Science Overview

National Curriculum Coverage, Progression in Skills and Knowledge and Supporting Resources/Schemes of Work

EYFS

	3 & 4-year-olds will be learning to:	Children in Reception will be learning to:	
Understanding the World • • •	Use all their senses in hands -on exploration of natural materials. Explore collections of materials with similar and or/different properties. Explore how things work. Plants seeds and care for growing plants. Understand the key features of a life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things.	 Explore the natural world around them. Describe what they see, hear, smell and feel whilst outside. Recognise some similarities and differences between life in this country and life in other countries. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. 	 The Natural world Explore the natural drawing pictures Know some similar around them an experiences and Understand som world around the matter.

Year 1

Working Scientifically	 Ask simple questions and reco Use simple equipment to obse Perform simple tests Identify and classify Use his/her observations and Gather and record data to hele 	erve closely ideas to suggest answers	s to questions	ys					
Theme	National Curriculum	Progression in Skills			Substantive knowledge		Drivers & 50	British Values	Schemes/Resources/
		knowledge	Key Questions	Key Facts	Key Vocab	things & Protective Characterist	& Protective Characteristics	Texts	
Autumn	Pupils should be taught to distinguish between an object	Materials	Asking Questions Children will ask	What are the properties of materials?	Objects are made from materials such	Metal Attract	Skipton Castle		The King who Banned the Dark
Castles	and the material from which it is made.	Distinguish between an object and the material	simple questions about different	How can we change the	as wood, fabric, glass, metal,	Repel Wood	Building castles using materials in		Outstanding science
Naming and	They will identify and name a variety of everyday materials,	from which it is made	materials	shape of materials?	cardboard, plastic or clay.	Plastic Glass	the playground.		Hamilton trust Science folder
identifying Materials	including wood, plastic, glass, metal, water and rock.	Identify and name a variety of everyday	<u>Setting up tests</u> Children will verbally	What changes can you see in Autumn and	Some materials are	Fabric Magnetic	Play out in snow.		resources
	They will describe the simple physical properties of a variety of	materials, including wood, plastic, glass,	state what they are going to investigate.	Winter?	magnetic.	Rough Smooth	Gardening (outdoor learning)		
	everyday materials and compare and group together a variety of	metal, water, and rock.	Observing and	What happens to animals in Autumn and	Autumn is one of the four seasons of	Bending Squashing	Create leaf		
	everyday materials on the basis of their simple physical	Describe the simple physical properties of a	<u>Measuring</u> Children will observe	Winter?	the year	Twisting Stretching	monsters		
	properties.	variety of everyday materials Seasonal Changes	closely the differences between materials		The coldest temperatures of	Brittle Absorbent Waterproof	50 things build a den		

ELG	
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atural world around them, making observations and	
res of animals and plants.	
milarities and differences between the natural world	
and contrasting environments, drawing on their	
nd what has been read in class.	
ome important processes and changes in the natural	

them, including the seasons and changing states of

			Carry out simple tests		the year are in	Environment	50 things: Build a		
Seasonal		Observe changes across	using nonstandard		winter.		snowman		
Changes	Seasonal Changes	the four seasons.	measurements when appropriate.						
	Pupils should be taught to	Observe and describe	appropriate.	Possible Misconceptions	•		-		
	observe changes across the four	weather associated with	Recording	Seasonal changes	•				
	seasons and describe weather	the seasons	Children will gather	1 Misconception: The ph	enomenon of day and	night is caused by the			
	associated with the seasons and		and record simple	movement of the Earth a		-			
	how day length varies.		data.	around the Earth.					
				Fact: Day and night is cau	used by the rotation of	the Earth about its axis			
			Sort objects and living						
			things into groups	Materials					
			based on simple	1. Misconception: Confus		• • • • • • • • • • • • • • • • • • •			
			properties.	Fact: The differences bet		-			
				definitions of the terms '					
			Interpreting Results	emphasised to pupils. In					
			Children will explain	material to withstand scr		-			
			what they found out to an adult or a	material to support a hea					
			partner.	piece of chalk which is co considered hard in the so					
						asily be schaltched.			
Oracy	End of topic discussion: Which ma	terial is the best to build a d	castle?	I			1	1	1
opportunities									
for Autumn									
term									
Spring	Pupils should be taught to	Animals Including	Asking Questions	What senses do	The five senses are	Senses	Healthy Nutrition	Age:	Dear Earth by Isabel
	identify and name a variety of	Humans	Children will ask	humans have?	smell, touch, hear,	Amphibians	,	Dear Earth-	Otter
co Warriors	common animals including fish,	Identify and name a	simple questions		feel and taste.	Reptiles	STEM visit Careers/	Grandad and	
	amphibians, reptiles, birds and	variety of common	about the differences	How do humans change		Mammals	Aspirations/science	granddaughter	Now Press Play
Animals	mammals.	animals including fish,	between a variety of	as they get older?	Exercising is good	Carnivore	week	Grandad was an	
ncluding		amphibians, reptiles,	common animals.		for humans.	Herbivore		explorer.	Outstanding science
Humans	They will identify and name a	birds and mammals.		What are the basic		Omnivore	Rethink food		Hamilton trust
lumans	variety of common animals that		Making Predictions	needs of humans?		Adults	indoor garden		Science folder
	are carnivores, herbivores and	Identify and name a	Children will predict			Air			resources
	omnivores.	variety of common	and sort a variety of	What do humans need		Hygiene	Gardening		
		animals that are	health and unhealthy	to do to stay healthy?			(outdoor learning)		
	Pupils will describe and compare the structure of a variety of	carnivores, herbivores and omnivores.	foods	What happens to the			Spring Walk		
	common animals (fish,		Observing and	environment in Spring?					
	amphibians, reptiles, birds and	Describe and compare	Measuring	environment in Spring:					
	mammals, including pets).	the structure of a	Children will observe						
		variety of common	the differences						
	They will identify, name, draw	animals (fish,	between plant life		Spring is the season				
	and label the basic parts of the	amphibians, reptiles,	during the different		when plants start				
	human body and say which part	birds and mammals,	seasons		to grow again.				
	of the body is associated with	including pets).							
	each sense.		<u>Recording</u>						
easonal		Identify, name, draw	Children will record	Possible Misconceptions	:				
Changes		and label the basic parts	the changes	Animals					
		of the human body and	photographically in	1.Misconception: All oce		-			
		say which part of the	seasonal change	Fact: Whales, dolphins, je	ellyfish and shellfish ar	e not fish, but seahorses			
		body is associated with		and sea dragons are.					
	1	each sense.							
				0. A 41-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	and the second				
				2.Misconception: Human		onimolo known			
		Describe the basic needs of animals,		2.Misconception: Human Fact: Humans are member mammals.		animals known as			

	Seasonal Changes	including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Seasonal Changes		3.Misconceptions: Amph Fact: amphibians are very aquatic lifestyle as oppos snakes for example. Amp whilst most reptiles do no	y different from reptile sed to the terrestrial life hibians also need wat	es because they have an festyle of lizards and er in order to breed,		
	Pupils should be taught to ide observe changes across the four seasons and describe weather associated with the seasons and how day length varies.	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how						
		day length varies						
Oracy	Everyone's an expert: How am I d	ifferent from and elderly? (From the point of view of	a child)				
opportunities								
for spring term	Dianta	Dianta	Acking Questions	What are the common	The four concerns	Wild	Now pross play	our Dross Dlov
Summer	Plants	Plants	Asking Questions Children will ask	What are the common, wild and garden plants	The four seasons are Spring,	Wild Deciduous	Now press play- seasonal changes.	ow Press Play- abitats
	Pupils should be taught to:	Identify and describe	questions about the	and trees?	Summer, Autumn	Evergreen	seasonal changes.	מאונמנא
Incredible India		the basic structure of a	features and		and Winter.			utstanding science
Dlanta	identify and name a variety of	variety of common	structures of a variety	What are the four			Planting and	amilton trust
Plants	common wild and garden plants,	flowering plants,	of common plants.	seasons?	Flowers are made		growing plants in	cience folder
	including deciduous and	including trees.			up of roots, stems		classroom and	sources
	evergreen trees		Making Predictions	How does the weather	leaves and flowers.		outdoors.	
	identify and describe the basic	Identify and name a	Children will make	change in these four				
	structure of a variety of common	variety of common wild	predictions of what	seasons?	Plants need water,			
	flowering plants, including trees.	and garden plants,	will happen to plants		nutrients and		50 things: Roll	
		including deciduous and	placed in different	What are garden and	sunlight to grow.		down a grassy hill	
		evergreen trees.	areas such windowsill	wild plants?	Summer usually is			
			or closed cupboard.	M/batic a flavor manda	Summer usually is the hottest of the		50 things: Make a	
			Sotting up tosts	What is a flower made	four seasons.		daisy chain	
	Seasonal Changes		Setting up tests Children will verbally	up of?				
Seasonal		Seasonal Changes	state what they are	What do plants need to				
Changes	Pupils should be taught to		going to investigate	grow?				
	observe changes across the four	Observe changes across		Ĭ				
	seasons and describe weather	the four seasons.	Children will design an	Possible Misconceptions	:		1	
	associated with the seasons and		investigation for	Plants				
	how day length varies.	Observe and describe	testing what will	1.Misconception: Trees a	ire not plants.			
		weather associated with	happen when plants	Fact: Trees are plants.				
		the seasons and how	are placed in different					
		day length varies	places.	2.Misconception: Many f	- · ·			
	1			non-flowering plants due	e to inconspicuous flow	vers or infrequent		
			Observations	(1)				
			Observing and	flowering.	and frames and the	and the set		
			Measuring	Fact: Mosses and liverwo		are non-flowering		
				_		are non-flowering		

		during the different		
		seasons		
		<u>Recording</u> Children will record the changes photographically in seasonal change		
		Interpreting Results Children will explain what they found out to an adult or a partner.		
Ignite speech on the chosen habitat	I			
	Ignite speech on the chosen habitat		Recording Children will record the changes photographically in seasonal change Interpreting Results Children will explain what they found out to an adult or a partner.	seasons Recording Children will record the changes photographically in seasonal change Interpreting Results Children will explain what they found out to an adult or a partner.

Working Scientifically	 Ask simple questions and reco Use simple equipment to obse Perform simple comparative to Identify, group and classify Use his/her observations and i Gather and record data to help 	erve closely including char ests ideas to suggest answers p in answering questions	nges over time to questions noticing si including from seconda	milarities, differences ary sources of informat	and patterns ion		um Drivers & 50		
Theme	National Curriculum	Progression in Skills	Disciplinary Knowledge		Substantive knowled	ubstantive knowledge		British Values & Protective	Schemes/Resources/ Texts
			into medge	Key Questions	Key Facts	Key Vocab	things	Characteristics	
Autumn	Pupils should be taught to:	Animals Including Humans	Asking Questions Children will ask	What do animals need to help them	Animals and human beings need food,	Bulb Survival	Cooking lessons	Age	Cherry Blossom and Paper Planes
History of Flight	To notice that animals, including	Understand that	simple questions and recognise that they	survive?	water, air, and shelter to survive.	Temperature Toddler	Autumn walk- What happens to	Pregnancy	Kites
Animals including	humans, have offspring which grow into adults	animals, including humans, have offspring	can be answered in different ways	How do humans change as they get	Humans can only	Teenager Elderly	plants in Autumn and why?		
humans		which grow into adults	Making Predictions	older?	survive without water for three days.	Offspring	Planting out		Outstanding science Hamilton trust
	To find out about and describe the basic needs of animals, including humans, for survival	Describe the basic needs of animals, including humans, for	Children will make predictions about the basic needs for	What are the offspring of animals called?			Autumn bulbs to create a Spring daffodil display		Science folder resources
	(water, food and air)	survival (water, food and air)	animals including humans	What is a bulb?			Autumnal maths outside -making 2-		
	To describe the importance for humans of exercise, eating the	Describe the importance for humans of exercise, eating the	<u>Setting up tests</u> Children will set up a test to investigate	What do plants need to survive?			digit number using acorns or concerns as ones and sticks as tens		

	right amounts of different types	right amounts of	what happens to their	Possible Misconceptio	ns:		50 things: Look	
Plants	of food, and hygiene	different types of food,	heart rate when they	Plants			after a pet	
		and hygiene	exercise	1.Misconception: Mine	rals in the soil, water an	d carbon dioxide are		
				food for plants.			50 things: Kick the	
			Observing and	Fact: Plants make their	own food. Minerals help	o in plant growth and	Autumn leaves	
		<u>Plants</u>	Measuring	health. Water and carb	on dioxide are ingredier	nts for photosynthesis.		
	Plants		Children will use stop				50 things: Grow	
		Observe and describe	watches and		s are organs for feeding.		some daffodils	
		how seeds and bulbs	stethoscopes to listen		nerals and water for the	plants. Minerals and		
	Pupils should be taught to:	grow into mature plants.	to and time heart rate	water are not food for	plants.			
	To observe and describe how		Children will observe		es take in water; the mai			
	seeds and bulbs grow into mature	Find out and describe	and describe how		or dew; water vapour mo	oves into the leaf		
	plants	how plants need water,	seeds and bulbs grow	during photosynthesis.				
	P	light and a suitable	and mature		er. The main function of	leaves is to carry out		
		temperature to grow		photosynthesis.				
	To find out and describe how	and stay healthy	Recording					
	plants need water, light and a		Children will record					
	suitable temperature to grow and		the changes in their					
	stay healthy		heart rate					
			Interpreting Results					
			Children will explain					
			how their body					
			changed during					
			exercise.					
			Evaluating					
			Children will evaluate					
			how they could have					
			improved their test.					
Oracy	Just a minute: Presenting one of the	e groups of animals (Amphi	bians, mammals, birds, re	ptiles)			· · ·	<u> </u>
opportunities								
for Autumn								
	0 1		• •	ime to prepare, but will	only have one minute to	talk about it without sa	ying um, er, repeating th	hemselves or pausing to remember. You
Term	could add competition to the game		• •	ime to prepare, but will	only have one minute to	talk about it without sa	ying um, er, repeating th	hemselves or pausing to remember. You
Term Spring	0 1		fewest points.	What materials are	Seeds need to wait	Material	Now Press Play-	hemselves or pausing to remember. You BBC Bitesize
	could add competition to the game Materials	by seeing who can get the Materials	fewest points. Asking Questions Children will ask		Seeds need to wait for conditions to be			BBC Bitesize
	could add competition to the game Materials Pupils should be taught to identify	by seeing who can get the Materials Compare and group	fewest points. Asking Questions Children will ask simple questions and	What materials are strong?	Seeds need to wait for conditions to be just right before they	Material	Now Press Play- Materials	BBC Bitesize Outstanding science
Spring	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a	by seeing who can get the Materials Compare and group together a variety of	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they	What materials are strong? What materials are	Seeds need to wait for conditions to be	Material Properties	Now Press Play- Materials Material hunt	BBC Bitesize Outstanding science Hamilton trust
Spring My Country	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials,	by seeing who can get the Materials Compare and group together a variety of everyday materials on	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they can be answered in	What materials are strong?	Seeds need to wait for conditions to be just right before they start to grow.	Material Properties	Now Press Play- Materials	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic,	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they	What materials are strong? What materials are weak?	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside	BBC Bitesize Outstanding science Hamilton trust
Spring My Country	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and	by seeing who can get the Materials Compare and group together a variety of everyday materials on	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they can be answered in different ways	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow.	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country My City	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic,	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they can be answered in different ways <u>Making Predictions</u>	What materials are strong? What materials are weak?	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties Identify and compare	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they can be answered in different ways <u>Making Predictions</u> Children will make	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a snowball fight	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country My City	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. They will find out how the shapes	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties Identify and compare the suitability of a	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they can be answered in different ways <u>Making Predictions</u> Children will make simple predictions as	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a snowball fight STEM visit Careers/	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country My City	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. They will find out how the shapes of solid objects made from some	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties Identify and compare the suitability of a variety of everyday	fewest points. Asking Questions Children will ask simple questions and recognise that they can be answered in different ways Making Predictions Children will make simple predictions as to what will happen to	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a snowball fight STEM visit Careers/ Aspirations/science	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country My City	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. They will find out how the shapes of solid objects made from some materials can be changed by	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties Identify and compare the suitability of a variety of everyday materials, including	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they can be answered in different ways <u>Making Predictions</u> Children will make simple predictions as to what will happen to a solid material when	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a snowball fight STEM visit Careers/	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country My City	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. They will find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic,	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they can be answered in different ways <u>Making Predictions</u> Children will make simple predictions as to what will happen to a solid material when squashing, bending,	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a snowball fight STEM visit Careers/ Aspirations/science week	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country My City Materials	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. They will find out how the shapes of solid objects made from some materials can be changed by	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper	fewest points. Asking Questions Children will ask simple questions and recognise that they can be answered in different ways Making Predictions Children will make simple predictions as to what will happen to a solid material when squashing, bending, twisting and	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a snowball fight STEM visit Careers/ Aspirations/science week Planting and	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country My City	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. They will find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for	fewest points. <u>Asking Questions</u> Children will ask simple questions and recognise that they can be answered in different ways <u>Making Predictions</u> Children will make simple predictions as to what will happen to a solid material when squashing, bending,	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a snowball fight STEM visit Careers/ Aspirations/science week Planting and growing plants in	BBC Bitesize Outstanding science Hamilton trust Science folder
Spring My Country My City Materials	could add competition to the game Materials Pupils should be taught to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. They will find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and	by seeing who can get the Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper	fewest points. Asking Questions Children will ask simple questions and recognise that they can be answered in different ways Making Predictions Children will make simple predictions as to what will happen to a solid material when squashing, bending, twisting and	What materials are strong? What materials are weak? How are bulbs	Seeds need to wait for conditions to be just right before they start to grow. Bulbs can sprout new	Material Properties	Now Press Play- Materials Material hunt outside 50 things: Have a snowball fight STEM visit Careers/ Aspirations/science week Planting and	BBC Bitesize Outstanding science Hamilton trust Science folder

	Ι	Describe has all	Children 1911 - 11	Desether arts of the			1
		Describe how the	Children will identify	Possible Misconceptio	ins:		
	Pupils should be taught to	shapes of solid objects	what they will change	Dianta			
	observe and describe how seeds	made from some materials can be	and keep the same.	Plants 1.Misconceptions: See	de are not alive		
	and bulbs grow into mature	changed by squashing,	Observing and	•	oryo of a new plant and a	e such is a living thing	
	plants.	bending, twisting and	Measuring		, which requires being bu	C C	
	The such as defined as the read depending	stretching.	Children will observe		ger off the renewal proce		
	They should find out and describe	Stretening.	closely different				
	how plants need water, light and	Plants	materials using simple	2. Misconceptions: All I	plants start off as seeds.		
	a suitable temperature to grow		equipment such as		rows from a seed. Some	plants, like ferns and	
	and stay healthy	Observe and describe how seeds and bulbs	magnifying glasses.	mosses, grow from spo			
		grow into mature plant.	Perform simple tests				
			using standard units				
		Find out and describe	when appropriate.				
		how plants need water,					
		light and a suitable temperature to grow	Observe and describe how seeds and bulbs				
		and stay healthy	grow into mature				
			plants.				
			Recording				
			Children will gather				
			and record data to				
			help in answering				
			questions.				
			Interpreting Results				
			Children will use their				
			observations and ideas				
			to suggest answers to				
			questions.				
			<u>Evaluating</u>				
			Children will talk about				
			what they have found				
			out and how they				
			found it out.				
Oracy	Which material is the best to build a	a stage and why?					
opportunities for spring Term							
Summer	Living things and their Habitats	Living things and their	Asking Questions	What types of	A habitat must	Habitat	Seaside Tri
		Habitats	Children will ask	habitats are there?	provide food, shelter,	Shelter	
The Great British	Pupils should be taught to explore	Explore and compare	simple questions and		water and space.	Microhabitat	Now Press
Seaside	and compare the differences	the differences between	recognise that they	How do animals		Deforestation	Habitats-ye
	between things that are living,	things that are living,	can be answered in	adapt to certain	Different animals will	Food Chain	
	dead, and things that have never	dead, and things that	different ways	habitats?	require different	Producers Consumer	50 things: \
Living things and	been alive.	have never been alive	Making Drashatta a		things from their	Respiration Excretion	the sand ba
their habitats	They will identify that we set it is	Idontify that we set \$1.5	Making Predictions	How do animals	habitat.	Reproduction	FO this is a
	They will identify that most living	Identify that most living	Children will make	depend on each	Labitata ann changa		50 things: F
	things live in habitats to which	things live in habitats to	simple predictions	other?	Habitats can change		the sea
	they are suited and describe how	which they are suited	based on a question	How do habitata	in many ways.		Cum 2:
	different habitats provide for the basic needs of different kinds of	and describe how	Sotting up tosts	How do habitats	A food chain shows		Sum 2:
Dlanta	basic needs of different kinds of	different habitats provide for the basic	Setting up tests	provide what is needed for animals?	how animals depend		Re Think fo Hydroponio
Plants					on plants and other		пулгорони

Trip Filey	Age:	Outstanding science
	David	Hamilton trust
ess Play	Attenborough	Science folder
s-year 2	(our	resources
	environment	
s: Walk in	linked to	BBC Bitesize
d barefoot	habitats)	
s: Paddle in		
k food		
onics		

L				1			1		
	animals and plants, and how they	needs of different kinds	Children will identify		animals for their food				1
	depend on each other.	of animals and plants,	what they will change	What is a food chain?	and survival.		Planting and		1
		and how they depend	and keep the same.				growing plants in		1
	Pupils will identify and name a	on each other		What is a food	A food chain can tell		classroom and		1
	variety of plants and animals in		Observing and	source?	you about what		outdoors.		1
	their habitats, including	Identify and name a	Measuring		animals eat.				1
	microhabitats.	variety of plants and	Children will observe	How do plants obtain					1
		animals in their	closely, using simple	the food?					1
	They will describe how animals	habitats, including	equipment such as						1
	-			How do habitats					1
	obtain their food from plants and	micro-habitats	magnifying glasses.						1
	other animals, using the idea of a		Desferre destate	change?					
	simple food chain, and identify	Describe how animals	Perform simple tests				-		1
	and name different sources of	obtain their food from	using standard units	Possible Misconceptio	ns:				1
	food.	plants and other	when appropriate.	Plants					1
		animals, using the idea		1. Misconception: Plan	ts do not respire, or they	only respire in the			1
		of a simple food chain,	Observe and describe	dark.					1
	Plants	and identify and name	how seeds and bulbs	Fact: Plants respire all	the time.				
		different sources of	grow into mature						
	Pupils should be taught to identify	food	plants.	2.Misconceptions: An a	animal's habitat is like its	"home".			
	and name a variety of common			Fact: A habitat is an are	ea occupied by many spe	cies. A home is a place			1
	wild and garden plants, including	<u>Plants</u>	Recording	within a habitat where	a particular animal speci	es can protect itself			1
	deciduous and evergreen trees.	<u> </u>	Children will gather		weather and predators.				1
		Identify and describe	and record data to		os, and burrows dug by m				1
	They will identify and describe the	the basic structure of a	help in answering						1
	basic structure of a variety of	variety of common	questions.						1
	common flowering plants,	flowering plants,	questions.						1
	including trees.	including trees.	Identifying and						1
	including trees.	including trees.	classifying animals by						1
	Pupils should be taught to	Identify and name a	their habitats and						1
	observe and describe how seeds	variety of common wild	physical features						1
		-	physical reacures						
	and bulbs grow into mature	and garden plants,	Internetine Desults						
	plants.	including deciduous and	Interpreting Results						1
	They will find out and describe	evergreen trees	Children will use their						1
	how plants need water, light and		observations and ideas						1
	a suitable temperature to grow	Observe and describe	to suggest answers to						1
	and stay healthy.	how seeds and bulbs	questions.						1
		grow into mature							1
		plants.	<u>Evaluating</u>						1
			Children will talk about						1
		Find out and describe	what they have found						
		how plants need water,	out and how they						
		light and a suitable	found it out.					'	
		temperature to grow							
		and stay healthy							
Oracy	Discussion: How do people change	•		•			•		
opportunities									
for summer									
Term									

Working	Ask relevant questions and us	e different types of scien	tific enquiries to answe	er them									
Scientifically	• Set up simple practical enquir												
· · · · · · ·	Make systematic and careful of			rate measurements usi	ng standard units using	a range of equipmer	nt including thermon	peters and data lo	ggers				
						a range of equipment	it, meruanig thermon		BBC13				
	 Gather, record, classify and present data in a variety of ways to help in answering questions Becord findings using simple scientific language, drawings, labelled diagrams, keys, har charts, and tables 												
	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables												
		Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions											
	-												
	 Identify differences, similaritie 	es or changes related to s	imple scientific ideas a	nd processes									
	Use straightforward scientific	evidence to answer ques	tions or to support his,	her findings									
Theme	National Curriculum	Progression in Skills	Disciplinary		Substantive knowledge		Drivers & 50	British Values	Schemes/Resources/				
			knowledge				things	& Protective	Texts				
				Key Questions	Key Facts	Key Vocab		Characteristics					
Autumn	Identify and describe the	Plants	Asking Questions	What parts of the	The three types of	Photosynthesis	Aut 2		Outstanding science				
	functions of different parts of		Children will ask	plant can we eat?	rock are:	Trunk	RE Think food		Hamilton trust				
Who First Lived	flowering plants: roots,	Identify and describe	questions and		- sedimentary	Nutrients	indoor garden		Science folder				
in Britain?	stem/trunk, leaves and flowers	the functions of	understand there are	Does the amount of	- igneous	Metamorphic	project		resources				
		different parts of	different enquiry	water affect the	- metamorphic	Sedimentary							
	Explore the requirements of	flowering plants: roots,	types they could use	growth of the plant?		Igneous	Planting and		Meadow Song				
Plants	plants for life and growth (air,	stem/trunk, leaves and	to answer them.		Fossils are the remains	Fossils	growing plants in						
	light, water, nutrients from soil,	flowers		What are the three	of traces of plants and	Permeable Durable	classroom and						
	and room to grow) and how they		Making Predictions	types of rock?	animals that lived long	Density	outdoors.						
	vary from plant to plan	Explore the	Children will make		ago.	Molten							
		requirements of plants	relevant predictions	How are fossils									
		for life and growth (air,	about the	formed?									
		light, water, nutrients	characteristics of										
	Compare and group together	from soil, and room to	various types of rocks.	Possible Misconceptio	ns:		-						
Rocks	different kinds of rocks on the	grow) and how they											
NOCKS	basis of their appearance and	vary from plant to plant	Setting up tests	Plants									
	simple physical properties		Children will identify		s carry out photosynthesis	in the day and							
		Investigate the way in	what they will change,	respiration at night.	s carry out photosynthesis	in the day and							
	Describe in simple terms how	which water is	observe and keep the		espiration all the time and	nhotosynthesis when							
	fossils are formed when things	transported within	same.	there is light.									
	that have lived are trapped	plants											
	within rock		With support, set up	2.Misconception: Plant	s breathe in carbon dioxid	e and breathe out							
		Explore the part that	simple practical	oxygen.									
	Recognise that soils are made	flowers play in the life	enquiries.		bon dioxide in the day whe	en photosynthesis							
	from rocks and organic matter	cycle of flowering			out oxygen at night or in th								
		plants, including	Observing and		as respiration continues to								
		pollination, seed	Measuring			-	Aspirations – Mary	Mary Anning –	Stone Girl, Bone Girl				
		formation and seed	Children will				Anning	sex & age					
		dispersal	investigate the way in						Hamilton Trust				
			which water is				Cliffe Castle Visit						
		Compare and group	transported within										
		together different kinds	plants				Now Press Play						
		of rocks on the basis of											
		their appearance and	Begin to use scientific				Planting and						
		simple physical	equipment to make				growing plants in						
		properties	observations.				classroom and						
		Describe in simple terms					outdoors.						
		how fossils are formed	Carry out tests and										
ĺ		when things that have	simple experiments										
			and take										

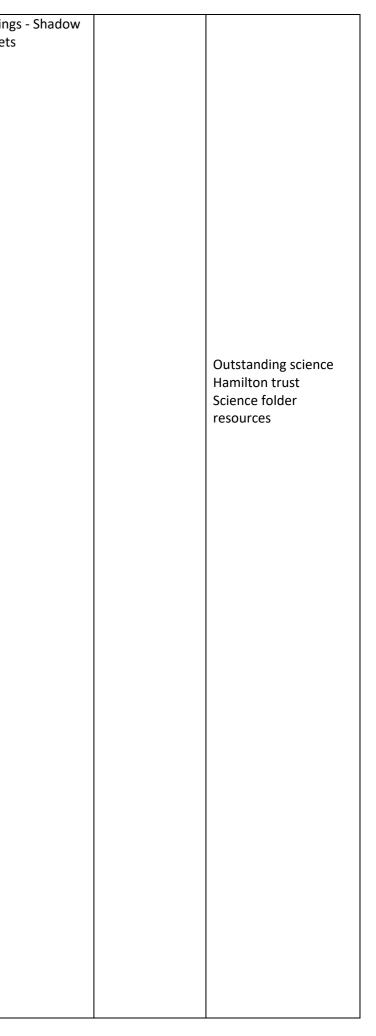
			1	1			1	
		lived are trapped within	measurements using					
		rock	standard units.					
		Recognise that soils are						
		made from rocks and	Recording					
		organic matter	Children will					
			gather and record					
			data in different ways					
			to help answer					
			questions.					
			questions.					
			Recording findings					
			using simple scientific					
			language, drawings,					
			labelled diagrams, bar					
			-					
			charts, and tables					
			Interpreting Results					
			Children will report on					
			findings from					
			-					
			enquiries, including					
			oral and written					
			explanations.					
			Make simple					
			conclusions.					
			Use results, findings or					
			observations to					
			answer questions.					
			Evaluating					
			Children will suggest					
			questions for further					
			investigation.					
Oracy Ignite speed	ch: What are the uses o	of rocks?	investigation.					
opportunities								
for Autumn								
term Spring identify the	tanimals including	Identify that animals,	Asking Questions	What is diet and	Animals can be	Muscle	Healthy Lifestyles	Outstanding science
	at animals, including	-	Children will ask	nutrition?				Hamilton trust
	eed the right types	including humans, need			grouped according to	Skeleton		
	t of nutrition, and	the right types and	questions and	De ell'entre la la c	their bone structure.	Lungs		Science folder
	annot make their own	amount of nutrition,	understand there are	Do all animals have a	Animala and ha	Diaphragm	STEM visit Careers/	resources
	get nutrition from	and that they cannot	different enquiry	skeleton?	Animals can be	Biceps	Aspirations/science	
Animals what they e	eat	make their own food;	types they could use		grouped according to	Triceps	week	
including		they get nutrition from	to answer them.	How do muscles	what they eat.	Diet		
humana	it humans and some	what they eat		work?		Nutrition		
	als have skeletons and		Making Predictions		Some seeds are	Vertebrate		
I muscles for	r support, protection	Identify that humans	Children will make		transported by wind,	Invertebrate		
	nent	and some other animals	relevant predictions.	How is water	and have seeds			
and movem			1	transported through	designed to float, glide	Xvlem	Plan and grow	
		have skeletons and		transported through			-	
		have skeletons and muscles for support,	Setting up tests	plants?	or spin through the	Transportation	flowers outside	
and movem	e requirements of		<u>Setting up tests</u> Children will identify				-	
and movem explore the	e requirements of ife and growth (air,	muscles for support,			or spin through the	Transportation	-	Outstanding science
and movem explore the plants for li	-	muscles for support, protection and	Children will identify	plants?	or spin through the	Transportation Pollination	-	Outstanding science Hamilton trust

	and room to grow) and how they	Identify and describe			flowing water to		
Plants	vary from plant to plant	the functions of	With support, set up		transport their seeds.		
		different parts of	simple practical				
	investigate the way in which	flowering plants: roots,	enquiries		Sometimes animals		
	water is transported within	stem/trunk, leaves and			can move seeds.		
	plants	flowers	Observing and				_
			Measuring	Possible Misconception	15:		
	explore the part that flowers play	Explore the	Begin to use scientific	Plants			
	in the life cycle of flowering	requirements of plants	equipment to make observations.		iration in plants occurs or		
	plants, including pollination, seed formation and seed dispersal	for life and growth (air, light, water, nutrients	observations.	Fact: Respiration takes	s have gas exchange pore	5.	
	Tormation and seed dispersal	from soil, and room to	Carry out tests and	ract. Respiration takes	place in all plant cens.		
		-	simple experiments	Animals including huma	ans		
		vary from plant to plant	and take	_	food you eat becomes "po	oo" and the drink	
		, , ,	measurements using	becomes "wee".	,		
		Investigate the way in	standard units.	Fact: Urine is produced	by a filtration process in t	the kidneys; the feces	
		which water is		-	od that has passed throug		
		transported within	<u>Recording</u>		wn and where nutrients	were extracted from	
		plants	Children will	it.			
			gather and record				
		Explore the part that	data in different ways				
		flowers play in the life	to help answer				
		cycle of flowering plants, including	questions.				
		pollination, seed	Recording findings				
		formation and seed	using simple scientific				
		dispersal	language, drawings,				
			labelled diagrams, bar				
			charts, and tables				
			Interpreting Results				
			Children will report on				
			findings from				
			enquiries, including				
			oral and written				
			explanations.				
			Make simple				
			conclusions.				
			Use results, findings or				
			observations to				
			answer questions.				
			,				
			Evaluating				
			Children will suggest				
			questions for further				
			investigation.				
Oracy	Discussion: Consider life without p	plants		1			1
opportunities for spring term							
Summer	compare how things move on		Asking Questions	What is a force?	Forces are the things	Force	Planting an
	different surfaces		Children will ask		that allow the	Newtons	growing pla
			questions and		movement of all	Shadows	classroom a
			understand there are		objects around us.	Reflect	outdoors.

	Science folder resources
	Meadow Song

ting and	Outstanding science
ving plants in	Hamilton trust
sroom and	Science folder
loors.	resources

Forces and	notice that some forces need	Compare how things	different enquiry	Do things move		Transparent	50 thing
Magnets	contact between 2 objects, but	move on different	types they could use	differently on	Magnets have two	Translucent	puppets
	magnetic forces can act at a	surfaces	to answer them.	different surfaces?	poles; north and	Opaque	
	distance	Notice that so is former	Making Duadiations	M/h at materials and	south.		
	obsonio how magnets attract or	Notice that some forces	Making Predictions Children will make	What materials are			
	observe how magnets attract or repel each other and attract	need contact between	relevant predictions	magnetic?	Light is a form of		
	some materials and not others	two objects, but magnetic forces can act	based on their	Which magnetics	energy that enables us		
	some materials and not others	at a distance	scientific	poles attract and	to see the world		
	compare and group together a		understanding as to	which repel?	around us.		
	variety of everyday materials on	Compare and group	whether a material is	which reper:			
	the basis of whether they are	together a variety of	magnetic or not.	What is light?	Light comes from		
	attracted to a magnet, and	everyday materials	indgrietie of not.	What is light.	different sources.		
	identify some magnetic materials	everyddy materiais	Setting up tests	Which materials			
		Notice that light is	Children will identify	reflect light?	Our main source of		
	describe magnets as having 2	reflected from surfaces	what they will change,		natural light is the		
	poles		observe and keep the		Sun.		
		Recognise that light	same. Whilst testing				
	predict whether 2 magnets will	from the sun can be	different materials	Possible Misconceptio	ns:	1	1
	attract or repel each other,	dangerous and that					
	depending on which poles are	there are ways to	With support, set up	Light			
	facing	protect eyes	simple practical		ctive surfaces emit light.		
	_		enquiries.	Fact: They do not them	it reflect incident		
Light	recognise that they need light in	Recognise that light		-	tificial light. For instance, a		
			Observing and	shiny red colour because it has a relatively smooth surface that			
		n, blue, and yellow)					
there are ways to Begin to use scientific wavelengths of light							
	notice that light is reflected from	protect eyes	equipment to make				
	surfaces		observations.	2.Misconception: opaq	ue objects do not reflect li	ght	
		Find patterns in the way			eflect some amount of ligh	t and absorb the rest.	
	recognise that light from the sun	that the size of shadows	Carry out tests and	They do not transmit li	ght.		
	can be dangerous and that there	change	simple experiments				
	are ways to protect their eyes		and take	Magnets and Forces			
			measurements using	•	tionary object has no force	•	
	recognise that shadows are		standard units.	-	ationary is because the force	ces	
	formed when the light from a		Decendir -	acting on it are balance		and the second state of th	
	light source is blocked by an		Recording Childron will		object has gravity acting u	pon it to push it	
	opaque object		Children will	downwards			
	find patterns in the way that the		gather and record data in different ways	2 Micconcention: Mar	and woight are the server	thing	
	size of shadows change		to help answer	-	s and weight are the same e of the amount of matter		
			questions.		exerted by the object due		
			44030003.	a measure of the force	cherted by the object due		
			Recording findings	3.Misconception: All m	etals are magnetic		
			using simple scientific	-	h as Aluminium are not ma	gnetic	
			language, drawings,		a as Aluminium die nut ma	Brietie.	
			labelled diagrams, bar				
			charts, and tables				
			Interpreting Results				
			Children will report on				
			findings from				
			enquiries, including				
			oral and written				
			explanations.				



			Make simple conclusions. Use results, findings or observations to answer questions.			
			<u>Evaluating</u> Children will suggest questions for further investigation.			
Oracy opportunities for summer term	Discussion: Imagine you had magr	nets for fingers, would it be	good?		1	

Working Scientifically	 Ask relevant questions and use different types of scientific enquiries to answer them Set up simple practical enquiries, comparative and fair tests Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Gather, record, classify and present data in a variety of ways to help in answering questions Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identify differences, similarities or changes related to simple scientific ideas and processes Use straightforward scientific evidence to answer questions or to support his/her findings 								
Theme	National Curriculum	Progression in Skills	Disciplinary		Substantive knowledg	е	Drivers & 50	British Values	Schemes/Resources/
			knowledge	Key Questions	Key Facts	Key Vocab	things	& Protective Characteristics	Texts
Autumn Our Magical City States of Matter	Compare and group materials together, 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 (°C)	Compare and group materials together, 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 (°C)	Asking Questions Children will ask relevant questions and use different types of scientific enquiry to answer them. <u>Making Predictions</u> Children will make predictions based on simple scientific knowledge <u>Setting up tests</u> Children will identify what they will change, observe or measure	What are the different states of matter? How does a material change from one state to another? How are clouds in the sky formed? What temperature does water evaporate?	Matter is another word for the stuff things are made of. Everything falls into one of three categories; solid, liquid or gas. Materials can change from one state of matter to another through freezing and melting. The water cycle converts water into all	States of Matter Solid Liquid Gas Reversible Irreversible Precipitation Evaporation Condensation Filtering	Outdoor learning – physically making solids, liquids and gases Planting and growing plants in classroom and outdoors. 50 things: Toast marshmallows		Outstanding science Hamilton trust Science folder resources
	evaporation and condensation in the water cycle and associate the	Identify differences, similarities or changes	and keep the same.		three different states; liquid, solid (ice) and gas (vapour).				The Rhythm of the Rain

rate of evaporation with	related to simple	Set up simple practical		Clouds are formed
temperature	scientific ideas and	enquiries, comparative and fair tests.		after water from the
	processes			earth is evaporated by
	Use straightforward	Observing and		the sun.
	scientific evidence to	Measuring		the sun.
	answer questions or to	Children will make		Vapour that has
	support his/her findings	systematic and careful		turned into liquid can
		observations.		be released by clouds
	Identify the part played	observations.		in the form of rain or
	by evaporation and	Take accurate		snow.
	condensation in the	measurements using		
	water cycle and	standard units, using a		
	associate the rate of	range of equipment,		
	evaporation with	including		
	temperature	thermometers and		
		data loggers.		
		Recording		
		Children will gather,		
		record and classify	Possible Misconceptio	ns:
		data in a variety of	Changes in matter	
		ways to help in		ids that evaporate/boil disappear forever.
		answering questions.		es a gas when it is heated, the molecules mo
			that they escape into the atmosphere as	
		Record findings using		hen they cool the return back to their liquid
		simple scientific	state.	
		language, drawings,		and defended and a state of the state of the
		labelled diagrams,	-	zzy-drinks can or glass container becomes
		keys, bar charts, and		n the inside seeps through
		tables.	to the outside.	ion. There's a temperature difference betwee
		Interpreting Results		le, and the warmer air outside
		Children will		
		use straightforward	3.Misconceptions: Whe	en a substance has dissolved it has
		scientific evidence to	'disappeared'.	
		answer questions or to		es two materials; the resulting solution is a
		support their findings.	mixture of both. The di even though it can't be	issolved substance is still present in the solut
		Use results to draw	even mough it call t De	, accii.
		simple conclusions.	4 Misconcentions: Sub	stances (like sugar) 'melt' in water.
				lissolve in water are called soluble substance
		Begin to identify		ith water, the sugar dissolves to make a
		differences,		alt is soluble in water too. Substances that de
		similarities or changes		re called insoluble substances.
		related to simple ideas		
		or processes.		
		<u>Evaluating</u>		
		Children will begin to		
		make predictions for		
		new values, suggest		
		improvements and		
		raise further		
		questions.	1	

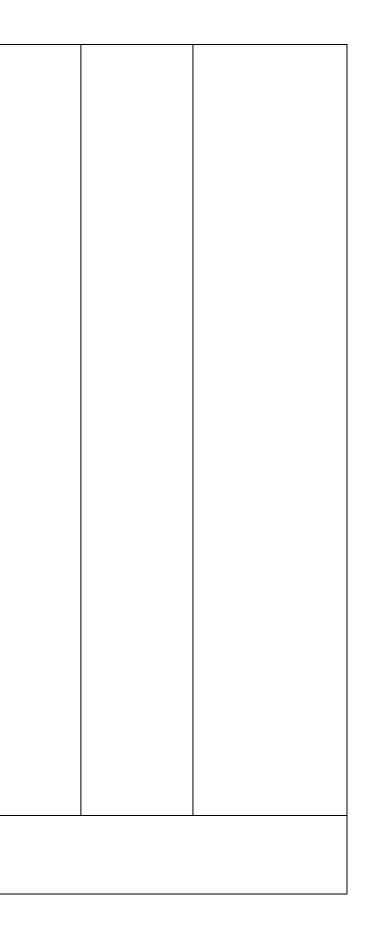
Yorkshire Water

for Autumn							
Term							
Spring	identify common appliances that	Identify common	Asking Questions	What are the key	Electricity is an	Circuit	STEM visit
	run on electricity	appliances that run on	Children will ask	components of a	energy. This energy	Cell	Aspiration
17 th Century		electricity	relevant questions and	circuit?	can be used to power	Crocodile clip Switch	week
Britain	construct a simple series		use different types of		electrical items.	Bulb	
	electrical circuit, identifying and	Construct a simple series	scientific enquiry to	Which materials	Flast distance and a	Conductor Insulator	Dianting
Electricity	naming its basic parts, including	electrical circuit, identifying and naming	answer them.	conduct electricity?	Electricity can only travel if there is a	Component Classification	Planting a
	cells, wires, bulbs, switches and	its basic parts, including	Making Predictions	Does the number of	complete circuit.	Characteristic	growing p classroom
	buzzers	cells, wires, bulbs,	Children will make	batteries affect the		Organism	outdoors.
		switches and buzzers	predictions based on	brightness of a bulb?	A complete circuit is	Amphibians	
	identify whether or not a lamp	Identify whether or not	simple scientific		made up of different		
	will light in a simple series circuit,	a lamp will light in a	knowledge		components -		
	based on whether or not the	simple series circuit,			batteries (or cell),		
	lamp is part of a complete loop	based on whether or not	Setting up tests		wires and bulbs,		
	with a battery	the lamp is part of a	Children will identify		buzzers and motors.		
		complete loop with a	what they will change,				
	recognise that a switch opens	battery	observe or measure				
	and closes a circuit and associate	Recognise that a switch	and keep the same.				
	this with whether or not a lamp	opens and closes a	Set up simple practical				
	lights in a simple series circuit	circuit and associate this	enquiries, comparative				
		with whether or not a	and fair tests.				
	recognise some common	lamp lights in a simple					
	conductors and insulators, and	series circuit	Observing and				
	associate metals with being good		Measuring				
	conductors	Recognise some	Children will make				
		common conductors and	systematic and careful				
		insulators, and associate	observations.	How can we group	An organism is an		
		metals with being good	Talia againsta	different living	individual animal,		
		conductors	Take accurate	things?	plant, or single-celled life form.		
			measurements using standard units, using a	What is a	me form.		
			range of equipment,	classification key?	A classification key is		
			including		a series of questions		
	recognise that living things can		thermometers and		that determine an		
	be grouped in a variety of ways		data loggers.		organism's physical		
					characteristics		
	surface and use classification	Recognise that living	<u>Recording</u>		to help identify an		
Living things	explore and use classification keys to help group, identify and	things can be grouped in	Children will gather,		unknown organism.		
and their	name a variety of living things in	a variety of ways	record and classify				
habitats	their local and wider	Evaloro and uso	data in a variety of				
	environment	Explore and use classification keys to	ways to help in answering questions.				
		help group, identify and					
	recognize that any irregressite as a	name a variety of living	Record findings using				
	recognise that environments can change and that this can	things in their local and	simple scientific	Possible Misconceptio	ins:	I	1
	sometimes pose dangers to living	wider environment	language, drawings,	Electricity			
	things		labelled diagrams,	1.Misconceptions: Diff	erent coloured wires affe	ect how the circuit	
		Recognise that	keys, bar charts, and	works.			
		environments can	tables.		ot matter electrically. A v	vire is a wire is a wire,	
		change and that this can		regardless of the colou	Ir of their insulation.		
		sometimes pose dangers	Internetic D. It		a ta sua da contra da set		
		and have an impact on	Interpreting Results Children will	2.Misconceptions: Wir	-	as inculation to the	
		living things			f plastic is there to serve	as insulation to the	
				metal conducting wire	peneath.		

visit Careers/ tions/science	Outstanding science Hamilton trust
	Science folder
	resources
ng and	
ng plants in	Lux app
bom and	
ors.	
	Outstanding science
	Hamilton trust
	Science folder
	resources
	Cook on the Number of the
	Seek app by iNaturalist

Oracy opportunities for spring Term Summer The Great Escape Animals	Concept cartoon: you must have a describe the simple functions of the basic parts of the digestive system in humans identify the different types of teeth in humans and their simple	t least one piece of wire in t Describe the simple functions of the basic parts of the digestive system in humans Identify the different	Asking Questions Children will ask	Fact: There is only one due to a gap in the circ will not function.4.Misconceptions: Elegand leads to both sides	circuit is broken, energy a route for electricity to flu- suit the current will stop a ctricity comes out of both s of the component. In flows from the positive we have three positive of teeth - incisors, canines and molars. The large intestine is around 5ft long and	ow, so if a break occurs and the whole circuit h sides of the battery	Healthy Lifestyles – looking after teeth Planting and growing plants in classroom and	Outstanding science Hamilton trust Science folder resources
	of food chains, identifying producers, predators and prey identify how sounds are made, associating some of them with something vibrating recognise that vibrations from sounds travel through a medium to the ear find patterns between the pitch of a sound and features of the object that produced it	a variety of food chains, identifying producers, predators and prey Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from sounds travel through a medium to the ear Find patterns between the pitch of a sound and features of the object that produced it	knowledge <u>Setting up tests</u> Children will identify what they will change, observe or measure and keep the same. Set up simple practical enquiries, comparative and fair tests. <u>Observing and</u> <u>Measuring</u> Children will make systematic and careful observations. Take accurate measurements using standard units, using a	How is sound created? How does sound travel? Does the size of an object affect the pitch of the sound it produces? Possible Misconceptio	Sound comes from vibrations. These vibrations create sound waves which move through air and water before reaching our ears. The pitch of a sound is how high or low the sound is.			

Sound	find patterns between the	Find patterns between	range of equipment,	Sound
Juliu	volume of a sound and the	the volume of a sound	including	1.Misconceptions: The features of an object do not affect the pitch of
	strength of the vibrations that	and the strength of the	thermometers and	sounds that it produces.
	produced it	vibrations that produced	data loggers.	Fact: Smaller, shorter, thinner, tighter and denser objects make more
		it		high-pitched sounds. Low pitched sounds are made by slow vibrations.
		Recognise that sounds	Recording	Larger, longer, thicker, looser and less-dense objects make more low-
	recognise that sounds get fainter	get fainter as the	Children will gather,	pitched sounds
	as the distance from the sound	distance from the sound	record and classify	
	source increases	source increases	data in a variety of	
			ways to help in	2. Misconceptions: Sounds stop after traveling away from the source.
			answering questions.	Fact: Sounds travel as vibrations. As the sound waves travel, the
				particles of whatever they are travelling through vibrate, or move
			Record findings using	quickly on the spot. The further the vibrations travel, the more they
			simple scientific	spread out.
			language, drawings,	
			labelled diagrams,	Animals including Humans
			keys, bar charts, and	1.Misconceptions: Food is digested only in the stomach
			tables.	Fact: Food is digested in the mouth, stomach and small intestine.
				digested food is absorbed into the blood stream in the small intestine.
				excess water is absorbed back into the body in the large intestine. any
			Interpreting Results	undigested food passes out of the anus as faeces.
			Children will	
			Use straightforward	2. When you have a meal, your food goes down one tube and your
			scientific evidence to	drink down another.
			answer questions or to	Fact: From the throat, both food and liquids travel down a muscular
			support their findings.	tube in the chest called the esophagus to the stomach.
			Use results to draw	
			simple conclusions.	
			Begin to identify	
			differences,	
			similarities or changes	
			related to simple ideas	
			or processes.	
			Evaluating	
			Children will begin to	
			make predictions for	
			new values, suggest	
			improvements and	
			raise further	
			questions.	
Oracy	Debate: The tongue is more im	portant than teeth		
opportunities				
for summer				
Term				

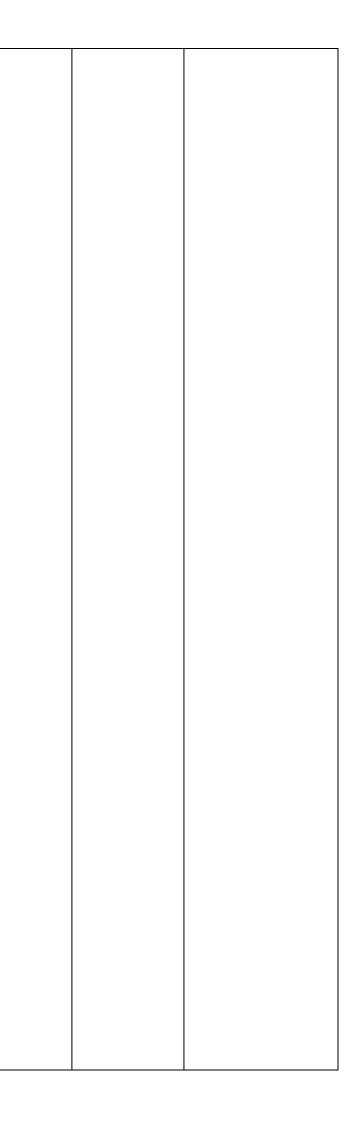


Working Scientifically	 Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropria Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and lin Use test results to make predictions to set up further comparative and fair tests Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, i Identify scientific evidence that has been used to support or refute ideas or arguments 						al and written forms such as displays and other present			
Theme	National Curriculum	Progression in Skills	Disciplinary knowledge	Key Questions	Substantive knowledg	e Key Vocab	Drivers & 50 things	British Values & Protective Characteristics	Schemes/Resources/ Texts	
				Key Questions	Rey racts	Key vocas		Characteristics		
Autumn Adventures	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.	Describe the movement of the Earth, and other	Asking Questions Children will ask scientific	How do we know the Sun, Moon and Earth are spherical?	A day is how long it takes a planet to rotate fully.	Solar system Orbit Planet	Outdoor/active learning – rotation of planets and	Sex: The women involved in	Earth and Space The Mysteries of the Universe by Will	
Earth and Space	Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth, and	planets, relative to the Sun in the solar system Describe the movement of the	questions and begin to understand which questions would be best suited to each	What is the name of the planets in our solar system, in order?	A year is how long it takes a planet to orbit the Sun.	Mercury Venus Mars Jupiter Saturn	moon in relation to the sun. ReThink Food indoor garden life	getting man to the moon in the USA (Hidden Figures)	Garter Now press play – Mission to Mars	
	Moon as approximately spherical bodies.	Moon relative to the Earth	enquiry type. <u>Making Predictions</u>	What is the difference between heliocentric	The Moon has a diameter of 2,159 miles (3,476	Uranus Neptune Pluto	on Mars Project Planting and		Outstanding science Hamilton trust Science folder	
	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	Describe the Sun, Earth and Moon as approximately spherical bodies	Children will make predictions based on scientific knowledge.	and geocentric ideas of planetary movement?	kilometres) and is about one-quarter the size of Earth.	Rotate Axis	growing plants in classroom and outdoors.		resources Hidden Figures	
		Use the idea of the Earth's rotation to explain day and night	Setting up tests Children will with support, plan different types of	How do night and day occur? Why does night time	The Moon weighs about 80 times less than Earth.					
		and the apparent movement of the sun across the sky	scientific enquiry. Where appropriate, identify the dependent,	and day time occur at different times around the world?	Saturn is the lightest planet.					
			independent and controlled variables.	How does the moon move in relation to earth?						
			<u>Observing and</u> <u>Measuring</u> Children will use a range of	How does the earth move in relation to the sun?						
			scientific equipment to make systematic and careful observations.	Earth and Space 1.Misconception: The s	Possible Misconceptions: Earth and Space 1.Misconception: The sun travels across the sky. Fact: The Earth orbits the sun.					
			Recording Gather, record and classify data with	Fact: It is dark at night l	dark at night because the because we are turned av	way from the Sun.				
			increasing complexity to help in answering questions.	-	i is the biggest object with and other planets appea					

			Interpreting results Children will use scientific evidence to answer questions. Make conclusions based on scientific evidence and from their own testing and findings. <u>Evaluating</u> Children will make predictions for new values, suggest improvements and raise further questions.	children are also surpris believe that Mars is a h 4.Misconceptions: Stars because that is when th Fact: In the daytime, ev	e are looking at them fror sed to learn that the Sun ot planet because of its c s are only present in the s ney can be seen. ren on a dull day, the brig irs in the sky from being s	is a star. They may also olour. sky during the night htness of the Sun will			
Oracy opportunities for Autumn term	Debate – is there life on other plan	ets?	1	1			1 I	1	
Spring	Explain that unsupported objects	Explain that	Asking Questions	What is the effect of	Gravity keeps the	Gravity	STEM visit Careers/	Ou	tstanding science
	fall towards the Earth because of	unsupported objects	Children will ask	gravity on	Earth and all the	Air resistance	Aspirations/science		-
Beautiful Britain	the force of gravity acting	fall towards the Earth	scientific questions	unsupported objects?	planets in our solar	Water resistance	week	На	milton trust
	between the Earth and the falling object.	because of the force of gravity acting between	and begin to understand which	How does air	system in orbit around the Sun.	Buoyancy Friction	Planting and		
Forces		the Earth and the	questions would be	resistance affect		Lever	growing plants in		
1	Identify the effects of air	falling object	best suited to each	moving objects?	A ship floats on water	Gear	classroom and		
Animals	resistance, water resistance and		enquiry type.		because the force	Cog	outdoors.		
Including	friction, that act between moving			How can you	from the water	Pulley			
Humans	surfaces.	air resistance, water	Making Predictions	minimise the effect of	pushing it up is equal	Puberty	Spring 2 – Rethink		
numans		resistance and friction, that act between	Children will make predictions	water resistance on objects?	to the force pulling it	Foetus Fertilisation	Food		
ĺ	Recognise that some	moving surfaces	based on scientific		down.	Adolescence	50 things: Make		
ĺ	mechanisms including levers,	moving surfaces	knowledge.		Forces are measured	AUDICICETICE	snow angels		
ĺ	pulleys and gears allow a smaller	Recognise that some		What is the purpose	in newtons (N) using a				
ĺ	force to have a greater effect.	mechanisms, including	Setting up tests	of a lever?	newton meter, named				
ĺ		levers, pulleys and	Children will with		after Sir Isaac				
ĺ		gears, allow a smaller	support, plan		Newton.				
ĺ		force to have a greater	different types of						
i		effect	scientific enquiry.	Animals Including					
۰ .	1	1	Where appropriate,	Humans					
			idontify the	1 M/hot ore the C	1	1	1		
	Animals Including Humans	Animals Including	identify the	What are the 6	Animals Including				
	Describe the changes as humans	Humans	dependent,	different stages of	Animals Including				
		Humans Describe the changes	dependent, independent and	different stages of human development,	Humans				
	Describe the changes as humans	Humans	dependent,	different stages of					
	Describe the changes as humans	Humans Describe the changes as humans develop to	dependent, independent and	different stages of human development,	Humans Human beings always				
	Describe the changes as humans	Humans Describe the changes as humans develop to	dependent, independent and controlled variables.	different stages of human development, in order?	Humans Human beings always grow more brain cells				
	Describe the changes as humans	Humans Describe the changes as humans develop to	dependent, independent and controlled variables. <u>Observing and</u>	different stages of human development, in order? What are the main	Humans Human beings always grow more brain cells than they need. This				

	Ι	1	1 -			1	1	
			equipment to make	What are the main	Some animals go			
			systematic and careful	changes that take	through			
			observations.	place during old age?	metamorphosis			
					where they change			
			Recording		into a very different			
			Gather, record and		animal.			
			classify data with					
			-					
			increasing complexity					
			to help in answering					
			questions.				-	
				Possible Misconception	าร:			
			Interpreting results					
			Identify differences,	Forces				
			similarities or changes	1.Misconceptions: The	best place to put the fulc	rum is in the centre of		
			related to simple	the lever.				
			ideas or processes.		ill in fact have a bigger e	ffect when it is closer to		
			evidence to answer	the object being moved	00			
				the object being moved	1.			
			questions.	2 Missonertierer A	ontor force an emission			
					eater force on a mechani	sm always has a greater		
			Make conclusions	effect on the object.				
			based on scientific	Fact: A mechanism can	allow a smaller force to I	have a greater effect.		
			evidence and from					
			their own testing	3.Misconceptions: Mas	s and weight are the sam	e thing.		
			and findings.	Fact: Mass is a measure	e of the amount of matte	r in an object; weight		
				is a measure of the force exerted by the object due to gravity. It is				
			Evaluating	important to define these measurements and the difference must be				
			Children will make	clear when introducing pulleys.				
			predictions	ciear when incroducing pulleys.				
			for new values,					
			suggest					
			improvements and					
			raise further					
			questions.					
Oracy								
opportunities								
for spring term				1		1		
Summer	Compare and group together	Compare and group	Asking Questions	How categories can	The most common	Dissolve	Planting and	Outstanding science
	everyday materials on the basis	together everyday	Children will ask	we use to classify	example of filtering is	Insoluble	growing plants in	Hamilton trust
The Industrial	of their properties, including	materials on the basis	scientific	materials, based on	making a cup of tea.	Chemical	classroom and	Science folder
Revolution	their hardness, solubility,	of their properties,	questions and begin	their properties?		Solution	outdoors.	resources
	transparency, conductivity	including their	to understand		The material with the	Permeable		
·	(electrical and thermal), and	hardness, solubility,	which questions	What is the difference	highest known	Soluble		
Properties and	response to magnets.	transparency,	would be best	between melting and	melting temperature	Resistance		
changes of		conductivity (electrical	suited to each	dissolving?	is a metal called	Filter		
materials	Recognise that some materials	and thermal), and				Sieve a device		
	-		enquiry type.		tungsten which melts			
	will dissolve in liquid to form a	response to magnets	Malda - Devillet	Milestin Hardline	at 3387 degrees	Gestation period		
	solution, and describe how to		Making Predictions	What is the difference	Celsius.	Asexual		
Living things and	recover a substance from a	Recognise that some	Children will make	between sexual and		Cell		
habitats	solution	materials will dissolve	predictions	asexual reproduction?	Burning is an	Embryo		
		in liquid to form a	based on scientific		irreversible chemical			
	Use knowledge of solids, liquids,	solution, and describe	knowledge.	What are the three	change.			
1		how to recover a	_	different types of	-			
	and gases to decide now to group							
	and gases to decide how to group them.		Setting up tests					
	them.	substance from a	Setting up tests Children will with	mammals?				
			<u>Setting up tests</u> Children will, with support, plan					

Demonstrate that dissolving,	Use knowledge of	different types of		The ostrich lays the	
mixing and changes of state are	solids, liquids and	scientific enquiry.		biggest eggs of any	
reversible changes.	gases to decide how	Where appropriate,		land animal.	
-	mixtures might be	identify the			
Explain that some changes result	separated, including	dependent,		A small number of	
in the formation of new	through filtering,	independent and		animals are asexual	
materials, and that this kind of	sieving and	controlled		which means they can	
change is not usually reversable,	evaporating	variables.		self-fertilise.	
including changes associated	cvaporating	variables.		Sen rereinse.	
	Give reasons, based on	Observing and		Flanhants have the	
with burning and the action of	,	Observing and		Elephants have the	
acid on bicarbonate of soda.	evidence from	Measuring		longest gestation	
	comparative and fair	Children will use a		period of all	
Describe the differences in the	tests, for the particular	range of		mammals, carrying	
life cycles of a mammal, an	uses of everyday	scientific equipment		their babies for	
amphibian, an insect, and a bird.	materials, including	to make systematic		almost two years (22	
	metals, wood and	and careful		months).	
Describe the life process of	plastic	observations.			
reproduction in some plants and					
animals.	Demonstrate that	Recording	Possible Misconception	IS:	
	dissolving, mixing and	Children will take			
	changes of state are	accurate	Living things		
	reversible changes	measurements	~ ~	by grows in a mother's tummy.	
		using a range of	•	uterus, or womb, it is a hollow, pear-shaped	
	Explain that some	scientific equipment.		uterus, or worns, it is a nonow, pear-snaped	
		scientine equipment.	organ		
	changes result in the		2.14	and the definition of the second	
	formation of new	Start to take repeat	2. Misconceptions: Man		
	materials, and that this	readings when	Fact: Only two mammal	Is lay eggs: the platypus and the echidna.	
	kind of change is not	appropriate.			
	usually reversible,				
	including changes	Gather, record and			
	associated with	classify data with			
	burning and the action	increasing			
	of acid on bicarbonate	complexity to help			
	of soda	in answering			
		questions.			
	Describe the				
	differences in the life	Interpreting results			
	cycles of a mammal, an	Children will use			
	amphibian, an insect	scientific evidence to			
	and a bird	answer questions.			
		answei questions.			
	Docariba the life	Mako conclusione			
	Describe the life	Make conclusions			
	process of	based on scientific			
	reproduction in some	evidence and from			
	plants and animals	their own testing			
		and findings.			
		Identify differences,			
		similarities or changes			
		related to simple			
		ideas or processes.			
		evidence to answer			
		questions.			
		Make conclusions			
		based on scientific			
		evidence and from			
	l		l		



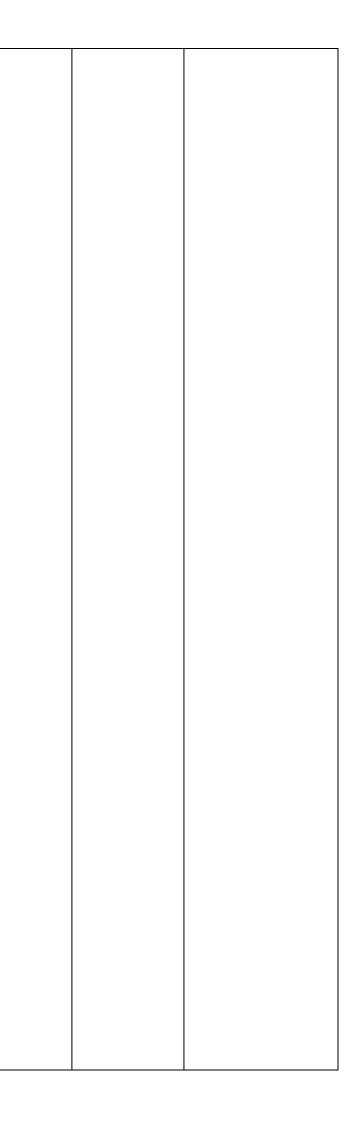
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		their own testing
		and findings.
		Identify
		differences,
		similarities or
		changes related to
		simple ideas or
		processes.
		Fuel we time
		Evaluating
		Children will make
		predictions
		for new values,
		suggest
		improvements and
		raise further
		questions.
0	Debate, the beaut is the meet in restant every is the best	
Oracy	Debate: the heart is the most important organ in the body.	
opportunities		
for summer		
term		

Working Scientifically	 Plan different types of scienti Take measurements, using a Record data and results of ind Use test results to make pred Report and present findings f Describe and evaluate their o Group and classify things and 	range of scientific equip creasing complexity usin lictions to set up further rom enquiries, including own and other people's s	ment, with increasing a g scientific diagrams an comparative and fair t g conclusions, causal re	accuracy and precision, nd labels, classification k tests lationships and explanat	taking repeat readings keys, tables, scatter gra tions of and degree of	when appropriate aphs, bar and line gra trust in results, in ora	phs Il and written forms suc		
Theme	National Curriculum	Progression in Skills	Disciplinary	S	ubstantive knowledg	e	Drivers & 50 things	British Values	Schemes/Resources/
		knowledge	Key Questions	Key Facts	Key Vocab	_	& Protective Characteristics	Texts	
Autumn	Recognise that light appears to travel in straight lines.	Recognise that light appears to travel in	Asking Questions Children will ask	How does light travel?	Light travels slower through different	Absorb Refract	Optician visit		Outstanding science Hamilton trust
	Use the idea that light travels in	straight lines	relevant scientific questions and choose	How do we see things?	materials like water and glass.	Prism Lens	Planting and growing plants in classroom		
Light	straight lines to explain that objects are seen because they give out or reflect light into the	Use the idea that light travels in straight lines to explain that objects	which enquiry type would be best suited to answer them.	What do mirrors do to light?	We see different colours because each	Ray Beam Focal point	and outdoors.		
Animals	eye.	are seen because they give out or reflect light	Making Predictions	How do we see colours?	colour has its own wavelength.	Blood vessel Circulatory system	Cooking Lessons		
Including Humans	Explain that we see things because light travels from light sources to our eyes or from light	into the eye Explain that we see	Children will Children will make predictions based on scientific	Why do shadows have the same shape as the	InfraRed rays are invisible to humans.	Plasma Platelets	Healthy Nutrition		
	sources to objects and then to our eyes.	things because light travels from light sources to our eyes or	knowledge.	object that casts them?	Light travels nearly 900,000 times faster		Planting and growing plants in classroom and outdoors.		
	Use the idea that light travels in straight lines to explain why	from light sources to objects and then to our eyes	Setting up tests	What is the circulatory system?	than sound.		50 things: Go on a night time walk (residential)		

shadows have the same shape as the objects that cast them.Use the idea that light travels in straight lines to explain why shadows have the objects that cast them.Plan different types of scientific enquiries to answer questions, and controlling variables where necessary.How does diet effect growth?A prism splits a beam of light into the colours of the visible spectrum.50 things: Climb a tree (residential)50 things: Climb a to explain why shadows have the objects that cast themIncluding recognising and controlling variables where necessary.Are all drugs bad for you?spectrum. The heart beats 2.550 things: Climb a tree (residential)The heart beats 2.5The heart beats 2.5The heart beats 2.5The heart beats 2.5Within the body?the life of a 75-year-the life of a 75-year-	
to explain why shadows have the objects that cast themto answer questions, Including recognising and controlling variables where necessary.colours of the visible spectrum.tree (residential)The heart beats 2.5 billion times duringThe heart beats 2.5 billion times duringThe heart beats 2.5 billion times duringThe heart beats 2.5 billion times during	
shadows have the same shape as the objects that cast them Including recognising and controlling vou? Are all drugs bad for you? spectrum. The heart beats 2.5 The heart beats 2.5 billion times during	
shadows have the same shape as the objects that cast them Including recognising and controlling you? Are all drugs bad for you? spectrum. The heart beats 2.5 The heart beats 2.5 billion times during	
same shape as the objects that cast themand controlling variables where necessary.you?The heart beats 2.5How is water usedbillion times during	
objects that cast them variables where The heart beats 2.5 necessary. How is water used billion times during	
necessary. How is water used billion times during	
internet of a 70 year	
Observing and old.	
Pupils should be taught to: Identify and name the Measuring What is blood made	
main parts of the Children will use a of? Blood is a mixture of	
identify and name the main human circulatory range of scientific fluid, plasma, white	
parts of the human circulatory system, and describe equipment to make What are the main and red blood cells.	
system, and describe the the functions of the systematic and organs within the functions of the heart, blood vessels careful observations human body? Red blood cells	
vessels and blood and blood with increased transport oxygen to	
complexity. What are the main every cell and	
recognise the impact of diet, Recognise the impact systems of the remove carbon	
exercise, drugs and lifestyle on of diet, exercise, drugs <u>Recording</u> human body? dioxide.	
the way their bodies function and lifestyle on the Children will record	
way their bodies data and results of	
describe the ways in which function Increasing complexity Possible Misconceptions:	
nutrients and water are using scientific Light	
transported within animals, Describe the ways in diagrams and labels, 1.Misconception: Sight is purely an active human process 'I am	
including humans which nutrients and classification keys, looking at something, which is why I can see it' or that eyes give out a	
water are transported tables, scatter graphs, form of light to enable us to see.	
within animals, bar and line graphs. Fact: When light hits the retina (a light-sensitive layer of tissue at the	
including humans back of the eye), special cells called photoreceptors turn the light into	
Take measurements, electrical signals. These electrical signals travel from the retina through	
using a range of the optic nerve to the brain. Then the brain turns the signals into the	
scientific equipment, images you see.	
with increasing	
accuracy and	
precision, taking	
repeat readings	
when appropriate.	
Interpreting Results	
Children will use	
scientific evidence to	
answer questions	
Identify scientific	
evidence that has	
been used to	
support or refute	
ideas or arguments.	
Report and	
present 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.						
			Evaluating						
			Children will use test						
			results to make						
			predictions to set up						
			further comparative						
			and fair tests.						
			Suggest investigation						
			improvements						
			including accuracy						
			of results.						
			Drevide						
			Provide some						
			simple examples of						
			how to extend the						
			investigation.						
Oracy	Ignite speech: explain the lifecy	l cle of an animal/plant o	l of your choice discussir	l og each stage and how t	he animal/plant deve	lons			
opportunities			your choice, discussii			10 p3.			
for Autumn									
Term									
	Pupils should be taught to:	Associate the	Asking Questions	How has electricity	Lightning is caused	Altornating	Engineering/Problem		Outstanding science
Spring	Pupils should be taught to.	brightness of a lamp or	Children will ask	changed over time?	Lightning is caused by the discharge of	Alternating Direct current Battery	solving		Hamilton trust
_	associate the brightness of a	the volume of a buzzer	relevant scientific	changed over time?	electricity in the	Motor	SOIVING		Hamilton trust
Electricity	lamp or the volume of a buzzer	with the number and	questions and choose	What are the different	atmosphere.	Buzzer	STEM visit Careers/		
	with the number and voltage of	voltage of cells used in		symbols on an	atmosphere.	Voltage	Aspirations/science		
	cells used in the circuit	the circuit	would be best suited	electrical circuit?	Electricity was first	Voltage	week		
			to answer them.		discovered in 600BC				
	compare and give reasons for	Compare and give		What are the effects of	by the Ancient		Spring 1		
	variations in how components	reasons for variations	Making Predictions	differing voltages in a	Greeks.		Re Think Food		
	function, including the	in how components	Children will Children	circuit?			indoor garden		
	brightness of bulbs, the loudness	function, including the	will make predictions		Kilowatt is a unit		project		
	of buzzers and the on/off	brightness of bulbs,	based on scientific	What happens if you	used for measuring		Planting and growing		
	position of switches	the loudness of	knowledge.	increase or decrease	electrical power.		plants in classroom		
		buzzers and the on/off		the voltage on differing			and outdoors.		
	use recognised symbols when	position of switches		parts of the circuit?					
	representing a simple circuit in a		Setting up tests	Possible Misconception	s:				
	diagram	Use recognised	Plan different types						
		symbols when	of scientific enquiries	Electricity					
		representing a simple	to answer questions,	1.Misconceptions: Curre	ent, voltage and electric	city are all the same			
		circuit in a diagram	Including recognising	thing.	a sa an an an an an an an	.1			
			and controlling	Fact: Voltage is the mea					
			variables where	charge, while current is					
			necessary.	Units: Voltage is measur	eu în voits, while currei	nuis measured in			
			Observing and	amperes.					
			Measuring	2.Misconcentions: Curre	ont gets less as it nasses	sthrough			
				2.Misconceptions: Current gets less as it passes through					
			Children will use a	components.					
			Children will use a range of scientific	components.					
			Children will use a range of scientific equipment to make	components.					

r		
	systematic and	Fact: The current is not used up by the components in a circuit. This
	careful observations	means that the current is the same everywhere in a series circuit, even
	with increased	if it has lots of lamps or other components.
	complexity.	
		3. Misconceptions: Electricity is an object that can be seen.
	Recording	Fact: Electricity is a form of energy, not a physical object. It is a flow of
	Children will record	electric charge through a conductor.
	data and results of	
	Increasing complexity	
	using scientific	
	diagrams and labels,	
	classification keys,	
	tables, scatter graphs,	
	bar and line graphs.	
	Take measurements,	
	using a range of	
	scientific equipment,	
	with increasing	
	accuracy and	
	precision, taking	
	repeat readings	
	when appropriate.	
	when appropriate.	
	La constructione Describer	
	Interpreting Results	
	Children will use	
	scientific evidence to	
	answer questions	
	Identify scientific	
	evidence that has	
	been used to	
	support or refute	
	ideas or arguments.	
	incus of arguments.	
	Report and	
	-	
	present 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.	
	<u>Evaluating</u>	
	Children will use test	
	results to make	
	predictions to set up	
	further comparative	
	and fair tests.	
	מות ומון נכזנז.	



			Suggest investigation						
			improvements						
			including accuracy						
			of results.						
			Provide some						
			simple examples of						
			how to extend the						
			investigation.						
Oracy	Ignite speech: choose a force, and	tell the class how we com		l r daily life					
				r daily life.					
opportunities									
for spring Term									
Summer	Recognise that living things have	Recognise that living	Asking Questions	Who was Charles	All living things have	Evolution	50 things: Take a	Sex:	Outstanding science
	changed over time and that	things have changed	Children will ask	Darwin/ Mary Anning?	a common ancestor	Adaptation Inherited	walk through a	Ruth Ella Moore	Hamilton trust
Evolution and	fossils provide information about	over time and that	relevant scientific		– a bacterium that	traits Inheritance	forest	(micro biologist)	Science folder
Inheritance	living things that inhabited the	fossils provide	questions and choose	How are fossils formed	lived billions of years	Adaptive traits			resources
	Earth millions of years ago.	information about	which enquiry type	and how long (on	ago.	Natural selection DNA	Planting and growing		
		living things that	would be best suited	average) do they take		Genes	plants in classroom		
	Recognise that living things	inhabited the Earth	to answer them.	to form?	The closest living	Variation	and outdoors.		
	produce offspring of the same	millions of years ago			relation of birds is	Micro organism			
	kind, but normally offspring vary		Making Predictions	Are inherited	the crocodile.	Taxonomy			
	and are not identical to their	Recognise that living	Children will Children	characteristics always			Nature Walk		
	parents.	things produce	will make predictions	physical?	Darwin said that				
		offspring of the same	based on scientific		monkeys, apes and		Gardening		
	Identify how animals and plants	kind, but normally	knowledge.	What is the difference	humans had a				
	are adapted to suit their	offspring vary and are		between inherited and	common ancestor.				
	environment in different ways	not identical to their		acquired					
	and that adaptation may lead to	parents	Setting up tests	characteristics?	Humans, unlike				
	evolution.		Plan different types		other animals, have				
		Identify how animals	of scientific enquiries	How do animals and	opposable thumbs				
		and plants are adapted	to answer questions,	plants adapt to their	making it easier for				
		to suit their	Including recognising	environment?	us to pick things up				
		environment in	and controlling		and hold things.				
Living Things		different ways and that	variables where	How could adaptation					
and Their		adaptation may lead to	necessary.	lead to evolution?	Up until 10,000 years				
Habitats	describe how living things are	evolution			ago, all humans had				
	classified into broad groups		Observing and	What is a fungus?	brown eyes.				
	according to common		Measuring						
	observable characteristics and	Describe how living	Children will use a		Microorganisms are				
	based on similarities and	things are classified	range of scientific		found in almost				
	differences, including micro-	into broad groups	equipment to make		every habitat				
	organisms, plants and animals	according to common	systematic and		present in nature.				
		observable	careful observations						
	give reasons for classifying plants	characteristics and	with increased	Possible Misconception	s:				
	and animals based on specific	based on similarities	complexity.	Evolution					
	characteristics	and differences,							
		including micro-	<u>Recording</u>	1.Misconceptions: Huma	ans used to be monkeys				
		organisms, plants and	Children will record	Fact: Humans are not de	scended from monkeys	or any other primate			
		animals	data and results of	living today. We do shar	e a common ape ancest	or with chimpanzees. It			
			Increasing complexity	lived between 8 and 6 m	nillion years ago.				
		Give reasons for	using scientific						
		classifying plants and	diagrams and labels,	2.Misconceptions: An individual can evolve during its own lifespan Fact: Individual organisms don't evolve. Populations evolve. Because individuals in a population vary, some in the population are better able					
		animals based on	classification keys,						
		specific characteristics	tables, scatter graphs,						
			bar and line graphs.	to survive and reproduce					
				conditions.					
L				conditions.					

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