

<u> Redeveloped - September 2022</u>



Reception	Autumn 1 Why do you love me so much? Move it - mini	Autumn 2 Celebrations – is it shiny?	Spring 1 Are we there yet?	Spring 2 Will you read me a story?	Summer 1 Do cows drink milk?	Summer 2 Why do ladybirds have spots?
Area of Learning/Science Strand	All about me	Celebrations	Transport	Trad Tales	Farm	Minibeasts
Key Question(s)	Can you identify the different body parts? Do all people have the same body parts?	What materials could you use to make the best celebration ornament? Why?	How do cars move? How do boats float?	What does a beanstalk need to grow tall and healthy?	Where do chickens come from?	How do caterpillars change? How does the tree change over the year (seasons)?
Knowledge	Describe their immediate environment from observations, discussion, stories and maps Name body parts including facial features Noticing differences and similarities including disabilities.	Explore properties of materials - exploration of textures, sounds, smells - everyday language to describe. - shiny, hard, soft etc	Exploring different natural phenomena – such as weather, seasons, Exploring forces that they can see or feel. Exploring floating and sinking – boats	Exploring the properties of materials. Plant seeds, growing and caring for plants. Understand the key features of the lifecycle of a plant	Explore the natural world around them, making observations and drawing picture of animals and plants Life cycle of a chicken	Understand some important processes and changes in the natural world around them, including seasons and changing states of matter Life cycle of a butterfly

Prior Knowledge	Nursery -					
Future Knowledge	Animals including	<u>Materials</u>	<u>Forces</u>	<u>Plants</u>	Living things and	<u>Seasonal changes</u>
	humans	<u>Year 1</u>	<u>Year 5</u>	<u>Year 1</u>	<u>their habitats</u>	<u>Year 1</u>
	Year 1	Know and name a	Know what gravity	Know that there	<u>Year 1</u>	Know and observe
	I know how to	variety of	is and its impact on	are various types	Know that there	that our
	name the parts of	everyday	our lives.	of plants.	are different	environment
	the human body	materials.	Know and identify	Know the parts of	varieties of	changes across the
	that I can see	Know that	and know the	plants and trees.	animals.	four seasons.
	I know how to link	materials have	effect of air	•	Know the names	Know and describe
	the correct part	different	resistance, water	Year 2	of common animals	weather
	of the human body	properties.	resistance and of	Plants grow from	including fish,	associated with
	to each sense.	Know that a	friction.	seeds and bulbs.	amphibians,	the seasons.
		variety of		Plants need	reptiles, birds	Know that the
	Evolution and inheritance Year 6 Evolution and can be groupe based upon th	everyday materials		water, sunlight	and mammals.	length of the day
				and the right		varies depending
		based upon their		temperature to		on the season.
		simple physical		grow.	<u>Year 2</u>	
	reproduction and	properties.			Know and compare	
	offspring	Know that		Year 3	the differences	
	(recognising that	Materials may also		Water	between things	<u>Plants</u>
	offspring normally	be magnetic or		transportation	that are living,	Year 1
	vary and are not	non-magnetic		Know water	dead and never	Know that there
	identical to their	(stick together or		transportation is	lived.	are various types
	parents)	not).		the way water		of plants.
				moves through a	Living things and	Know the parts o
		Electricity		plant.	<u>their habitats</u>	plants and trees.
		<u>Conductors and</u>		<u>Plants</u>	<u>Year 6</u>	piants and thees.
		<u>insulators</u>		Know every part	Know how to	Year 2
		<u>Year 4</u>		of a plant has a	classify living	
		Know that a		job to do.	things into broad	Plants grow from
		conductor is a			groups according to observable	seeds and bulbs.
		material or device				

that allows electricity to pass through it. Know that an	characteristics and based on similarities and differences,	Plants need water, sunlight and the right temperature to
insulator is a material or device that does not allow electricity to pass	including micro- organisms, plants and animals.	grow. Year 3
through it. Materials		<u>Water</u> <u>transportation</u> Know water
Year 5 Materials can be		transportation is the way water
grouped based on whether they are soluble or		moves through a plant. <u>Plants</u>
insoluble . To be able to		Know every part of a plant has a job to do.
compare and group together everyday materials based on		
their properties, including their hardness, solubility,		
transparency, conductivity (electrical and		
thermal), and response to		
magnets. Year 6		
Materials can be grouped based on		

		whether they are			
		transparent or			
		opaque			
Vocabulary	germs, washing, hands, soap, water, drying, important, dirty, healthy food, food decay, hygiene			Habitats, insects, chick hatching, growing, planting, watering, seeds, instructions, environment	Habitats, insects, caterpillar Butterfly, growing, planting, watering, seeds, instructions, environment
Investigations		Explore ice melting Exploring materials	How do beans grow- observation of plants growing Explore sound causing vibrations (linked to giant)	Explore shadows	
Trips and/or experiences	Daily calendars		Growing plants in the garden including beans, cress, peas etc.	Incubators Eggs and chicks Farm visit	Live caterpillars - insect lore

Year 1	Autumn 1 Superheroes	Autumn 2 School Days	Spring 1 Paws, Claws and	Spring 2 Dinosaur Planet	Summer 1 Bright Lights, Big	Summer 2 Enchanted Woodland
		,	Whiskers.		City	
Area of						
Learning/Science	Everyday materials		Living things and	Animals, including	Seasonal changes	Plants
Strand			their habitats	humans		
Key Question(s)	How could you group		Can you identify and	What is a carnivore,	How has the weather	What is a deciduous
	different materials?		name fish,	herbivore or	changed across each	and evergreen tree?
	Can you identify and		amphibians, reptiles,	omnivore and what	season?	-
	name different		birds and mammals?	food would they eat?		What is the basic
	everyday materials?				How has the length	structure of a plant
	Can you describe the		What animals are		of the day changed?	and a tree?
	simple physical		carnivores,			
	properties of a					

	variety of everyday materials?	herbivores or omnivores?		How would you describe the weather today?	
Knowledge			Animals including humans Animals are grouped into the following five groups: fish, amphibians, reptiles, birds and mammals Animals can be grouped and named by what they eat (carnivore, herbivore, omnivore) Some things are living, and some are non-living. I know how to name the parts of the human body that I can see I know how to link the correct part of the human body to each sense.	describe the	Plants Know that there are various types of plants. Know the parts of plants and trees. Know the parts of a plant are petals, stem, leaves and roots. Know the parts of a tree are: roots, trunk, branches and leaves. Know and name a variety of common wild and garden plants, including deciduous and evergreen trees. Know and describe daisy, buttercup, dandelion, bluebell, nettle, rose, sunflower, daffodil, thistle, tulip, ivy, clover.
	strong and waterproof.				To know a trunk is woody and often

Know that			has a layer of bark
Materials may also			around it.
be magnetic or			
non-magnetic			
(stick together or			
not).			
Know that plastic			
is strong and			
waterproof. It's			
suitable for lego,			
garden furniture			
and other things			
when you need			
them to be strong			
and waterproof.			
Know that wood is			
strong and hard.			
It's suitable for a			
table or fence as it			
is strong and hard.			
Know that metal is			
strong and			
waterproof. It's			
suitable for			
cutlery and			
keys/locks as it is			
hard, strong and			
waterproof.			
Know that Fabric			
is soft and warm.			
It's suitable for			

Prior Knowledge	clothes as it's soft and warm. Materials Reception - Explore properties	Living things and their habitats Reception	Animals including humans Reception	Seasonal changes Reception- Understand some	Reception- Explore the natural world around them,
	explore properties of materials - exploration of textures, sounds, smells - everyday language to describe. - shiny, hard, soft etc	Life cycle of a chicken Life cycle of a butterfly	Reception Name body parts including facial features Noticing differences and similarities including disabilities.	important processes and changes in the natural world around them, including seasons and changing states of matter Exploring different natural phenomena – such as weather, seasons,	world around them, making observations and drawing picture of animals and plants. Plants Reception Plant seeds, growing and caring for plants. Understand the key features of the lifecycle of a plant
Future Knowledge	Electricity <u>Conductors and</u> <u>insulators</u> <u>Year 4</u> Know that a conductor is a material or device that allows electricity to pass through it.	Living things and their habitats Year 2 Know and compare the differences between things that are living, dead and never lived.	<u>Year 2</u> <u>Animals including</u> <u>humans</u> Know that we need a variety of foods to help us stay healthy, give us energy and make us feel good.		<u>Plants</u> <u>Year 2</u> Plants grow from seeds and bulbs. Plants need water, sunlight and the right temperature to grow.

Know that an insulator is a material or device that does not allow electricity to pass through it. <u>Materials</u> <u>Year 2</u> Know the material used to make an object is chosen to fit a particular purpose and the properties of the material. Waterproof materials resist water by pushing it away. Absorbent materials soak up water. Mouldable materials can be shaped in any way chosen. Know that some objects float in water and some objects sink in water.	Living things and their habitats Year 6 Know how to classify living things into broad groups according to observable characteristics and based on similarities and differences, including micro- organisms, plants and animals.	It is best to try and eat lots of fruit and vegetables. Sugary treats are okay sometimes. Know It is important to drink lots of water. Know that exercise keeps our muscles strong and helps our heart stay healthy. Exercise also makes us feel happy. Know that we keep our bodies clean so that we kill any germs which may make us ill. Year 3 <u>Animals, including</u> humans To know inside the human body, there are bones, muscles, and organs.		Year 3 <u>Water</u> <u>transportation</u> Know water transportation is the way water moves through a plant. <u>Plants</u> Know every part of a plant has a job to do.
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Vocabulary	Year 5 Materials can be grouped based on whether they are soluble or insoluble. To be able to compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Year 6 Materials can be grouped based on whether they are transparent or opaque. material, wood,	animal, mammal, fish,	To know bones, support our body and help us move. To know muscles, help bones to move. To know each organ has a particular job to do. To know that various parts of the body work together to do different jobs. This is called a system.	season, autumn,	plant, seed, bulb,
vocabulary	material, wood, metal, plastic, glass, fabric, wood, hard, soft, rigid, flexible, transparent, opaque,	animal, mammal, fish, bird, reptile, amphibian, carnivore, herbivore, omnivore, warm blooded, cold	animal, mammal, fish, bird, reptile, amphibian, carnivore, herbivore, omnivore, warm blooded, cold	season, autumn, winter, spring, summer, weather, cold, rain, cloudy, snow, cool, windy, warm, hot, sunny,	plant, seed, build, root, stem, leaf, petal, flower, soil, earth, sunlight, rain, water, tree, shrub,

	waterproof, absorbent, elastic	blooded, feathers, fur, gills, fins, tail	blooded, feathers, fur, gills, fins, tail	affect, hibernate, migrate, adapt, change, daylight, day time, night time, sunrise, sunset, information, data, tally chart, pictogram	flower, deciduous, evergreen
Investigations	Let's Investigate - Can you be a superhero?	Let's Investigate - What is camouflage for? Let's Investigate - Can you leap like a frog? Let's Investigate - What can our hands do? Let's Investigate - What can worms sense?	Let's Investigate - Whose poo? Let's Investigate - Why do we have teeth?	Let's Investigate - How do you make bread? Let's Investigate - How does it move?	Let's Investigate - What's in a bud? Let's Investigate - How do leaves change? . Let's Investigate - Do pine cones know its raining?
Trips and/or experiences		Visit to Hamerton Zoo Park and look at a variety of different animals.		Daily calendar updates.	Visit to forest area to identify deciduous and evergreen trees.
Progression Standards for working scientifically	 S asking simple questions and recogn S observing closely, using simple equi S performing simple tests S identifying and classifying S using their observations and ideas S gathering and recording data to he 	ipment to suggest answers to questions			

	Beachcombers	Land Ahoy	Street Detectives	Towers, Tunnels and	Scented Garden	Stone Age
Area of Learning/Science Strand	Living things and their habitats	Animals, including humans Uses of everyday materials		Turrets Animals, including humans	Plants	
Key Question(s)	How do different habitats provide for the needs of animals? How do animals obtain their food from plants and other animals?	What do animals need to survive and why? Can you name a variety of everyday materials?		What is a healthy lifestyle? Why is exercise important?	How do plants survive?	
Knowledge	Living things and their habitatsKnow and compare the differencesbetween things that are living, dead and never lived.Habitats Know how a specific habitat provides for the basic needs of things living there (plants and animals). Know and name plants and animals	<u>Animals, including</u> <u>humans</u> Know that all animals change as they grow from young to old. egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep Know a human life cycle: baby, toddler, child, teenager, adult Know that animals need water, food and air to survive.		Animals including humans Know that we need a variety of foods to help us stay healthy, give us energy and make us feel good. It is best to try and eat lots of fruit and vegetables. Sugary treats are okay sometimes. Know It is important to drink lots of water.	Plants Plants grow from seeds and bulbs. Plants need water, sunlight and the right temperature to grow. Know that seeds come in all shapes and sizes. Know that all seeds have a hard outer coat, a baby plant inside and food for the baby plant. Know that when the plant begins to	

in a range of	Know that some	Know that exercise	grow, we call this	
habitats, including	offspring do not	keeps our muscles	germination.	
micro-habitats.	look like their	strong and helps	The seed is	
Know and match	adult when they	our heart stay	planted and	
living things to	are born.	healthy. Exercise	watered.	
their habitat.	Know about and	also makes us feel	The hard outer	
Know how animals	describe the basic	happy.	coat splits.	
find their food	needs of animals,		A root grows	
Know and name	including humans,	Know that we keep	downwards	
some different	for survival (water,	our bodies clean so	A shoot grows	
sources of food	food and air)	that we kill any	upwards.	
for animals.		germs which may	The shoot grows	
Know how to		make us ill.	into the leaves,	
describe how	<u>Uses of everyday</u> materials		flower and fruit.	
different habitats	Know the material		Some plants, like	
provide for the	used to make an		daffodils, tulips	
basic needs of	object is chosen		and bluebells grow	
various kinds of	to fit a particular		from bulbs. Bulbs	
animals and plants.	purpose and the		are bigger than	
Know how	properties of the		seeds.	
different habitats	material.		Know that to grow,	
depend on each	Know that flexible		plants need water,	
other.	materials can move		sunlight, and the	
	and bend. Rigid		right temperature.	
<u>Food chains</u>	materials are		If they do not	
I know and can	stiff, straight and		have one or more	
explain a simple	hard and cannot		of these, they will	
food chain.	bend. Waterproof		not grow.	
Know how to	materials resist			
describe how	water by pushing it			
animals obtain	away. Absorbent			
	,			

		—
their food from	materials soak up	
plants and other	water.	
animals.	Mouldable	
Know and name	materials can be	
different sources	shaped in any way	
of food.	chosen. Plastic,	
	metal and glass can	
	be moulded to	
	make objects of	
	different shapes.	
	They are heated to	
	be soft when being	
	moulded and they	
	are hard once they	
	have been cooled.	
	Ladders need to be	
	made from a	
	strong, rigid	
	material. Play doh,	
	straws, string,	
	paper/cardboard	
	and thin tubing are	
	materials, which	
	bend, squash, twist	
	and can be	
	stretched.	
	Know that some	
	objects float in	
	water and some	
	objects sink in	
	water. This	

		depends on their shape and the material. A boat made of stone would sink. A boat made of plastic would float. The best material for a boat is metal or plastic as they are both strong, waterproof, hard, mouldable and can float.			
Prior Knowledge	Living things and their habitats Year 1 Know that there are different varieties of animals. Know the names of common animals including fish, amphibians, reptiles, birds and mammals.	<u>Materials</u> <u>Year 1</u> Know and name a variety of everyday materials. Know that materials have different properties. Know that a variety of everyday materials can be grouped	Animals including humans <u>Year 1</u> Animals are grouped into the following five groups: fish, amphibians, reptiles, birds and mammals Animals can be grouped and named by what they eat (carnivore,	Plants Reception- Explore the natural world around them, making observations and drawing picture of animals and plants. Plant seeds, growing and caring for plants. Understand the key features of the lifecycle of a plant. <u>Year 1</u>	

		based upon their simple physical properties. Know that Materials may also be magnetic or non-magnetic (stick together or not). States of matter Year 1 Objects/materials can be grouped through simple properties.	herbivore, omnivore) Some things are living, and some are non-living.	Know that there are various types of plants. Know the parts of plants and trees.
Future Knowledge	<u>Living things and</u> <u>their habitats</u> <u>Year 6</u> Know how to classify living things into broad groups according to observable characteristics and based on similarities and differences, including micro-	Electricity <u>Conductors and</u> <u>insulators</u> <u>Year 4</u> Know that a conductor is a material or device that allows electricity to pass through it. Know that an insulator is a material or device that does not allow	Animals including humans Year 4 <u>Digestive system</u> Know the digestive system is a group of organs which work together to turn food and liquids into the building blocks and fuel that the body needs.	PlantsYear 3Know every partof a plant has ajob to do.Seed dispersalKnow seeddispersal is howseeds are carriedaway from theplant that madethem, so thatplants grow in lotsof various places.

organisms, plants and animals.	electricity to pass through it. <u>Materials</u> Year 5 Materials can be grouped based on whether they are soluble or insoluble. Know and can demonstrate that some changes are reversible, and some are irreversible. To be able to compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Rocks Year 3		Year 6 I know the impact of diet, exercise, drugs and lifestyle on health.	<u>Plants</u> <u>Water</u> <u>transportation</u> Know water transportation is the way water moves through a plant.	
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		To know there are different types of rocks. Rocks can be grouped together based on their appearance and simple physical properties.				
Vocabulary		material, wood, metal, plastic, glass, fabric, wood, suitability, properties, squash, bend, stretch, twist, waterproof, strong, opaque, absorbent, transparent		human, nutrition, energy, growth, sugars, fruit, vegetable, meats, fats, fish, starch, herbivore, carnivore, omnivore, skeleton, animal, calcium	roots, stem, leaves, flower, petal, air, light, nutrients, seed, germination, pollination, fruits, dispersal, explosion	
Investigations	Let's Investigate – Where do worms live?	Let's Investigate - Why do boats float? Let's Investigate - Can you find the treasure?	Let's Investigate – How do plants grow in the winter?	Let's Investigate - Why should I exercise?	Let's Investigate - How does grass grow? Let's Investigate - What's on your wellies? Let's Investigate - Can seeds grow anywhere?	
Trips and/or experiences	Now Press Play- Habitats	Children group and classify different objects.	Now Press Play- Plants	Life bus- Healthy diet (Spring) Now Press Play- Humans	Children planting seeds.	

Progression	§ asking simple questions and recognising that they can be answered in different ways
Standards for	§ observing closely, using simple equipment
working scientifically	§ performing simple tests
	§ identifying and classifying
	§ using their observations and ideas to suggest answers to questions
	§ gathering and recording data to help in answering questions

Year 3	Autumn 1 Flow Ancient Egypt Rivers A Hindu story: Rama and Sita	Autumn 2 Flow Cradles of civilisation Mountains Hinduism origins: places and stories from the Indus Valley.	Spring 1 Urban Pioneers Settlements & cities Indus Valley Civilisation Living as a Hindu today, incl. Hinduism in London	Spring 2 God and Mortals Persia and Greece Agriculture Judaism 1 - Abraham to Jacob	Summer 1 God and Mortals Ancient Greece Volcanoes Judaism 2 - Joseph to Moses	Summer 2 Scrumdiddlyumptious Alexander the Great Climate and Biomes Judaism 3 - The kings, the temple and living as a Jew
Area of Learning/Science Strand	Rocks	Forces and magnets	Animals, including humans	Plants	Light	
Key Question(s)	Can you compare and group different rocks based on physical properties? How are fossils	Which materials do magnets attract and repel? Can you identify everyday materials that are attracted to a magnet and explain why? Can magnetic forces act at a distance? Which magnetic poles attract/ repel each other?	What is the function of a skeleton in animals and humans? How do humans and animals get their	Can you name and describe the functions of flowering plants? How do plants survive? How does water move around a plant? How do flowers play a part in	How do humans and animals see? How can eyes be protected? How are shadows made?	
	formed? How is soil formed?	each other? How do objects move on different surfaces?	their nutrition?	the life cycle of plants?	made? How can shadows be altered?	

Knowledge	Rocks	Forces and Magnets	Animals,	<u>Plants</u>	<u>Light</u>
	To know rocks	Know how magnets work.	including	Water transportation	To know that
	are naturally	Know that magnets have two	humans	Know water	dark is (the
	occurring	poles.	To know	transportation is the way	absence of
	objects.	I know about and can explain how	inside the	-	light).
	occurring	poles.	To know	transportation is the way water moves through a plant. Know the roots absorb water and nutrients from the soil. Know water transportation is the way water moves through a plant. The roots absorb water from the soil. The stem transports water to the leaves. Water evaporates from the leaves. This evaporation causes more water to be sucked up the stem. The water is sucked up the stem like water being sucked up through a straw.	absence of
	hard	attract or repel and give a reason	The brain,	<u>Seed dispersal</u> Know seed dispensel is	I explore
	(granite),	a mach of reper and give a reason	heart and	Know seed dispersal is how seeds are carried	shadow size
			lungs are	away from the plant that	and explain
	soft (clay),		examples of	made them, so that	the changes.
	permeable		organs.	plants grow in lots of	I know the
	(pumice),		To know that	various places.	danger of
	impermeable,		various parts	Know flowers attract bees	direct
	durable		of the body	and insects. This is	

(marble), dense (how tightly packed the rock is) <u>Types of</u> <u>rocks and</u> <u>uses</u> To know granite is used for work surfaces because it is hard and rigid. Clay is used to make models and sculptures because it is soft, mouldable and can be twisted and squashed. Pumice is used to polish because it is light and permeable - water can run	work together to do different jobs. This is called a system. To know the skeletal system is made up of our bones. The job of the skeletal system is to support and protect our body and to help us move To know the main bones in the skeletal system are skull, vertebral column (spine). To know about the muscular	important because bees and insects carry pollen from one flower to another. When the pollen reaches another flower a new seed is formed. The seed is then moved to somewhere new and grows. Know seed dispersal is when the seed is moved. Know seed dispersal can happen in the following ways: the plant shaking in the wind, pollen getting stuck to insects, bees and animals, animals or birds eating the flowers and then pooing it out somewhere else, pollen travelling in water.	sunlight and describe how to keep protected.	
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through it. It	system of a
is not dense	human.
like other	
rocks.	Nutrition
Marble is	To know that
used to make	it is
sculptures	important
because it is	that we eat
long lasting	the right
and soft	foods to
enough to	keep our
carve. It is	body
also very	healthy.
beautiful.	To know that
Chalk is used	nutrients
for writing.	come from
It is soft and	the foods we
light and	eat, our
leaves behind	bodies
a residue.	cannot
Limestone is	create food.
permeable.	To know how
Soil is made	nutrients,
from fine	water and
rock, mixed	oxygen are
with air and	transported
water and	with animals
with dead	and humans.
plants and	
animals.	

	Fossils can be				
	found in				
	rocks.				
	<u>Fossils</u>				
	To know				
	fossils are				
	the remains				
	or traces of				
	plants and				
	animals that				
	lived long ago.				
	To know				
	fossils form				
	when layers				
	of the earth				
	build up on				
	top of each				
	other and				
	turn into hard				
	rock.				
Prior Knowledge	<u>Materials</u>	Forces and magnets	<u>Animals</u>	Reception-	
	<u>Year 2</u>	Reception	<u>including</u>	Explore the natural world	
	Know the	Exploring forces that they can see or	<u>humans</u>	around them, making observations and drawing	
	material used	feel.	<u>Year 2</u>	picture of animals and plants.	
	to make an	Year 1	Know that	Plant seeds, growing and	
	object is	Some objects are magnetic, and	we need a	caring for plants.	
	chosen to fit	some objects are non-magnetic.	variety of	Understand the key features	
	a particular	······································	foods to	of the lifecycle of a plant	
	purpose and		help us stay	<u>Year 1</u>	
	the		healthy, give		

properties of	115 0	energy <u>PI</u>	lant <u>s</u>	
the material.		57	now that there are	
Waterproof			arious types of plants.	
materials		-	now the parts of plants	
resist water			nd trees.	
by pushing it		s of fruit		
away.	and		'ear 2	
Absorbent	vege	etables. <u>Pl</u>	lants	
materials	Sug		lants grow from seeds	
soak up			nd bulbs.	
water.	okay	y PI	lants need water,	
Mouldable		•	unlight and the right	
materials can	Know	w It is te	emperature to grow.	
be shaped in	impo	ortant to		
any way		nk lots of		
chosen.	wate	er. Know		
Know that	that	t		
some objects	exer	rcise		
float in water	kee	ps our		
and some	mus	scles		
objects sink	stro	ong and		
in water.	help	ps our		
	hear	irt stay		
	heal	lthy.		
	Exe	ercise		
	also	o makes		
	us f	feel		
	hap	py.		
	Know	w that		
	wet	keep our		
	bodi	lies clean		

Future Knowledge	Evolution and inheritance <u>Year 6</u> Know how the Earth and living things	<u>Forces</u> Know what gravity is and its impact on our lives. Know and identify and know the effect of air resistance. Know and identify and know the	so that we kill any germs which may make us ill. Animals including humans Year 4 <u>Digestive</u> <u>system</u> Know the	Year 6 <u>Light</u> Know that light travels in straight lines.	
	have changed over time. Know how fossils can be used to find out about the past.	effect of water resistance Know and identify and know the effect of water resistance Know and identify and know the effect of friction Know and explain how levers, pulleys and gears allow a smaller force to have a greater effect.	digestive system is a group of organs which work together to turn food and liquids into the building blocks and fuel that the body needs. Animals including humans Year 6 I know the impact of diet,	Know that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Know that we see things because light travels from light sources to our eyes or from light sources to objects and	

			exercise, drugs and lifestyle on health.		then to our eyes. Know how to explain that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. Know how simple optical instruments work e.g. periscopes Material Year 6 Know materials	
					periscopes Material Year 6 Know materials can be grouped based on whether they are transparent	
Vocabulary	soil, sock, earth, air, water, organic matter,	force, magnet, contact force, attract, repel, propel, pole, friction, weight, mass, gravity, air resistance, water	human, nutrition, energy,	roots, stem, leaves, flower, petal, air, light, nutrients, seed,	or opaque. light, dark, light source, reflection,	

	 minerals, erosion, topsoil, subsoil, bedrock, parent matter, inner core, outer core, mantle, crust, igneous, metamorphic, sedimentary, lava, magma, molten rock, fossil, skeleton, permeable 	resistance, acceleration, balanced force, unbalanced force, pulleys, gears, levers	growth, sugars, fruit, vegetable, meats, fats, fish, starch, herbivore, carnivore, omnivore, skeleton, animal, calcium	germination, pollination, fruits, dispersal, explosion	refraction, opaque, translucent, transparent, spectrum, rainbow, prism, shadow, ultraviolet, radiation	
Investigations	Let's Investigate- What is soil? Let's Investigate - How fast does water flow?	Let's Investigate – Why do magnets attract and repel? Let's Investigate – Can you block magnetism? Let's Investigate – What does friction do?	Let's Investigate - Is it safe to eat? Let's Investigate - Which is the juiciest fruit?	Let's Investigate – <mark>What do</mark> plants need to survive?	Let's Investigate – Why do cat's eyes glow at night? Let's Investigate – Why do shadows change?	
Trips and/or experiences	River Nene Trip Now Press Play- Rocks	Now Press Play- Materials and changing state		Now Press Play- Plants		
Progression Standards for working scientifically	 \$ asking relevant questions and using different types of scientific enquiries to answer them \$ setting up simple practical enquiries, comparative and fair tests \$ making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers \$ gathering, recording, classifying and presenting data in a variety of ways to help in answering questions \$ recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables \$ reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions 					

 § using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions § identifying differences, similarities or changes related to simple scientific ideas and processes § using straightforward scientific evidence to answer questions or to support their findings.

Year 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Area of Learning/Science Strand	Sound	Electricity	Living things and their habitats & Animals including humans (one objective)	Living things and their habitats	Animals including humans	States of matter
Key Question(s)	How are sounds made through vibration? How do vibrations from sound reach the ear? Is there a relationship between pitch and sound? Does the strength of vibration increase volume? Do sounds become fainter as distance increases?	What appliances are powered by electricity? What are the basic components of an electrical circuit? How does a light bulb become illuminated? How does a swich operate? What materials make a good conductor?	What are producers, predators and prey and how do they affect a food chain? How can living things be grouped?	How can environmental conditions affect living things?	What are the basic parts of the human digestive system? What are the different types of human teeth and their functions?	Which materials are solids, liquids or gasses? Which materials change state through heating or cooling? How does evaporation and condensation affect the water cycle? How does heat affect the water cycle?
Knowledge	<u>Sound</u> Know that sound is made when objects and materials vibrate.	<u>Electricity</u> Know that electricity is a form of energy and know some of its	Living things and their habitats Classification	<u>Living things and</u> <u>their habitats</u> Know that a habitat is a natural home or	Animals including humans Digestive system	<u>States of matter</u> Materials can be grouped based on
		common uses.		environment that gives the organisms	Know the digestive system is a group	their state of matter (solid, liquid, gas).

Know that vibration	Many everyday	Know living things	that live there what	of organs which	Know if a material is
causes movement in	appliances rely on	can be grouped in	they need to survive.	work together to	a solid, liquid or gas
air particles.	electricity for them	a variety of ways.	Know what impacts	turn food and	and know some of
Know that sound	to work, for example	Know that different	humans have had on	liguids into the	the differences
travels through the	kettles, irons, mobile	animals are a part of	some living	, building blocks and	between them.
air in air waves.	phones and torches.	different food	environments.	fuel that the body	Know that material
Know that some	Know that we get	chains.	Know that one	needs.	can change state
materials can prevent	electricity from	Know that living	change in habitat can		when they are
sounds reaching the	different sources,	things can be a	affect all the	Know there are	heated or cooled and
ear.	including power	producer, predator	organisms.	some important	know the
Know that we can	stations and	or prey.	Know changes to an	liquids involved in	temperatures when
vary the pitch and	batteries.	Know animals can	environment can	the digestive	this change happens
tone of sounds.	Some appliances	be grouped into	endanger living	system:	in °C.
Know that distance	(kettles, irons) use	vertebrates and	things.	saliva softens	Know that solids
from the sound	mains electricity (are	invertebrates.	Know human beings	food to make it	hold their shape;
source means the	plugged into a socket)	Vertebrates have	can change an	easier to digest	liguids form a pool
sound gets fainter.	and others (mobile		environment. This	stomach acid helps	not a pile; gases
Know the	phones, torches) have	a spine.	can be a positive	to break food	escape from an
correlation between	a battery to make	Invertebrates do	or negative change.	down, making it	unsealed container.
pitch and the	them work.	not have a spine.	Positive changes	easier to digest	Know that liquids can
object producing a	Mains electricity:	Vertebrates can	are, for example,	5	evaporate and
sound	power stations send	be grouped into	building nature	Know the parts of	change into gases
Know the	an electric charge	fish, amphibians,		the digestive	when heated.
correlation between	through wires to	birds, reptiles and	reserves, cleaning	system are:	Know that gases can
the volume of a	transformers and	mammals.	seas and lakes,	mouth - food	condense into liquids
		Invertebrates can	picking up litter, or	enters the body	when cooled.
sound and the	pylons. Then,	be grouped into	protecting	here	Know that the water
strength of the	underground wires	snails and slugs,	endangered	teeth - cut up and	cycle is a continuous
vibrations that	carry the electricity		species.	grind food	cycle of evaporation
produced it.	into our homes via	spiders, worms and	Negative changes	tongue - mixes	and condensation,
	wires in the walls and	insects.	can be polluting	food and saliva	and that
	out through plug	Know plants can be	environments with	salivary glands -	temperature is the
	sockets.	grouped into	litter or chemicals,		main variant.
			inter or chemiculs,	produces saliva to	

Battery electricity: batteries store chemicals which produce an electric current. Some batteries are single use and when they run out are thrown away. Some batteries are rechargeable by plugging them into mains electricity. Batteries have a positive and a negative endCircuits Know that electricity travels through wires Connected to both the positive and negative end of the battery for the circuit. Know that electricity travels through a connected to both the positive and negative end of the battery for the circuit. Know that electricity travels through a circuit. Know that electricity travels through a circuit. Know that electricity travels through a circuit. Know that electricity travels through a circuit.	Know how to use a classification key, you start with the living thing and answer the yes/no questions. To create a classification key, you ask yes/no questions to group the living things.	or cutting down trees. New housing developments can have a negative effect on the environment, but developers can help by designing green spaces.	soften food in the mouth oesophagus - the path from the mouth to the stomach stomach - here, acid breaks food down and mix it up small intestine - absorbs nutrients from food and passes waste on to large intestine large intestine - absorbs water from waste food rectum - stores stool and tells brain that you need to go to the toilet anus - stools are released from here at the end of the digestive system <u>Teeth</u> Know humans have teeth to help cut	
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current, volt, cell,	up and grind their
bulb and buzzer.	food, to make it
Know electricity car	n easier to digest.
only flow around a	Know different
complete circuit the has no gaps.	types of teeth
When the circuit is	
complete, the bulb	jobs.
will light up or the	Incisors are used
buzzer will buzz.	for biting and
Switches can be us	
to open or close a	are at the front of
circuit.	your mouth You
When off, a switch	have eight in total:
'breaks' the circuit	to four at the top and
stop the flow of	
electricity.	four at the
When on, a switch	
completes the circu	
and allows the	for rubbing and
electricity to flow.	tearing food. They
Know that a lamp wi	ill are either side of
light or not if in a	your incisors and
complete loop or no	yuo have four of
with a cell in a simp	le them. Canine teeth
series.	are often pointy,
Know designers have	like the teeth of a
to draw circuit	dog or a wolf.
diagrams when	Premolars and
designing a product	
so that when it is	towards the back
built, it works.	of your mouth.
Know that circuit	They are bigger
symbols are used so	

that the diagram is	and wider that
simple and easy to	incisors and
understand and can	canines and this is
be used in any	because they are
country in the world.	used to hold and
Know and draw the	crush food.
symbols for: bulb,	
wire, battery, switch	
(open and closed) and	
buzzer.	
Conductors and	
insulators	
Know that a	
conductor is a	
material or device	
that allows electricity	
to pass through it.	
Wire is made from	
metal, which is a	
conductor. This allows	
electricity to flow	
through it.	
Know that an	
insulator is a material	
or device that does	
not allow electricity	
to pass through it.	
Wood, plastic and	
glass are good	
insulators. Wire has	
plastic on the outside	
because it is an	

		insulator. This makes it safe for people to touch. If there was no plastic, people would suffer electric shocks when touching wires.			
Prior Knowledge	Reception - Explore properties of materials - exploration of textures, sounds,	Electricity Reception and Year 1 Knowledge of materials learnt in these two years will support later learning about insulators and conductors.	Reception Life cycle of a butterfly Life cycle of a chicken Understand the key features of the lifecycle of a plant Year 1 Living things and their habitats Know that there are different varieties of animals. Know the names of common animals including fish, amphibians, reptiles, birds and mammals. Living things and their habitats Year 2	Reception- Name body parts including facial features <u>Animals including</u> <u>humans</u> <u>Year 1</u> Animals are grouped into the following five groups: fish, amphibians, reptiles, birds and mammals Animals can be grouped and named by what they eat (carnivore, herbivore, omnivore) Some things are living, and some are non-living.	Reception Understand some important processes and changes in the natural world around them, including seasons and changing states of matter. States of matter Year 1 Objects/materials can be grouped through simple properties. Year 2 Mouldable materials can be shaped in any way chosen. Plastic, metal and glass can be moulded to make objects of different shapes. They are heated to be soft when being

Know and compare	<u>Year 2</u>	moulded and they
the differences	Animals including	are hard once they
between things	humans	have been cooled.
that are living,	Know that we need	
dead and never	a variety of foods	
lived.	to help us stay	
	healthy, give us	
	energy and make	
	us feel good.	
	It is best to try	
	and eat lots of	
	fruit and	
	vegetables. Sugary	
	treats are okay	
	sometimes.	
	Know It is	
	important to drink	
	lots of water. Know	
	that exercise	
	keeps our muscles	
	strong and helps	
	our heart stay	
	healthy. Exercise	
	also makes us feel	
	happy.	
	Know that we keep	
	our bodies clean so	
	that we kill any	
	germs which may	
	make us ill.	

Future Knowledge	У5 -	Vear 6	Living things and	Anin hum To hum are and To sup and To help mov To b orgu par do. To vari the togu diff This	know each an has a ticular job to know that ious parts of body work ether to do ferent jobs. is is called a tem.	States of matter
ruture knowledge	y5 - Y6 - ADD	<u>Year 6</u> <u>Electricity</u> <u>Circuits</u>	<u>Living things and</u> <u>their habitats</u> <u>Year 6</u>		mals including nans	States of matter Year 5 Materials can be grouped based on

Electricity generated i different w Compare an reasons for variations in components function, in the brightn bulbs, the la of buzzers on/off posi switches. Know how t circuit diag using correc symbols wh representin simple circu diagram.	nclassify living things into broad groups according to observable characteristics and based on similarities and differences, including micro- organisms, plants and animals.co draw rams ct en g aclassify living things into broad groups according to observable characteristics and based on similarities and differences, including micro- organisms, plants and animals.	I know the impact of diet, exercise, drugs and lifestyle on health.	whether they are soluble or insoluble. Know how a material dissolves to form a solution. Know and can demonstrate that some changes are reversible, and some are irreversible. Know and show that dissolving, mixing and changes of state are reversible changes. I know how some changes result in the formation of a new material and that this is usually irreversible. To be able to compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and
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			thermal), and
			response to
			magnets.
			Know reasons,
			based on evidence
			from comparative
			and fair tests, for
			the particular uses
			of everyday
			materials, including
			metals, wood and
			plastic.
			•

Vocabulary	sound, object, material, vibrate, vibrations, sound waves, air particles, energy, soundproof, muffle, pitch, volume	circuit, component, electricity, current, static, current, atoms, protons, electrons, generator, appliances, power, power source, battery, mains electricity, socket, plug, pylons, conductor, insulator, electrocuted, switch, brightness, fair test, voltage	habitats, adaptation, survival, threat, biome, predator, prey, rainforest, biome, habitat, ecosystem, biome, rainforest, carnivore, herbivore, food chain, food web, producer, consumer, biodiversity, plants, trees, roots, stem, leaves, flower, fruit, nuts, uses, medicine, botanists, adaptation, adapt, investigation, nutrients, shallow, buttress, stability, habitats, characteristics, classify, classification, flowering, non- flowering, spiky leaves, rounded leaves, vertebrate, invertebrate, mammal, reptile, bird, fish, amphibian, zoologist	carnivore, herbivore, omnivore, food, energy, nutrients, nutrition, healthy diet, food chain, ecosystem, organism, producer, photosynthesis, consumer	solid, liquid, gas, substance, particles, freeze, heat, boil, melt, temperature, Celsius, Fahrenheit, thermometer, mercury, expand, sensor, evaporation, perfume, water vapour, condensation, water cycle, precipitation, surface water, ground water, run off,
Investigations	Let's Investigate – Can we block sound? How can we change a sound? How far can sound travel?	Let's Investigate - What conducts electricity? Can you make a circuit from playdough?	Let's Investigate- Are all sea creatures the same? Let's Investigate- What do squirrels eat?	Let's Investigate- How does toothpaste protect teeth? Let's Investigate - How do smells get up your nose?	Let's Investigate - Where does water go? Let's Investigate - Why does it flood? Let's Investigate - Are all liquids runny?

		How do plugs work?			Let's Investigate - What is spit for?	Let's Investigate - Is custard a liquid?
Trips and/or experiences						Hunstanton (sea life centre)
Progression	§ asking relevant questi	ions and using different	types of scientific enqu	iiries to answer them		
Standards for	§ setting up simple prac	ctical enquiries, compara	tive and fair tests			
working scientifically	equipment, including the answering questions § recording findings usi § reporting on findings § using results to draw	d careful observations a ermometers and data log ing simple scientific lang from enquiries, including simple conclusions, make es, similarities or change d scientific evidence to c	ggers § gathering, recor uage, drawings, labelled g oral and written expla e predictions for new va es related to simple scie	ding, classifying and pr diagrams, keys, bar ch nations, displays or pres lues, suggest improvem entific ideas and proces	esenting data in a varie arts, and tables sentations of results an ents and raise further	ety of ways to help in nd conclusions

Year 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Area of	Earth and Space		Materials	Living things and	Animals, including	Forces and Magnets
Learning/Science Strand				their habitats	humans	
Key Question(s)	What shape are the Earth, the sun and the moon? How do we know? Why is night and day		What is the best way to get clean water on your journey through Alchemy Island?	In what ways are the life cycles of mammals, insects, amphibians and birds similar? In what ways are they	How do humans change as they get older - what are the main stages of development? -What happens at	Will water stay in a bucket which is upside down? What did you predict and why? What actually happened?
	different in places in the world? Why do we get night and day?		Which changes are reversible? How can they be reversed?	different? How does the life processes of	each stage?	What effect will the weight of the pendulum have on
	uuy?		Which changes are irreversible? What	reproduction take		the number of swings it completes

	How does the moon rotate in relation to the Earth? How do the planets orbit the sun? How does gravity give objects weight? Does the weight of an object affect the speed at which it drops? Why do objects fall towards earth? What is gravity?	happens when an irreversible change occurs? Why are certain materials chosen for specific jobs? Why would some materials be chosen to make a space suit from? What would they need to do?	place in plants / animals?		in 1 minute? How did you plan to answer this question? Which variables did you control? What did you find out? How can we use levers and pulleys to enhance the effect of force? What are friction, air resistance and water resistance? Where would we see these in action? What effect does each of these forces have? What surface would be best to make the break run stop the quickest?
Knowledge	Earth and Space Know about and explain the movement of the Earth and other planets relative to the Sun.I know about and explain the movement of the Moon relative to the Earth.	<u>Material</u> Materials can be grouped based on whether they are soluble or insoluble. Know how a material dissolves to form a solution. Know how to explain the	Living things and their habitats Life cycles Life cycles between different living things are quite different. Know mammals grow inside their mother's womb and are born. They	<u>Animals including</u> <u>humans</u> Know that as humans age, their bodies change. This is the human life cycle. Know human young are dependent on their mother for longer time than	<u>Forces</u> Know what gravity is and its impact on our lives. Know and identify the effect of air resistance. Know and identify the effect of water resistance.

Know and	process of	grow as they age.	any other living	Know and identify
demonstrate how	dissolving.	(Rabbit)	things.	the effect of
night and day are	Know and show	Know female	Know humans can	friction.
created by Earth's	how to recover a	amphibians lay	start to reproduce	Know and explain
rotation.	substance from a	eggs in water.	when puberty	how levers, pulleys
To be able to	solution.	These eggs are	starts during	and gears allow a
describe the Sun,	Know how some	outside of the	adolescence.	smaller force to
Earth and Moon	materials can be	mother's body. The	Know humans can	have a greater
(using the term	separated.	eggs are soft	reproduce until	effect.
spherical)	Know and	because they are	late adulthood.	
	demonstrate how	encased in jelly.	Know that in old	
Forces	materials can be	The eggs develop	age, the body	
Know what gravity	separated (e.g.	over time. There is	becomes more	
is and its impact	through filtering,	a complete	fragile and there	
on our lives.	sieving and	transformation.	is less growth.	
Know that	evaporation)	(Frog)		
unsupported	Know and can	Know female		
objects fall	demonstrate that	insects lay eggs		
towards the Earth	some changes are	outside of their		
because of the	reversible, and	body. The eggs		
force of gravity	some are	hatch into larva. A		
acting between	irreversible.	hard case then		
the Earth and the	Know and show that	forms around the		
falling object. -	dissolving, mixing and changes of state are reversible changes. I know how some changes result in the formation of a new material and	larva. This is called the pupa. During this time the insect metamorphoses into an adult. This is a complete		

	that this is usually irreversible.transformation (butterfly)To be able to compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.Know the life are all differed for example: Insects and amphibians transform completely as age. The youn does not look the particular uses of everyday materials, including metals, wood and plastic.Transformation (butterfly) Know female I lay eggs outsi their bodies. eggs have a h shell. The egg hatch. The ch grows as it ag Know the life are all differed for example: Insects and amphibians transform completely as age. The youn does not look the adult.Amphibian and insect eggs ar soft. Bird egg hard shelled. Amphibian, in and bird eggs outside the b Mammals grow their young in their body. Mammals chai as they grow.	birds ide of The aard gs hick ges. ccycles ent s they ng like d re gs are assect s are body. w nside inge
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			Reproduction Know reproduction is living things making more of themselves. This is important to living things to maintain their species. Know sexual reproduction happens when there is a male and a female. Know asexual reproduction happens when one living thing has everything it needs to make more of itself.		
Prior Knowledge	<u>Seasonal changes</u> <u>Year 1</u> Know and observe that our environment changes across the four seasons.	<u>Materials</u> <u>Year 1</u> Know and name a variety of everyday materials.	Reception Life cycle of a chicken Life cycle of a butterfly Year 1	Reception Name body parts including facial features Noticing differences and similarities including disabilities.	<u>Forces and</u> <u>magnets</u> <u>Reception</u> Exploring forces that they can see or feel. Year 1

Know and describe
weather
associated with
the seasons.
Know that the
length of the day
varies depending
on the season.

Know that materials have differentLiving things and their habitatsYear 2 Animals including humansSome objects are magnetic, and some objects are non- magnetic.Know that a variety of everydayvarieties of a animals.a variety of foods to help us stayYear 3 Know that we need a variety of foods to help us staygrouped based upon their simple physical be magnetic or not).amphibians, reptiles, birds and mammals.Know It is important to drink that exercise keeps our muscles strong and helps our healthy.Know that magnets work.Know that Materials may also be magnetic (stick together or not).Living things and their habitats Year 2Know and compare the differences between things that are living, dead and never lived.Year 2 Know that we kill any germs which may make us ill.I predict whether objects attract and other magnets. Hait we kill any germs which may electricity to pass frat allows electricity to pass electricity to pass electricity to pass electricity to pass electricity to passClassification Year 4 Know that different animals are a part of different food know that an animals are a part of different food know that an animals are a part of know that an electricity to passYear 4 know that different ferent food know that an animals are a part of different food know that an animals are a part ofYear 2 know hat anling know that anlike cordice chains.Year 2 know that anlife cordice chains.Year 2 know that anlife cordice chains.Year 2 know that anlife cordice chains.Year				
different properties.Know that there are different variety of everyday materials can be grouped based upon their simple physical properties.Know the names of common animals of common animals of common animals including fish, amphibians, reptiles, birds and mammals.humans Know that we need a variety of foods to help us stay healthy, give us energy and make us feel good. Know that mort to drink lots of water. Know that exercise keeps our muscles strong and helps our heart stay healthy.objects are non- magnetic.Electricity Conductors and insulatorsLiving things and their habitats Year 2 Know and compare the differences between things that are living, dead and never lived.humans know that we keep our bodies clean so that we kill any germs which may make us ill.objects are non- magnetic.Electricity Conductors and insulatorsClassification Year 4 Know that a conductor is a material or device that allows electricity to pass electricity to pass electricity to pass electricity to pass know that an conductor is aClassification Year 4 Know that different animals are a part of different food know that animals are a part of different food know that animals are a part of different foodyear 2 Know a human life surfaces. To know how some	Know that	Living things and	<u>Year 2</u>	Some objects are
properties. Know that a variety of everydayare different varieties of animals.Know that we need a variety of foods to help us stay healthy, give us energy and make us feel good.magnetic.grouped based upon their simple physical properties. Know that materials may also be magnetic or non-magnetic (stick together or not).of common animals including fish, amphibians, reptiles, birds and mammals.Know that we need a variety of foods to help us stay healthy, give us energy and make us feel good.Year 3 Know that magnets have two poles.Materials may also be magnetic or not.Living things and their habitats Year 2 Know and compare the differences between things that are living, dead and never lived.Know that we keep our bodies clean so that are living, dead and never lived.Year 2 Animals, including humansKnow that all a variety of ways. Know that all a variety of ways. Know that an different foodYear 2 Animals, including humansKnow that all animals are a part of young to old.Year 3 Know that an make us ill.Vear 4 Know that a conductor is a material or device that allows electricity to pass know that an conductor is a material or device that allows electricity to pass know that an conductor is a material or device that allows electricity to pass know that an different foodYear 2 Animals, including humans Know that all animals are a part of young to old. Know a human lifeYear S Know how some	materials have	<u>their habitats</u>	<u>Animals including</u>	-
Know that a variety of everyday materials can be grouped based upon their simple physical properties. Know that Materials may also be magnetic or non-magnetic (stick together or not).Know the names of common animals including fish, amphibians, reptiles, birds and mammals.Vear 3 know the althy, give us energy and make us feel good. Know that Materials may also be magnetic or non-magnetic (stick together or not).Year 2 know and compare the differences between things that are living, dead and never lived.Year 2 know that we kill any germs which may make us ill.Year 3 Know that magnets have two poles. I know abut and can explain how objects attract and other magnets. I predict whether objects will be magnetic and carry out an enquiry to test this out. Know that a Conductors and insulatorsYear 3 Know that a know that a the inhoitats Year 2 Know that a conductor is a material or device that allows electricity to pass know that all of different food know that a conductor is a material or device that allows electricity to pass know that an conductor is a material or device that allows electricity to pass know that an conductor is a material or device that allows electricity to pass know that an conductor is a material or device that allows electricity to pass know that an conductor is a can be grouped in that allows electricity to pass know that an different food know that an conductor is a can be grouped in that allows electricity to pass know that an different food know that an conductor is a conductor is a that allows electricity to pass know that an<	different	Know that there	humans	•
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Future Knowledge		material or device that does not allow electricity to pass through it. States of matter Year 1 Objects/materials can be grouped through simple properties. Year 2 Mouldable materials can be shaped in any way chosen. Plastic, metal and glass can be moulded to make objects of different shapes. They are heated to be soft when being moulded and they are hard once they have been cooled.	Know that living things can be a producer, predator or prey. Know how to use a classification key, you start with the living thing and answer the yes/no questions.	toddler, child, teenager, adult Know that animals need water, food and air to survive. Know that some offspring do not look like their adult when they are born. Know about and describe the basic needs of animals, including humans, for survival (water, food and air)	contact and some do not, giving example. Know magnetic forces can act at a distance. To compare how objects more on different surfaces. I predict whether magnets will attract or repel and give a reason.
r uture knowleage			<u>Living things and</u> <u>their habitats</u> <u>Year 6</u> Know how to classify living	<u>Animals including</u> <u>humans</u> <u>Year 6</u> I know the impact of diet, exercise,	

			things into broad groups according to observable characteristics and based on similarities and differences, including micro- organisms, plants and animals.	drugs and lifestyle on health.	
Vocabulary	space, planet, sphere, spherical, diameter, distance, rotate, rotation, shadow, sunrise, sunset, axis, relativity, relative distance, satellite, craters, meteors, emits, illuminated, lunar, lunar cycle, lunar phase	material, substance, solution, properties, dissolve, particles, react, soluble, insoluble, reversible, evaporation, filter, sieve, liquid, gas, irreversible, heating, temperature, cooling, water vapour, charcoal, ash, harmful gases, flammable, hazard, flexible, malleable, transparent,	life cycle, reproduction, sexual reproduction, sepal, petal, filament, anther, stigma, style, ovary, carpel, stamen, pollination, genetic, genes, fertilisation, asexual, bulb, tuber, runner, plantlet, clones, genetically identical, parent plant, cutting, sex cell, internal fertilisation, external fertilisation, live offspring, egg,	reproduction, growth, development, life cycle, stage, gestation, infancy, childhood, adolescence, adulthood, old age, fertilisation, embryo, pregnant, puberty, gestation period, foetus, egg cell, reproductive organs, bladder, uterus, womb, ovary, newborn, breastfeed, dependence, independence,	weight, gravitational force, pull, Earth's centre, gravity, air resistance, gravity, gravitational force, parachute, sky dive, investigate, water resistance, streamlined, speed, friction, surface, time, high friction, low friction, pulley, belt pulley, lever, fulcrum

			translucent, soluble, conductive	embryo, colonies, nectar, forage, vegetation, breeding season, spawn, gestation period, life expectancy, incubate, metamorphosis, pupa, naturalist, oceanographer,	toddler, hormones, glands, pituitary gland, testicles, breasts, menstruation, hygiene, balanced diet, healthy lifestyle, emotions, feelings, ageing, deterioration, retirement	
Investigations	Let's Investigate - Can we track the sun? Let's Investigate - How clean are your hands? Let's Investigate - How do levers help us? Let's Investigate - How do rockets lift off? Let's Investigate - How do we know the Earth is round? Let's Investigate - How does the moon move?	Let's Investigate - Why do planets have craters?	Let's Investigate - Can you clean dirty water? Let's Investigate - Will it erupt? Let's Investigate - Which materials conduct heat? Let's Investigate - Do all solids dissolve?	Let's Investigate - How do worms reproduce? Let's Investigate - Why do birds lay eggs?	Do reaction times slow as we age?	Let's Investigate - What do pulleys do?

	Let's Investigate - Why are zip-wires so fast? Let's Investigate - Why do planets have craters?					
Trips and/or experiences						
Progression Standards for working scientifically	 \$ taking measurements appropriate \$ recording data and reand line graphs \$ using test results to \$ reporting and present results, in oral and write 	, using a range of scient esults of increasing com make predictions to set ting findings from enqu tten forms such as displ	tific equipment, with ind pplexity using scientific up further comparativ iries, including conclusio ays and other presenta	ons, causal relationships	recision, taking repeat r assification keys, tables, and explanations of and	eadings when , scatter graphs, bar

Year 6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Area of	ID	Blood Heart	Frozen Kingdom	Darwin's Delights	Hola Mexico	Gallery Rebels
Learning/Science	Working	Working	Working	Evolution and	Light	Electricity
Strand	Scientifically /	Scientifically/	Scientifically /	Inheritance		
	Living things and	Animals including	Evolution and			
	their Habitats	Humans	Inheritance / Living			
			Things and their			
			Habitats			
Key Question(s)	-What types of question are used in a classification key? Can you give an example?	- What are the parts of the heart and their functions?	-What questions/ observations did you make about the 'iceberg'? - What is adaptation?	-What type of question would you ask to create a classification key? Examples?	-How does light travel? - How and why are objects seen? -How can mirrors be used to change the	-Can you draw a circuit using symbols? -How do different voltages affect a circuit?

	 -Which method did you use to present the results about height and foot length? What did you conclude in this work? - What are the 3 types of fingerprint? How did you collect the fingerprints? - What does inheritance mean? What does inherited characteristics? - How did you work out the mean average height for boys and girls? What did you find out? 	 What are the parts of the circulatory system? What are the names and functions of the blood vessels? What are the parts of the blood and what is the function of each part? How are nutrients and water transported around the body? Can we explain the effects that positive and negative lifestyle choices have on the body - e.g. food, drugs, alcohol? What did you find out from the investigation? Was there a correlation? How did you know? 	-In what ways are polar animals adapted to suit their habitat? - What is Carl Linnaeus known for? - How is a Polar bear classified? -Can you say how and why you would classify a chosen living thing? - Can we slow the rate of cooling? - How? Which materials were most effective? How did we make the investigation a fair test?	 What can we learn from fossils? How has the horse evolved and how do we know? What was the theory of Charles Darwin? What does inheritance mean? What is natural selection and what is artificial selection? How have the beaks of the Galapagos Finches adapted to suit their habitat? Which variables will you control in the beak investigation? What conclusions can you draw? 	direction that light is travelling in? -How do periscopes work? -How and why are shadows formed? Which materials make the darkest shadows and why? -What shape are shadows and why is this?	-How could you make a bulb brighter or a buzzer louder? -How do the components of a circuit function?
Knowledge	<u>Living things and</u> <u>their habitats</u> Know how to classify living things into broad groups according to observable	<u>Animals including</u> <u>humans</u> To know and name the main parts of the human circulatory system	<u>Evolution and</u> <u>inheritance</u> Know how the Earth and living things have changed over time.	<u>Evolution and</u> <u>inheritance</u> Know how the Earth and living things have changed over time.	<u>Light</u> Know that light travels in straight lines. Know that light travels in straight	<u>Electricity</u> <u>Circuits</u> Know how to associate the brightness of a lamp or the volume

	r				
characteristics	I know the	Know how animals	Know how fossils	lines to explain	of a buzzer with
and based on	function of the	and plants are	can be used to	that objects are	the number and
similarities and	heart, blood,	adapted to suit	find out about the	seen because they	voltage of cells
differences,	vessels and blood,	their environment.	past.	give out or reflect	used in the circuit.
including micro-	I know the impact	Know how to explain	Know about	light into the eye.	Know and give
organisms, plants	of diet, exercise,	that adaptation	reproduction and	Know that we see	reasons for
and animals.	drugs and lifestyle	over time leads to	offspring	things because	variations in how
Know and identify	on health	evolution.	(recognising that	light travels from	components
how living things	I know the ways in	Know about	offspring normally	light sources to	function, including
have been	which nutrients	evolution and can	vary and are not	our eyes or from	the brightness of
classified	and water are	explain what it is.	identical to their	, light sources to	bulbs, the loudness
Know how to	transported in	Know reasons for	parents).	objects and then	of buzzers and the
explain the	animals, including	classifying plants	Know how animals	to our eyes.	on/off position of
reasons for	humans	and animals based on	and plants are	Eyes??	switches.
classifying plants		specific characteristics.	adapted to suit	Know how to	Know that f you
and animals in a		characteristics.	their environment.	explain that light	add more buzzers
specific way.			Know how to	travels in straight	to a circuit, the
			explain adaptation	lines to explain	buzzers will be
Evolution and			over time leads to	why shadows have	quieter.
<u>inheritance</u> Know about			evolution.	the same shape as	Know that if you
reproduction and			Know about	the objects that	add more bulbs to
offspring			evolution and can	cast them.	a circuit, the bulbs
(recognising that			explain what it is.	Know how simple	will become
offspring normally			•	optical instruments work e.g. periscope	dimmer.
vary and are not				Know materials can	Know that
identical to their				be grouped based	problems in a
parents)			Living things and	on whether they	circuit can be
purents			their habitats	are transparent or	identified and
			Know how to	opaque.	fixed.
			classify living		Know how to draw
-			things into broad		circuit diagrams

Derion Knowledge	Descrition		Deska	groups according to observable characteristics and based on similarities and differences, including micro- organisms, plants and animals.		using correct symbols when representing a simple circuit in a diagram.
Prior Knowledge	Reception Name body parts including facial features Noticing differences and similarities including disabilities. <u>Living things and their habitats</u> <u>Year 1</u> Know that there are different varieties of animals. Know the names of common animals including fish, amphibians,	Animals including humans <u>Year 2</u> Know that we need a variety of foods to help us stay healthy, give us energy and make us feel good. It is best to try and eat lots of fruit and vegetables. Sugary treats are okay sometimes. Know It is important to drink lots of water. Know that exercise	Rocks Year 3 <u>Fossils</u> To know fossils are the remains or traces of plants and animals that lived long ago. To know fossils form when layers of the earth build up on top of each other and turn into hard rock.	Living things and their habitats Year 1 Know that there are different varieties of animals. Know the names of common animals including fish, amphibians, reptiles, birds and mammals. Living things and their habitats Year 2 Know and compare the differences between things	Light Year 3 Know that dark is the absence of light. Know that light is needed to see. I know that light is reflected from a surface. I know and demonstrate how a shadow is formed (when a light source is blocked by an opaque object).	<u>Materials</u> <u>Reception and Year 1</u> Knowledge of materials learnt in these two years will support later learning about insulators and conductors. <u>Electricity</u> <u>Year 4</u> Know that electricity is a form of energy and know some of its common uses. Know that we get electricity from different sources, including power

reptiles, birds	keeps our muscles	that are living,	I explore shadow	stations and
and mammals.	strong and helps	dead and never	size and explain	batteries.
	our heart stay	lived.	the changes.	<u>Circuits</u>
Living things and their habitats Year 2 Know and compare the differences between things that are living, dead and never lived. Classification Year 4 Know living things can be grouped in a variety of ways. Know that different animals are a part of different food chains. Know that living things can be a producer, predator or prey. Know how to use a classification key, you start with the living thing and	our heart stay healthy. Exercise also makes us feel happy. Know that we keep our bodies clean so that we kill any germs which may make us ill.	lived. <u>Classification</u> <u>Year 4</u> Know living things can be grouped in a variety of ways. Know that different animals are a part of different food chains. Know that living things can be a producer, predator or prey. Know how to use a classification key, you start with the living thing and answer the yes/no questions.	the changes. I know the danger of direct sunlight and describe how to keep protected.	<u>Circuits</u> Know that electricity travels through a circuit and the elements of a circuit: component, switch, current, volt, cell, bulb and buzzer. Know and draw the symbols for: bulb, wire, battery, switch (open and closed) and buzzer. <u>Conductors and</u> insulators Know that a conductor is a material or device that allows electricity to pass through it. An insulator is a material or device that does not allow electricity to pass through it.

	answer the yes/no questions.					
Future Knowledge	K53 -					
<u>Vocabulary</u>	ΝΟ3 -	nutrition, carbohydrates, protein, lipids (fats & oils), minerals, vitamins, dietary fibre, water, heart, lungs, circulatory system, blood vessels, arteries, veins, pulse/pulse rate, carbon dioxide, oxygen, waste products, inflate, deflate, muscle, contracts, blood, blood vessels, pumps, oxygen, lungs, nutrients, exercise, diet, cardiac muscle, smooth muscle, skeletal muscle, tendons, addiction, overdose, abuse	offspring, identical, inheritance, characteristics, trait, variation, generation, adapt, environment, inherited, advantageous, disadvantageous, disadvantageous, survive, evolution, natural selection, classification, order, suborder, family, species, genetic trait, dominant, mutation, external factors, palaeontology, behaviour, consequence,	natural selection, selective breeding, genes, offspring, identical, inheritance, characteristics, trait, variation, generation, adapt, environment, inherited, advantageous, disadvantageous, survive, evolution,	light, light source, shadow, reflection, iris, pupil, cornea, lens, retina, optic nerves	electricity, circuit, component, volt, current, insulator, conductor, motor, battery, wires, bulb, switch, series circuit, parallel circuit, brightness, voltage, symbols

Investigations	Let's Investigate – How does inheritance work?	Let's Investigate - What can your heart rate tell you? Let's Investigate - How does blood flow? Let's Investigate - What's In Blood?	Let's Investigate - Can we slow cooling down? Let's Investigate - How do animals stay warm?	Let's Investigate - Why do birds have different beaks? Let's Investigate - How have eyes evolved? Let's Investigate - How many worms are underground? Let's Investigate - Where do wild plants grow? Let's Investigate - Why is holly prickly?	Let's Investigate - Can you see through it? Let's Investigate - What colour is a shadow? Let's Investigate - Can you turn a light down? Let's Investigate - What are reflections? Let's Investigate - How does light travel?	Let's Investigate - Can you send a coded message?

Trips and/or experiences					Visit from real-life explorer (Simon)	London?	
Progression Standards for working scientifically	 § planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary § taking 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 § using test results to m § reporting and presenti results, in oral and writt § identifying scientific e - Plan and carry out a re data to collect and mak	ng findings from enqu en forms such as disp vidence that has bee ange of enquiries, in	uiries, including conclusio plays and other presentat in used to support or refu cluding writing methods	ns, causal relationships ions ite ideas or arguments. , identifying and contr			