute	degree of trust in results, in	Working Scientifically –		
ideas or arguments.	oral and written forms such	Use relevant scientific		
Reporting and presenting	as displays and other	language and illustrations		
findings from enquiries,	presentations.	to discuss, communicate		
including conclusions,	Planning different types of	and justify their scientific		
causal relationships and	scientific enquiries to	ideas.		
explanations of and a	answer questions, including	Recording data and results		
degree of trust in results, in	recognising and controlling	of increasing complexity		
oral and written forms such	variables where necessary.	using scientific diagrams		
as displays and other	Taking measurements,	and labels, classification		
presentations.	using a range of scientific	keys, tables, scatter graphs,		
Use relevant scientific	equipment, with increasing	bar and line graphs.		
language and illustrations	accuracy and precision,	Planning different types of		
to discuss, communicate	taking repeat readings	scientific enquiries to		
and justify their ideas and	when appropriate.	answer questions, including		
should talk about how	Using test results to make	recognising and controlling		
scientific ideas have	predictions to set up	variables where necessary.		
developed over time.	further comparative and	Taking measurements,		
	fair tests.	using a range of scientific		
		equipment, with increasing		
		accuracy and precision,		



		-		
	taking repeat readings when appropriate. Identifying scientific evidence that has been used to support or refute ideas or arguments. Talk about how scientific ideas have changed over time.			
Renewable Energy	Light Pollution	Diet, drugs and lifestyle	Adaptations	Themed projects
Sustainability	Sustainability	Cycles Biology	Biology	(Year 7 ready)
Sequence:	Sequence:	Sequence:	Sequence:	Project 1:
Know what global warming	Explore light pollution and	Explore the impact of diet	Identify how animals have	Melting Points
is and why it is happening	its impact on living things	on overall heart health	adapted to suit different	
Explore the effects of	Look at ways that we can	Learn about drugs and their	environments	Sequence:
global warming on living	reduce light pollution in	effect on the body	Explore how plants have	Develop a scientific
things	our local area	Identify the dangers of smoking and vaping on	adapted to survive in their habitats	question to investigate
Vocabulary:	Vocabulary:	their body	Explain the process of	Research and make a prediction
Global warming,	Migration, glare, light	Plan a fair test to explore	evolution	Identify variables and write
greenhouse gases, fossil	trespass, skyglow, light	whether duration of	Know the contributions	a method
fuels, climate change,	pollution, urban, rural, light	exercise affects heart rate	from Charles Darwin	Investigate a scientific
glaciers, ice cap, habitat	emission, appliance	Carry out a fair test to	towards understanding	question
0		explore how duration of	evolution	Draw an appropriate graph
National Curriculum Links:	National Curriculum Links:	exercise affects heart rate	Explore the process of	to plot results
Recognise which secondary	Identifying scientific	Evaluate an experiment	natural selection	Present findings and
sources will be most useful	evidence that has been		Explore why the work of	evaluate an investigation
to research their ideas and	used to support or refute	Vocabulary:	Charles Darwin was so	
begin to separate opinion	ideas or arguments.	Diet, balanced diet,	important	Vocabulary:
from fact.	Reporting and presenting	calories, saturated fats,		Plan, scientific question,
Identifying scientific	findings from enquiries,	unsaturated fats, trans fats,	Vocabulary:	factors, enquiry,
evidence that has been	including conclusions,	drug, painkiller, stimulant,	Characteristics,	comparative, over time,
	causal relationships and	depressants, cigarette,	adaptations, polar habitat,	pattern seeking, research,



used to support or refute	explanations of and a	vape, tar, nicotine, carbon	desert habitat, habitat,	prediction, independent
ideas or arguments.	degree of trust in results, in	monoxide, addiction,	evolution, Charles Darwin,	variable, dependent
	oral and written forms such	independent variable,	common ancestor, species,	variable, controlled
	as displays and other	dependent variable,	theory, natural selection,	variable, method,
	presentations.	controlled variable,	Galapagos Islands, finch	investigate, record, results,
		circulatory system, heart		graph, axes, data,
		rate, duration, exercise,	National Curriculum Links:	anomalous results,
		conclusion, evaluation	Identify how animals and	conclusion, evaluate
			plants are adapted to suit	
		National Curriculum Links:	their environment in	National Curriculum Links:
		Recognise the impact of	different ways and that	Compare and group
		diet, exercise, drugs and	adaptation may lead to	materials together,
		lifestyle on the way their	evolution.	according to whether they
		bodies function.		are solids, liquids or gases.
			Working Scientifically –	Observe that some
		Working Scientifically –	Recognise which secondary	materials change state
		Identifying scientific	sources will be most useful	when they are heated or
		evidence that has been	to research their ideas and	cooled, and measure or
		used to support or refute	begin to separate opinion	research the temperature
		ideas or arguments.	from fact (non-statutory).	at which this happens in
		Recognise which secondary	Identifying scientific	degrees Celsius (°C).
		sources will be most useful	evidence that has been	C ()
		to research their ideas and	used to support or refute	Working Scientifically –
		begin the separate opinion	ideas or arguments.	Explore ideas and raise
		from fact (non-statutory).	Use relevant scientific	different kinds of questions
		Planning different types of	language and illustrations	(non-statutory).
		scientific enquiries to	to discuss, communicate	Planning different types of
		answer questions, including	and justify their scientific	scientific enquiries to
		recognising and controlling	ideas and should talk about	answer questions, including
		variables where necessary.	how scientific ideas have	recognising and controlling
		Taking measurements,	developed over time (non-	variables where necessary.
		using a range of scientific	statutory).	Make their own decisions
		equipment, with increasing	Reporting and presenting	about what observations to
		accuracy and precision,	findings from enquiries,	make, what measurements
		taking repeat readings	including conclusions,	to use and how long to
		when appropriate.	causal relationships and	to use and now long to
			causai relationships allu	



Using test results to make	explanations of and a	make them for (non-
•		
predictions to set up	degree of trust in results, in	statutory).
further comparative and	oral and written forms such	Take measurements, using
fair tests.	as displays and other	a range of scientific
	presentations.	equipment, with increasing
		accuracy and precision,
		taking repeat readings
		when appropriate.
		Recording data and results
		of increasing complexity
		using scientific diagrams
		and labels, classification
		keys, tables, scatter graphs,
		bar and line graphs.
		Reporting and presenting
		findings from enquiries,
		including conclusions,
		causal relationships and
		explanations of and a
		degree of trust in results, in
		oral and written forms such
		as displays and other
		presentations.
		Using test results to make
		predictions to set up
		further comparative and
		fair tests.
		Project 2:
		Thermal Insulation
		Sequence:
		-
		Develop a scientific
		question to investigate
		Research and make a
		prediction



Identify variables and write a method Investigate a scientific question Draw an appropriate graph to plot results Present findings and evaluate an investigation	
Vocabulary: Plan, scientific question, factors, enquiry, comparative, over time, pattern seeking, research, prediction, independent variable, dependent variable, controlled variable, method, investigate, record, results, graph, axes, data, anomalous results, conclusion, evaluate	
National Curriculum Links: Compare and group materials together, according to whether they are solids, liquids or gases. Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets.	

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			Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	
			Working Scientifically – Explore ideas and raise different kinds of questions (non-statutory). Planning different types of	
			scientific enquiries to answer questions, including recognising and controlling variables where necessary.	
			Make their own decisions about what observations to make, what measurements to use and how long to make them for (non-	
			statutory). Take measurements, using a range of scientific equipment, with increasing	
			accuracy and precision, taking repeat readings when appropriate. Recording data and results of increasing complexity	
			using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	
			Reporting and presenting findings from enquiries,	



			including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations. Using test results to make predictions to set up further comparative and fair tests.