

# HEYHOUSES C.E. PRIMARY SCHOOL SCIENCE CURRICULUM



#### At Heyhouses we aspire to be all that God has created us to be.

*HEYHOUSE* 

'I can do all thing through Christ who strengthens me.' Philippians 4:13

Our aim and purpose in education is based on firm beliefs and values; that Jesus is our redeemer; that each individual is unique and valued; and that although all different, we are dependent upon one another.

In our school we seek to provide for the spiritual, mental, moral and physical development, growth and well-being of all our children.

#### Curriculum Intent





# Curriculum Map



Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Animals,	Plants-	The Body and the	Plants-	Plants-	Everyday
	including	Seasonal	Senses	Seasonal	Seasonal	materials
	humans	Changes		Changes	Changes	
British Isles focus	Identify and name animals)	e a variety of comr	non British Flora and	Fauna (common Briti	ish plants/trees and	l common UK
Year 2	Living Things and their Habitats	Use of everyday materials	Plants	Plants	Living Things and their Habitats	Animals, including Humans (label parts of the body)
British Isles focus	Identify and name	e a variety of comr	non British Flora and	Fauna (Invertebrates	5)	
Year 3	Light, Shadows	Forces and	Rocks and Fossils	Skeletons	Plants	Human Health
	and reflections	Magnets				and Nutrition
British Isles focus	Identify and name	e a variety of comr	non British Flora and	Fauna (common Briti	ish flowers/trees)	
Year 4	Sound	Electricity (DT link)	Digestive system and	Teeth Habitats	Teeth Habitats	States of Matter
			Teeth	(Animals including	(Animals including	
				Humans)	Humans)	
British Isles focus	Identify and name	e a variety of comr	non British Flora and	Fauna (Garden Birds	/British Birds of Prey	
Year 5	Material Properties –	Reversible and	Earth and Space	Forces and Falling	Living things and	Animals including
	Irreversible changes			Objects	their Habitats	humans
British Isles focus	Identify and name	<u>e a variety of comr</u>	non British Flora and	Fauna (Common aq	uatic species)	
Year 6	Evolution and	Electricity (circuits	Healthy Living and the	Circulatory system	Classification	Light
	Inheritance	and components)				
British Isles focus	Identify and name a variety of common British Flora and Fauna					

# Science in EYFS



2020 Development Matters highlights the prerequisite skills for science within the National Curriculum, they are from three areas of the seven.

	Three and Four-year-olds					
Understanding the World	Personal, Social and Emotional Development	Communication and Language				
<ul> <li>Use all their senses I hands on exploration of natural materials.</li> <li>Explore collections of materials with similar and/or different properties.</li> <li>Talk about what they see, using a wide vocabulary.</li> <li>Begin to make sense of their own life-story and family's history.</li> <li>Explore how things work.</li> <li>Plant and care for growing plants.</li> <li>Understand the key features of the life cycle of a plant and an animal.</li> <li>Begin to understand the need to respect and care for the natural environment and all living things.</li> <li>Explore and talk about different forces they can feel.</li> <li>Talk about the differences between materials and changes they notice.</li> </ul>	<ul> <li>Make healthy choices about food, drink, activity and toothbrushing.</li> </ul>	<ul> <li>Understand 'why' questions like; "Why do you think the caterpillar got so fat?"</li> </ul>				
	Reception	1				
Understanding the World	Personal, Social and Emotional Development	Communication and Language				
<ul> <li>Explore the natural world around them.</li> <li>Describe what they see, hear and feel while they are outside.</li> <li>Recognise some environments that are different to the one in which they live.</li> <li>Understand the effect of changing seasons on the natural world around them.</li> </ul>	<ul> <li>Know and talk about different factors that support their overall health and wellbeing: Regular physical activity Healthy eating Toothbrushing Sensible amounts of 'screen time' Having a good sleep routine Being a safe pedestrian</li> </ul>	<ul> <li>Learn new vocabulary</li> <li>Ask questions to find out more and to check what has been said to them.</li> <li>Articulate their ideas and thoughts in well- formed sentences.</li> <li>Describe events in some detail.</li> <li>Use talk to help work out problems and organise thinking and activities,</li> </ul>				

# Science in EYFS



		<ul> <li>and to explain how things work and why they might happen.</li> <li>Use new vocabulary in different contexts.</li> </ul>
	Early Years Goals	
Understanding the World	Personal, Social and Emotional Development	Communication and Language
<ul> <li>Explore the natural world around them, making observations and drawing pictures of animals and plants.</li> <li>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</li> <li>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</li> </ul>	<ul> <li>Manage their own basic hygiene and personal needs including dressing, going to the toilet and understanding the importance of healthy food choices.</li> </ul>	<ul> <li>Make comments about what they have heard and ask questions to clarify their understanding.</li> </ul>



Y1 Plants					
	Scientific knowledge ar	nd understanding		Vocabulary	
<b>Revision</b> Exploring the natural world Planting in reception Observing seasonal change	<ul> <li>Year 1</li> <li>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including trees.</li> <li>Scientist: Profession: Gardener</li> <li>Opportunities for science capital:</li> </ul>			Local, plants, tree vegetables, seeds seasons autumn, v Observe, change	s, leaves, flowers, blossom, petals, fruit, s, roots, bulb, stem and trunk. Year, winter, spring and summer. , compare, same, different.
		Scie	entific Enquiry	•	
Asking questions and recognising they can be answered in different ways While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. The children answer questions developed with the teacher often through a scenario. The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.			Observing and using ec Children explore the wo Ihey make careful obse support identification, c noticing change (seaso They use appropriate se equipment such as may digital microscopes, to observations. They begin to take med initially by comparisons, standard units	avipment prid around them. ervations to comparison and ons). enses, aided by gnifying glasses or make their asurements, then using non-	Performing simple tests The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; <u>and make observations</u> <u>over time.</u>
Identifying and classifyingGathering and recordChildren use their observations and testing to compare objects, materials and living things. sort and group these things, identifying their own criteria for sorting.Gathering and record Children record their photographs, videos, diagrams or in writing They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.Gathering and record Children record their photographs, videos, diagrams or in writing They record their med prepared tables, pict and block graphs. They classify using sime and sorting rings.		ding data observations e.g. using , drawings, labelled g. asurements e.g. using tograms, tally charts nple prepared tables	Using their observ questions Children use their to suggest approp supported to relat observations they taken or informati sources. The children recog	ations and ideas to suggest answers to experiences of the world around them briate answers to questions. They are the these to their evidence e.g. have made, measurements they have on they have gained from secondary gnise 'biggest and smallest', 'best and peir data	



	Y1 Seasonal Changes					
	Scientific knowledge	e and understa	nding	<b>Vocabulary</b> Year, seasons autumn, winter, spring and summer.		
<b>Revision</b> Observing seasonal change in reception.	<ul> <li>Year 1</li> <li>Observe changes across the four seasons.</li> <li>Observe and describe the weather associated with the seasons and how day length varies.</li> <li>Scientist:</li> <li>Profession: Weather Person</li> <li>Opportunities for science capital:</li> </ul>			Wind, rain, hail, snow, sunshine cloud. Day and night.		
			Scientific Enquiry	1		
Asking questions and different ways While exploring the w <u>questions</u> (such as wh <u>different</u> , the ways thi <u>things change</u> and he answer these question The children answer of through a scenario. The children are invol provided to answer the helping them to reco questions can be answer the	recognising they can be answired, the children develop their nat something is, how things are ings work, which alternative is b ow they happen). Where appro- ns. questions developed with the te lved in planning how to use reso he questions using different type gnise that there are different wo wered.	ered in ability to ask similar and etter, <u>how</u> opriate, they eacher often ources es of enquiry, ays in which	Observing and using equipment Children explore the world around them. They make careful observations to support identification, comparison and noticing change (seasons). They use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations. They begin to take measurements, initially by comparisons, then using non-standard units	Performing simple tests The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; <u>and make observations</u> <u>over time.</u>		
Identifying and classifyingGathering andChildren use their observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting.The children re photographs, or in writing.They use simple secondary sources (such as identification sheets) to name living things.The children re photographs, or in writing.		d recording data record their observations e.g. using , videos, drawings, labelled diagrams heir measurements e.g. using oles, pictograms, tally charts and	Using their observations and ideas to suggest answers to questions Children use their experiences of the world around them to suggest appropriate answers to questions. They are supported to relate these to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources.			



They describe the characteristics they used to identify a living thing.	They classify using simple prepared tables and sorting rings.	The children recognise 'biggest and smallest', 'best and worst' etc. from their data

	Y1 Animals, includi	ng humans		
	Scientific knowledge and understanding		Vocabula	ry
<ul> <li>Year 1</li> <li>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li> <li>Identify and name a variety of animals that are carnivores, herbivores and omnivores.</li> <li>Identify and name a variety of animals that are carnivores, herbivores and omnivores.</li> <li>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</li> <li>Identify, name and draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> <li>Scientist:</li> <li>Profession:</li> <li>Opportunities for science capital:</li> </ul>				hibians, reptiles, birds and c, Carnivores, herbivores and s. , contrast, group, same, ck, arms, elbows, legs, knees, s, eyes, hair, mouth and e, hear, smell, taste and feel.
	Scientific End	quiry		
Asking questions and real While exploring the world as what something is, ho which alternative is bette appropriate, they answe The children answer que scenario. The children are involved the questions using differ there are different ways	cognising they can be answered in different ways d, the children develop their ability to ask questions (such w things are similar and different, the ways things work, er, how things change and how they happen). Where er these questions. stions developed with the teacher often through a d in planning how to use resources provided to answer rent types of enquiry, helping them to recognise that in which questions can be answered.	Observing and using equipment Children explore the world aroun They make careful observations to identification, comparison and m change (seasons). They use appropriate senses, aid equipment such as magnifying g digital microscopes, to make the observations. They begin to take measurement by comparisons, then using non-su	<u>d them.</u> <u>to support</u> <u>oticing</u> <u>ed by</u> <u>lasses or</u> <u>ir</u> ts, initially standard	Performing simple tests The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time.



Identifying and classifying	Gathering and recording data	Using their observations and ideas to suggest answers to
Children use their observations and testing to	The children record their observations e.g.	questions
<u>compare</u> objects, materials and <u>living things</u> . They	using photographs, videos, drawings,	Children use their experiences of the world around them
sort and group these things, identifying their own	labelled diagrams or in writing.	to suggest appropriate answers to questions. They are
criteria for sorting.	They record their measurements e.g. using	supported to relate these to their evidence e.g.
They use simple secondary sources (such as	prepared tables, pictograms, tally charts	observations they have made, measurements they have
identification sheets) to name living things.	and block graphs.	taken or information they have gained from secondary
They describe the characteristics they used to	They classify using simple prepared tables	sources.
identify a living thing.	and sorting rings.	The children recognise 'biggest and smallest', 'best and
		worst' etc. from their data

Y1 Everyday materials				
	Vocabulary			
<b>Revision</b> Understanding the World hands on exploration of materials.	<ul> <li>Year 1</li> <li>Distinguish between an object and the materia</li> <li>Identify and name a variety of everyday materest metal, water and rock.</li> <li>Describe the simple physical properties of a variety of every simple physical properties.</li> <li>Scientist:</li> <li>Profession:</li> <li>Opportunities for science capital:</li> </ul>	Materials, wood, plastic, glass, metal, water and rock. Physical properties hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.		
		lific Enquiry		
Asking questions and rea	scient	Observing and using equipment	Performing simple tests	
While exploring the world (such as what something things work, which altern happen). Where approp The children answer que scenario. The children are involved answer the questions usir	d, the children develop their ability to ask questions g is, how things are similar and different, the ways ative is better, how things change and how they viriate, they answer these questions. stions developed with the teacher often through a d in planning how to use resources provided to ng different types of enquiry, helping them to	Children explore the world around them <u>They make careful observations to supp</u> <u>identification, comparison and noticing</u> <u>change (seasons).</u> <u>They use appropriate senses, aided by</u> <u>equipment such as magnifying glasses of</u> <u>digital microscopes, to make their</u> <u>observations.</u>	n.The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher.orThey carry out: tests to classify; comparative tests; pattern	



recognise that there are different ways in which questions can be		They begin to take measurements, initially by seeking enquiries; and me		seeking enquiries; <u>and make</u>
Identifying and classifying	Gathering and recordi	ng data	Using	their observations and ideas to
Children use their observations and testing to	Children record their o	bservations e.g. using photographs,	sugg	est answers to questions
<u>compare</u> objects, materials and <u>living things</u> . They	videos, drawings, labe	lled diagrams or in writing.	Child	ren use their experiences of the
sort and group these things, identifying their own	They record their meas	surements e.g. using prepared tables,	world	around them to suggest
criteria for sorting.	pictograms, tally chart	s and block graphs.	appr	opriate answers to questions.
They use simple secondary sources (such as	They classify using simp	ble prepared tables and sorting rings.	They	are supported to relate these to
identification sheets) to name living things.			their	evidence e.g. observations they
They describe the characteristics they used to			have	made, measurements they have
identify a living thing.			taker	n or information they have gained
			from	secondary sources.
			The c	hildren recognise 'biggest and
			small	est', 'best and worst' etc. from
			their	data

	Y2 Living things and their habitats						
	Scientific knowledge and understanding	Vocabulary					
<b>Revision</b> In reception Understanding the world Year 1 Identifying different types of plants and animals.	<ul> <li>Year 2</li> <li>Explore and compare the differences between things that are living, dead, and things that have never been alive.</li> <li>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.</li> <li>Identify and name a variety of plants and animals in their habitats, including microhabitats.</li> <li>Describe how animals obtain their food from plants and other animals using the idea of a simple food chain and identify and name different sources of food.</li> <li>Scientist:</li> <li>Profession: Nurse</li> <li>Opportunities for science capital:</li> </ul>	Habitat, micro-habitat, local and unfamiliar, environment, conditions, food chain, number and type of. Living, dead, never lived. Question, identify, sort and classify.					



	Scientific E	nquiry	•	
Asking questions and recognising they can be answered in different ways While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. The children answer questions developed with the teacher often through a scenario. The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.		Observing and Children exploi They make car identification, of change (seaso They use appro- equipment suc digital microso observations. They begin to the by comparison units	Children explore the world around them. They make careful observations to support identification, comparison and noticing change (seasons). They use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations. They begin to take measurements, initially by comparisons, then using non-standard units	
Identifying and classifying	Gathering and recording do	ata	Using their observations and	l ideas to suggest answers to
Children use their observations and testing to	Children record their observ	vations e.g.	questions	
sort and group these things, identifying their own criteria for sorting. They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.	labelled diagrams or in writi They record their measurem prepared tables, pictogram and block graphs. They classify using simple pr and sorting rings.	ng. nents e.g. using ns, tally charts epared tables	to suggest appropriate answ supported to relate these to observations they have made taken or information they have sources. The children recognise 'bigg worst' etc. from their data	wers to questions. They are b their evidence e.g. de, measurements they have ave gained from secondary gest and smallest', 'best and



Y2 Plant Growth						
	Scientific knowledg	ge and understanding		Vocabulary		
<b>Revision</b> Exploring the natural world including planting and growing in reception Observing seasonal change Naming plants, learning basic structure in Year 1	<ul> <li>Year 2</li> <li>Observe and describe how seeds and bulbs grow into mature plants (over time).</li> <li>Find out and describe how plants need water, light and suitable temperature to grow and stay healthy (and how changing these affects the plant).</li> <li>Scientist:</li> <li>Profession: Gardener</li> <li>Opportunities for science capital:</li> </ul>			Growth, survival reproduction. W dead. Flowers, b seeds, roots, bul Observe, chang investigate, vario	, requirements, germination, ater, light, temperature. Living, blossom, petals, fruit, vegetables, b, stem. e, compare, same, different, ables, fair test.	
	•	Sci	entific Enquiry			
Asking questions and recognising they can be answered in different ways While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. The children answer questions developed with the teacher often through a scenario. The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be		Observing and using equipme Children explore the world are They make careful observatio identification, comparison an change (seasons). They use appropriate senses, equipment such as magnifyin digital microscopes, to make observations. They begin to take measurem comparisons, then using non-	ent ound them. ons to support d noticing aided by g glasses or their nents, initially by standard units	Performing simple tests The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time.		
Identifying and classifying Children use their observatio compare objects, materials	ons and testing to and living things.	Gathering and recording data Children record their observations e.g. using photographs, videos, drawings, labelled diagrams or in writing.		Using their obser answers to ques Children use the them to suggest	vations and ideas to suggest tions ir experiences of the world around appropriate answers to questions.	



They sort and group these things, identifying their own criteria for sorting.	They record their measurements e.g. using prepared tables, pictograms, tally charts and	They are supported to relate these to their evidence e.g. observations they have made,
They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.	block graphs. They classify using simple prepared tables and sorting rings.	measurements they have taken or information they have gained from secondary sources. The children recognise 'biggest and smallest', 'best and worst' etc. from their data

	Y2 Animals, including humans					
Scier	ntific knowledge and understanding		Vocabulary			
<b>Revision</b> In reception Understanding the world, life cycles, growth. Making healthy choices about food, drink and sleep. Year 1 identified, named and compared structure of common animals. Identified basic human body parts.	<ul> <li>Year 2</li> <li>Notice that animals including humans have offspring that grow into adults (children need to recognise growth and change, be introduced to the process of reproduction not how it occurs).</li> <li>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene. Scientist:</li> <li>Profession: Nurse</li> <li>Opportunities for science capital:</li> </ul>		Survival requirements, basic needs water, food, air, sleep. Reproduction and growth. Life cycles – egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep; baby, toddler, child, teenager adult. Health of bodies and minds, sleep, nutrition, exercise, medicine.			
	Scient	ific Enquiry				
Asking questions and recognising they can be answered in different ways While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. The children answer questions developed with the teacher often through a scenario. The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to		Observing and usi Children explore th They make carefu identification, com change (seasons). They use appropria equipment such a digital microscope observations.	ng equipment ne world around them. I observations to support aparison and noticing ate senses, aided by s magnifying glasses or as, to make their	Performing simple tests The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time.		



recognise that there are different ways in which questions can be answered.		They begin to tak by comparisons, t units	e measurements, initially hen using non-standard	
Identifying and classifying Children use their observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting. They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.	Gathering and recordir Children record their of using photographs, vide labelled diagrams or in They record their meas using prepared tables, charts and block graph They classify using simp tables and sorting rings	ng data oservations e.g. eos, drawings, writing. urements e.g. pictograms, tally ns. le prepared	Using their observations an questions Children use their experien suggest appropriate answe supported to relate these to observations they have mo taken or information they h sources. The children recognise 'big worst' etc. from their data	d ideas to suggest answers to ices of the world around them to ers to questions. They are to their evidence e.g. ade, measurements they have have gained from secondary ggest and smallest', 'best and

Y2 Everyday materials				
	Scientific knowledge and understanding		Vocabulary	
<b>Revision</b> Understanding the World hands on exploration of materials. Year 1 Recognise what materials objects are made of and some of their properties.	<ul> <li>Year 2</li> <li>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</li> <li>Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> <li>Scientist - John Dunlop, Charles Macintosh, John McAdam, people who have developed useful new materials.</li> <li>Profession -</li> </ul>		Materials, wood, plastic, glass, metal, brick, rock, paper and cardboard. Physical properties hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent. Suitable for purpose. Uses.	
	Scientific E	nquiry		
Asking questions and recognising they can be answered in different ways While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions.		<b>Observing and using</b> Children explore the them.	<b>g equipment</b> world around	Performing simple tests The children use practical resources provided to gather evidence to answer questions



The children answer questions developed with the teacher often through a scenario. The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.		They make careful observations to support identification, comparison and noticing change (seasons). They use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations. They begin to take measurements, initially by comparisons, then using non- standard units		generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time.
Identifying and classifying Children use their observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting. They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.	Gathering and recording da The children record their ob photographs, videos, drawin diagrams or in writing. measurements e.g. using pro- pictograms, tally charts and They classify using simple pro- sorting rings.	ata servations e.g. using ngs, labelled They record their epared tables, d block graphs. epared tables and	Using their observat answers to question Children use their ex them to suggest ap They are supported e.g. observations th they have taken or from secondary sou The children recogn and worst' etc. from	ions and ideas to suggest s kperiences of the world around propriate answers to questions. to relate these to their evidence ey have made, measurements information they have gained rces. hise 'biggest and smallest', 'best in their data



Y3 Life Processes (animal) – Animals Growth and Movement					
Scientific	Vocabulary				
<b>Revision</b> Those animals, including humans, have offspring which <b>grow</b> into adults. Basic needs for survival, water, food, air.	<ul> <li>Year 3</li> <li>Identify that humans and some o skeletons and muscles for suppor movement.</li> <li>Recognise the Life Processes of G Scientist – Charles Darwin (classification Profession – Opportunities for science capital -</li> </ul>	<b>ther animals have</b> it, protection and Growth and Movement. on)	Skeleton, support, protection, movement, skull, spine (backbone, vertebrae), ribs, pelvis, growth, muscles, vertebrates, invertebrates, endoskeleton, exoskeleton and hydrostatic skeleton, classify.		
	Scientific	Enquiry			
Questioning and Research		Planning and Recording			
I can ask some relevant questions about	ut the world around us.	around us. <ul> <li>I can begin to make systematic and careful observations all appropriate take accurate measurements using standard up</li> </ul>			
		<ul> <li>I can begin to record results in tables and bar charts.</li> </ul>			
Equipment and Measurement Communicating a		nting Considering Evidence and Evaluating.			
<ul> <li>I can begin to observe and measure ac</li> </ul>	ccurately • I am beginning to use co	omparative and	<ul> <li>I am beginning to talk about and identify</li> </ul>		
using standard units eg. mm, cm, m	superlative descriptions e.	g. longer / shorter than,	differences and similarities or changes related to		
I can make systematic and careful obset	ervations.   longest / shortest. • I am beginning to comm simple scientific language	nunicate findings using	simple scientific ideas and processes. • I am beginning to answer my questions using the results of my enquiry.		

Y3 Life Processes (animal) – Animals Health and Nutrition						
	Scientific knowledge and understandin	g				
Revision	Year 3	Vocabulary				
Animals have different	Identify that animals, including humans, need the right types	Health, nutrition, diet, energy, exercise, sleep, physical				
diets.	and amount of nutrition from what they eat and cannot make	and mental health, resilience.				
Importance of exercise,	their own.					
diet and hygiene.	• An adequate and varied diet and regular exercise is beneficial					
	to health.					
	Scientist –					
	Profession –					
	Opportunities for science capital -					



Scientific Enquiry					
Questioning and Research		Planning and Rec	ording		
• I can use some different ty	pes of scientific enquiry to answer questions.	<ul> <li>I begin to use sir</li> </ul>	mple tables and standard units and help to decide how to		
• I am beginning to carry ou	ut simple research on my own.	record and analy	se their data.		
		• I am beginning	to collect data in a variety of ways, including labelled		
		diagrams, pie cha	arts and tables.		
Equipment and	Communicating and Presenting		Considering Evidence and Evaluating		
Measurement	<ul> <li>I am beginning to identify simple changes relate</li> </ul>	ed to simple	• I am beginning to talk about criteria for grouping, sorting		
<ul> <li>I can begin to observe</li> </ul>	scientific phenomena.		and classifying and use simple keys.		
and measure accurately	<ul> <li>I can begin to record findings using simple scier</li> </ul>	ntific language,	I am beginning to use results to draw simple conclusions.		
using standard units eg.	keys, bar charts and tables.				
mm, cm, m including time					
in minutes and seconds.					

Y3 Materials and their properties - Rocks and soils					
Scientific knowledge and understanding			Vocabulary		
<b>Revision</b> Observed the material of rock in the environment, recognise some of its physical properties.	<ul> <li>Year 3</li> <li>Compare and group different kinds of rocks, on the basis of their appearance and physical properties. D</li> <li>Describe how a fossil is formed.</li> <li>Recognise that soils is formed from rocks and organic matter.</li> <li>Scientist – Mary Anning Profession –</li> <li>One set unities for escience agenited.</li> </ul>		Properties, texture, appearance, purpose. Permeable, impermeable, absorb. Igneous (volcanic), sedimentary and metamorphic. Granite, pumice, sandstone, chalk, slate and marble. Fossil, organic. Predict, compare, similarities and differences, fair test, variables, conclusions.		
	Scientific	Enquiry			
<ul> <li>Questioning and Research</li> <li>I can ask some relevant questions about the world around us.</li> <li>I can use some different types of scientific enquiry to answer questions.</li> </ul>		<ul> <li>Planning and Recordi</li> <li>I can begin to look decide what data to</li> <li>I can begin to see c</li> </ul>	<b>ng</b> for naturally occurring patterns and relationships and collect ad identify them. a pattern in my results.		



<ul> <li>Equipment and Measurement</li> <li>I can make systematic and careful observations.</li> <li>I can use a range of equipment.</li> </ul>	<ul> <li>Communicating and Presenting</li> <li>I can gather, record, and begin to classify and present data in a variety of ways to help in answering questions.</li> <li>I am beginning to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>	<ul> <li>Considering Evidence and Evaluating.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to properties, based on testing.</li> </ul>
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Y3 Physical processes - Forces and Magnets				
Scientific know	Vocabulary			
<b>Revision</b> Distinguish between an object and the material it is made from, including wood, plastic, glass, metal, rock. Describe their physical properties. Suitability for material for its use. Pushes and pulls.	<ul> <li>Year 3</li> <li>Compare how things move on a</li> <li>Contact and noncontact forces</li> <li>Magnets attract and repel some Magnets have 2 poles.</li> <li>Comparing, grouping, materials predictions based on magnetic</li> <li>Scientist – Sir Isaac Newton</li> <li>Profession –</li> <li>Opportunities for science capital -</li> </ul>	different surfaces. a e materials. s and making properties.	Force, push, pull, friction, gravity, air and water resistance, magnetism, contact, attract, repel, pole. Predict, compare, similarities and differences, fair test, variables, conclusions.	
	Scientific	Enquiry		
<ul> <li>Questioning and Research</li> <li>I am beginning to help decide which variables to keep the same and which to change.</li> <li>I can set up some simple practical enquiries, including comparative and fair tests.</li> </ul>		Planning and Recor • I can begin to ma appropriate, take a • I can begin to see	ding ke systematic and careful observations and, where ccurate measurements using standard units. a pattern in my results.	
Equipment and MeasurementCommunicating and Preservations.• I can make systematic and careful observations.• I am beginning to describe		enting ibe my observations	<ul><li>Considering Evidence and Evaluating.</li><li>I am beginning to talk about and identify differences</li></ul>	
• I can begin to choose from a selection of equipment and can use new equipment.	<ul><li>and my findings.</li><li>I can begin to describe a</li></ul>	cause and effect.	and similarities in the properties of materials and other scientific phenomena.	



	• I can begin to compare and group according to properties, based on testing.
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Y3 Life Processes - Plants			
Scientific knowledge and understanding			Vocabulary
<b>Revision</b> Life cycles – seeds and bulbs. Requirements for life - water, light, suitable temperature to grow and stay healthy.	<ul> <li>Year 3</li> <li>Identify and describe the structure of flowering plants, roots, stem/trunk, let</li> <li>Including pollination, seed formation Investigate the way in which water in plants.</li> <li>Requirements for life and growth and from plant to plants.</li> <li>Scientist – Profession – Opportunities for science, capital – Bee you have been structured and structure of the science o</li></ul>	and function of eaves and flowers. n and seed dispersal. is transported within d how they can vary	Structure, function, roots, stem, leaves, flowers, fruit, seeds, dispersal, transportation, nutrients, photosynthesis, pollination, life cycles. Predict, compare, similarities and differences, fair test, variables, conclusions.
	Scientific	Enquiry	
Questioning and Research       Planning and Record         • I can set up some simple practical enquiries, including comparative and fair tests.       • I can begin to look decide what data to look decide what data to look decide what data to look decide.         • I am beginning to help decide which variables to keep the same and which to change.       • I am beginning to change.		<b>ng</b> for naturally occurring patterns and relationships and collect ad identify them. ollect data in a variety of ways, including labelled	
<ul> <li>Equipment and Measurement</li> <li>I can make systematic and careful observations.</li> <li>I can use a range of equipment.</li> </ul>	<ul> <li>Communicating and Presenting</li> <li>I can begin to record findings u language, drawings, labelled dic charts and tables.</li> <li>I am beginning to identify simple simple scientific phenomena.</li> </ul>	using simple scientific agrams, keys, bar le changes related to	<ul> <li>Considering Evidence and Evaluating.</li> <li>I can begin to compare and group according to properties, based on testing.</li> <li>I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> </ul>



Y3 Physical Processes - Light			
Scientific knowledge and understanding			Vocabulary
<b>Revision</b> Senses and sight, seasonal changes and day length, materials and solid objects.	<ul> <li>Year 3</li> <li>Need light to see. Dark is the absence of light. Light is reflected from surfaces. Sunlight can be dangerous, eyes need protection.</li> <li>A shadow is formed when light from a light source is blocked by a solid object.</li> <li>To find patterns in the way shadows change.</li> <li>Scientist – Alhazen Profession – Opportunities for science capital -</li> </ul>		Light source, light rays, reflect, reflector, dark, shadow, block, transparent, translucent, opaque, solar system, sun, earth, axis. Measurement, pattern investigation, cause and effect.
	Scier	tific Enquiry	
Questioning and Research I can begin to decide when research will help in my enquiry.Planning and Recordin • I can begin to look for decide what data to can begin to see a • I can begin to see a		<b>g</b> or naturally occurring patterns and relationships and collect and identify them. pattern in my results.	
<ul> <li>Equipment and Measurement</li> <li>I can begin to observe and measure accurately using standard units eg. mm, cm, mm, including time in minutes and seconds.</li> <li>I can use a range of equipment.</li> <li>Communicating and Presenti</li> <li>I am beginning to identify si to simple scientific phenomer</li> <li>I am beginning to use component</li> <li>I am beginning to use component</li> </ul>		<b>enting</b> fy simple changes related mena. omparative and g. longer / shorter than,	<ul> <li>Considering Evidence and Evaluating.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testing.</li> </ul>



Y4 Living things and their habitats				
Scier	ntific knowled	ge and understanding		Vocabulary
<b>Revision</b> Vertebrate and invertebrates, differences in mechanisms for movement, support, protection. Different diets of animals. Grouping and sorting based on similarities and differences.	Year 4 • Recogn • Explore name a • Recogn sometin Scientist – Profession – Opportunitie	ognise that living things can be grouped in different ways. ore and use classification keys to help group, identify and e a variety of living things in local and wider environment. ognise that environments can change and that this etimes poses danger to living things. - n – nities for science capital -		Classification keys, identification, habitats, human impact, seasons, vertebrate and invertebrate groups.
		Scientific	Enquiry	
Questioning and Research         • I can ask some relevant questions about the world around us.         • I can use some different types of scientific enquiry to answer questions.         • I can set up some simple practical enquiries, including comparative and fair tests.         • I am beginning to carry out simple research on my own.         • I can make systematic and careful observations.         I am beginning to help decide which variables to keep the same and which to change.         • I can begin to decide when research will help in my enquiry.		<ul> <li>I can begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units.</li> <li>I can begin to look for naturally occurring patterns and relationships and decide what data to collect ad identify them.</li> <li>I can begin to see a pattern in my results.</li> <li>I can begin to use notes, simple tables and standard units.</li> <li>I can begin to record results in tables and bar charts.</li> <li>I begin to use simple tables and standard units and help to decide how to record and analyse their data.</li> <li>I am beginning to collect data in a variety of ways, including labelled diaarams, pie charts and tables.</li> </ul>		
<ul> <li>Equipment and Measurement</li> <li>I can begin to observe and measure accurately using standard units eg. mm, cm, m including time in minutes and seconds.</li> <li>I can make systematic and careful observations.</li> <li>I can begin to choose from a selection of equipment</li> </ul>		nting unicate findings using d begin to classify and f ways to help in answering	Considering Evidence and Evaluating. • I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes. • I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.	



<ul> <li>I can use a range of equipment, including</li> </ul>	<ul> <li>I can begin to record findings using simple scientific</li> </ul>	<ul> <li>I can begin to compare and group</li> </ul>
thermometers and data loggers.	language, drawings, labelled diagrams, keys, bar	according to behaviour or properties, based
<ul> <li>I can decide which equipment to use and can</li> </ul>	charts and tables	on testing
use new equipment e.g. data logger	• Lam beginning to report on findings from enquiries	• Lam beginning to talk about and identify
use new equipment e.g. duru logger		• Full beginning to tak about and identity
	including oral and written explanations, displays or	differences and similarities in the properties or
	presentations of results and conclusions.	behaviour of living things, materials and other
	• I am beginning to describe my observations and my	scientific phenomena.
	findings.	I am beginning to use results to draw simple
	• I am beginning to use comparative and superlative	conclusions, make predictions for new values,
	descriptions e.g. longer / shorter than, longest /	suggest improvements and raise further
	shortest.	questions. • I am beginning to answer my
	<ul> <li>I can begin to describe cause and effect.</li> </ul>	questions using the results of my enquiry.
		• I am beginning sometimes to think of cause
		and effect

Y4 Animals Including Humans – Teeth, Eating and Digestion				
Scientific knowledge and understanding			Vocabulary	
<b>Revision</b> Basic needs of animals. Animals need the right types and amount of nutrition. Nutrition is from what they eat. Carnivore, omnivore, herbivores.	<ul> <li>Year 4</li> <li>Describe simple functions of basic parts of the digestive system in humans.</li> <li>Identify different types of teeth in humans and their function.</li> <li>Construct and interpret a variety of food chains, identifying producers, predators and prey.</li> <li>Scientist –</li> <li>Profession –</li> <li>Opportunities for science capital.</li> </ul>		Digestive system, mouth, teeth, canines, incisors, molars, saliva, oesophagus, stomach, large intestine, small intestine, colon, anus. Food chain, producers, predators, prey, energy.	
	Scientific	Enquiry		
Questioning and Research Planning and Reco		Planning and Recor	ding	
<ul> <li>I can ask some relevant questions about the world around us.</li> <li>I can use some different types of scientific enquiry to answer questions.</li> <li>I can set up some simple practical enquiries, including comparative and fair tests.</li> </ul>		<ul> <li>I can begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units.</li> <li>I can begin to look for naturally occurring patterns and relationships and decide what data to collect ad identify them.</li> </ul>		
<ul> <li>I am beginning to carry out simp</li> </ul>	le research on my own.	<ul> <li>I can begin to see</li> </ul>	a pattern in my results.	



• I can make systematic and careful observatio	ons.	<ul> <li>I can begin to use notes, simple tables and standard units</li> </ul>	
I am beginning to help decide which variables to keep the same and which to		<ul> <li>I can begin to record results in tables and bar charts.</li> </ul>	
change.		• I begin to use simp	ble tables and standard units and help to decide how to
<ul> <li>I can begin to decide when research will help</li> </ul>	) in my enquiry.	record and analyse	their data.
		• I am beginning to	collect data in a variety of ways, including labelled
		diagrams, pie chart	s and tables.
<ul> <li>Equipment and Measurement</li> <li>I can begin to observe and measure accurately using standard units eg. mm, cm, m including time in minutes and seconds.</li> <li>I can make systematic and careful observations.</li> <li>I can begin to choose from a selection of equipment.</li> <li>I can use a range of equipment, including thermometers and data loggers.</li> <li>I can decide which equipment to use and can use new equipment e.g. data logger</li> </ul>	diagrams, pie charts Communicating and Presenting • I am beginning to communicate findings using simple scientific language. • I can gather, record, and begin to classify and present data in a variety of ways to help in answering questions. • I can begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. • I am beginning to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • I am beginning to describe my observations and		<ul> <li>s and tables.</li> <li>Considering Evidence and Evaluating.</li> <li>I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testing.</li> <li>I am beginning to talk about and identify differences and similarities in the properties or behaviour of living things, materials and other scientific phenomena.</li> <li>I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> </ul>
	<ul> <li>I am beginning to use comparative and superlative descriptions e.g. longer / shorter than, longest / shortest.</li> <li>I can begin to describe cause and effect.</li> </ul>		<ul> <li>beginning to answer my questions using the results of my enquiry.</li> <li>I am beginning sometimes to think of cause and effect</li> </ul>

Y4 States of Matter			
S	cientific knowledge and understanding	Vocabulary	
<b>Revision</b> How solid objects can be changed by applying force, squashing,	<ul> <li>Year 4</li> <li>Compare and group materials together according to whether they are solids liquids and gases.</li> </ul>	Solids, liquids, gases, temperature, Celsius, evaporation, condensation, water cycle, reversible and irreversible change. (Particles?)	



bending, twisting and stretching.	<ul> <li>Observe the heated or of which this heated or of which this heated or of the heated or of theated or of the heated or of the heat</li></ul>	that some materials change state when they are or cooled and measure research the temperature at is happens in degrees Celsius. he part played by evaporation and condensation ther cycle and associate the rate of evaporation perature.		
	Opportunities for	or science capital -		
		Scientific	Enquiry	
Questioning and Research			<b>Planning and</b>	Recording
<ul> <li>I can ask some relevant questions about the world around us.</li> <li>I can use some different types of scientific enquiry to answer questions.</li> <li>I can set up some simple practical enquiries, including comparative and fair tests.</li> <li>I am beginning to carry out simple research on my own.</li> <li>I can make systematic and careful observations.</li> <li>I am beginning to help decide which variables to keep the same and which to change.</li> <li>I can begin to decide when research will help in my enquiry.</li> </ul>		<ul> <li>I can begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units.</li> <li>I can begin to look for naturally occurring patterns and relationships and decide what data to collect ad identify them.</li> <li>I can begin to see a pattern in my results.</li> <li>I can begin to use notes, simple tables and standard units</li> <li>I can begin to record results in tables and bar charts.</li> <li>I begin to use simple tables and standard units and help to decide how to record and analyse their data.</li> <li>I am beginning to collect data in a variety of ways, including labelled diagrams, pie charts and tables.</li> </ul>		
<ul> <li>Equipment and Measurement</li> <li>I can begin to observe and measure accurately using standard units eg. mm, cm, m including time in minutes and seconds.</li> <li>I can make systematic and careful observations.</li> <li>I can begin to choose from a selection of equipment.</li> <li>I can use a range of equipment, including thermometers and data loggers.</li> </ul>		findings to classify ays to help in ng simple elled eles. ngs from n	<ul> <li>Considering Evidence and Evaluating.</li> <li>I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testing.</li> <li>I am beginning to talk about and identify differences and similarities in the properties or behaviour of living things, materials and other scientific phenomena.</li> <li>I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and</li> </ul>	



• I can decide which equipment to use and can use new equipment e.g. data logger	<ul> <li>explanations, displays or presentations of results and conclusions.</li> <li>I am beginning to describe my observations and my findings.</li> <li>I am beginning to use comparative and superlative descriptions e.g. longer / shorter than longest / shortest</li> </ul>	raise further questions. • I am beginning to answer my questions using the results of my enquiry. • I am beginning sometimes to think of cause and effect
	I can begin to describe cause and effect.	

Y4 Sound					
Scientific knowledge and understanding		Vocabulary			
<b>Revision</b> Senses and which body part.	<ul> <li>Year 4</li> <li>Identify how sound are made, associating some of them with something vibrating.</li> <li>Recognise that vibrations from sounds travel through a medium to the ear.</li> <li>Find patterns between pitch of a sound and features of the object that produced the sound.</li> <li>Scientist –</li> <li>Profession –</li> </ul>		Sound, vibration, volume, travel, pitch, tension, thickness, air column, muffling, blocking.		
	Opportunities for sci	ience capital -			
Scientific Enquiry					
Scientific         Questioning and Research         • I can ask some relevant questions about the world around us.         • I can use some different types of scientific enquiry to answer questions.         • I can set up some simple practical enquiries, including comparative and fair tests.         • I am beginning to carry out simple research on my own.         • I can make systematic and careful observations.         I am beginning to help decide which variables to keep the same and which to change.         • I can begin to decide when research will help in my enquiry.		<ul> <li>Enquiry</li> <li>Planning and Recording <ul> <li>I can begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units.</li> <li>I can begin to look for naturally occurring patterns and relationships and decide what data to collect ad identify them.</li> <li>I can begin to see a pattern in my results.</li> <li>I can begin to use notes, simple tables and standard units</li> <li>I can begin to record results in tables and bar charts.</li> <li>I begin to use simple tables and standard units and help to decide how to record and analyse their data.</li> <li>I am beginning to collect data in a variety of ways, including labelled</li> </ul> </li> </ul>		areful observations and, where hts using standard units. g patterns and relationships and hem. ts. and standard units hd bar charts. rd units and help to decide how to ety of ways, including labelled	
<b>Equipment and Measurement</b>		<b>Communicating and Prese</b>	nting	<b>Considering Evide</b>	nce and Evaluating



<ul> <li>I can begin to observe and measure accurately using standard units eg. mm, cm, m including time in minutes and seconds.</li> <li>I can make systematic and careful observations.</li> <li>I can begin to choose from a selection of equipment.</li> <li>I can use a range of equipment, including thermometers and data loggers.</li> <li>I can decide which equipment to use and can use new equipment e.g. data logger</li> </ul>	<ul> <li>I am beginning to communicate findings using simple scientific language.</li> <li>I can gather, record, and begin to classify and present data in a variety of ways to help in answering questions.</li> <li>I can begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</li> <li>I am beginning to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>I am beginning to describe my observations and my findings.</li> <li>I am beginning to use comparative and</li> </ul>	<ul> <li>I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testing.</li> <li>I am beginning to talk about and identify differences and similarities in the properties or behaviour of living things, materials and other scientific phenomena.</li> <li>I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> <li>I am beginning to answer my questions using the</li> </ul>
	<ul> <li>I am beginning to use comparative and superlative descriptions e.g. longer / shorter than, longest / shortest.</li> <li>I can begin to describe cause and effect.</li> </ul>	suggest improvements and raise further questions. • I am beginning to answer my questions using the results of my enquiry. • I am beginning sometimes to think of cause and effect

	Scientific knowledge and understanding	Vocabulary
<b>Revision</b> Properties of metals.	<ul> <li>Year 4</li> <li>Construct a simple series electrical circuit identifying and naming its basic parts. Including cells, wires, bulbs, switches and buzzers.</li> <li>Identify whether a lamp will light or not in a simple series circuit.</li> <li>Recognise that a switch opens and closes a circuit.</li> <li>Recognise some common conductors and insulators associate metals with being good conductors.</li> <li>Scientist – Profession –</li> </ul>	Series, electrical, circuit, cells, wires, bulbs, switches, buzzers, conductors, insulators.



Орро	portunities for science capital –		
	Scie	ntific Enquiry	
Questioning and Research		Planning and Recordi	ng
• I can ask some relevant questions	about the world around us.	<ul> <li>I can begin to make</li> </ul>	e systematic and careful observations and, where
<ul> <li>I can use some different types of so</li> </ul>	cientific enquiry to answer questions.	appropriate, take ac	curate measurements using standard units.
<ul> <li>I can set up some simple practical</li> </ul>	enquiries, including comparative	I can begin to look fo	r naturally occurring patterns and relationships and decide
and fair tests.		what data to collect	ad identify them.
<ul> <li>I am beginning to carry out simple</li> </ul>	research on my own.	<ul> <li>I can begin to see a</li> </ul>	a pattern in my results.
<ul> <li>I can make systematic and careful</li> </ul>	l observations.	<ul> <li>I can begin to use r</li> </ul>	notes, simple tables and standard units
I am beginning to help decide whic	h variables to keep the same and	<ul> <li>I can begin to record</li> </ul>	rd results in tables and bar charts.
which to change.		<ul> <li>I begin to use simple</li> </ul>	e tables and standard units and help to decide how to
<ul> <li>I can begin to decide when resea</li> </ul>	rch will help in my enquiry.	record and analyse the	neir data.
		<ul> <li>I am beginning to collect data in a variety of ways, including labelled</li> </ul>	
		diagrams, pie charts (	and tables.
Equipment and Measurement	Communicating and Presenting		Considering Evidence and Evaluating
<ul> <li>I can begin to observe and</li> </ul>	<ul> <li>I am beginning to communicate fine</li> </ul>	dings using simple	<ul> <li>I am beginning to identify differences, similarities or</li> </ul>
measure accurately using	scientific language.		changes related to simple scientific ideas and processes.
standard units eg. mm, cm, m	<ul> <li>I can gather, record, and begin to c</li> </ul>	classify and present	• I am beginning to talk about criteria for grouping, sorting
including time in minutes and	data in a variety of ways to help in an	swering questions.	and classifying and use simple keys.
seconds.	• I can begin to record findings using	simple scientific	<ul> <li>I can begin to compare and group according to</li> </ul>
<ul> <li>I can make systematic and</li> </ul>	language, drawings, labelled diagran	ns, keys, bar charts	behaviour or properties, based on testing.
careful observations. • I can begin	and tables.		<ul> <li>I am beginning to talk about and identify differences</li> </ul>
to choose from a selection of	<ul> <li>I am beginning to report on findings</li> </ul>	s from enquiries,	and similarities in the properties or behaviour of living
equipment. including oral and written explanations		ns, displays or	things, materials and other scientific phenomena.
<ul> <li>I can use a range of equipment,</li> </ul>	presentations of results and conclusions.		I am beginning to use results to draw simple conclusions,
including thermometers and data	neters and data • I am beginning to describe my observations and my		make predictions for new values, suggest improvements
loggers.	findings.		and raise further questions. • I am beginning to answer my
<ul> <li>I can decide which equipment</li> </ul>	• I am beginning to use comparative	and superlative	questions using the results of my enquiry.
to use and can use new	descriptions e.g. longer / shorter than,	longest / shortest.	<ul> <li>I am beginning sometimes to think of cause and effect</li> </ul>
equipment e.g. data logger	<ul> <li>I can begin to describe cause and e</li> </ul>	effect.	



Y5 Earth and Beyond – Light and Astronomy				
Scientific kr	nowledge and understanding		Vocabulary	
<b>Revision</b> Light and shadows. Apparent movement of sun in the sky as Earth turns.	<ul> <li>Year 5</li> <li>Describe the movement of the Earth planets, relative to the sun and each solar system.</li> <li>Describe the movement of the mooth the Earth.</li> <li>Use idea of Earth's rotation to explain night. Use the Earth's movement in sexplain the apparent movement of the sky.</li> <li>Scientist - Margaret Hamilton (Dorothy V Polemy, Alhazn, Copernicus Professions – Opportunities for science capital -</li> </ul>	h, and other ch other in the on relative to in day and space to i the sun across Vaughan),	Solar system, sun, moon, spherical bodies, planets, Merc Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune (Plut dwarf planet). Movement, rotation, moon, day and nigh seasons. ative to y and e to un across han),	
	Scientific	Enquiry		
<ul> <li>Questioning and Research</li> <li>I can ask some relevant questions about the world around us.</li> <li>I can use some different types of scientific enquiry to answer questions.</li> <li>I can set up some simple practical enquiries, including comparative and fair tests.</li> <li>I am beginning to carry out simple research on my own.</li> <li>I can make systematic and careful observations.</li> <li>I am beginning to help decide which variables to keep the same and which to change.</li> </ul>		Planning and R • I can begin to appropriate, to I can begin to I decide what d • I can begin to • I can begin to • I can begin to	tecording o make systematic and careful observations and, where ake accurate measurements using standard units. look for naturally occurring patterns and relationships and lata to collect ad identify them. o see a pattern in my results. o use notes, simple tables and standard units o record results in tables and bar charts.	



• I can begin to decide when resea	rch will help in my enquiry.	I begin to use record and an I am beginnin diagrams, pie o	e simple tables and standard units and help to decide how to alyse their data. ng to collect data in a variety of ways, including labelled charts and tables.
<ul> <li>Equipment and Measurement</li> <li>I can begin to observe and measure accurately using standard units eg. mm, cm, m including time in minutes and seconds.</li> <li>I can make systematic and careful observations.</li> <li>I can begin to choose from a selection of equipment.</li> <li>I can use a range of equipment, including thermometers and data loggers.</li> <li>I can decide which equipment to use and can use new equipment e.g. data logger</li> </ul>	<ul> <li>Communicating and Presenting</li> <li>I am beginning to communicate findings scientific language.</li> <li>I can gather, record, and begin to classif data in a variety of ways to help in answer</li> <li>I can begin to record findings using simpl language, drawings, labelled diagrams, ke and tables.</li> <li>I am beginning to report on findings from including oral and written explanations, dis presentations of results and conclusions.</li> <li>I am beginning to use comparative and descriptions e.g. longer / shorter than, long</li> <li>I can begin to describe cause and effect</li> </ul>	s using simple fy and present ing questions. le scientific eys, bar charts in enquiries, splays or ions and my superlative gest / shortest. t.	<ul> <li>Considering Evidence and Evaluating</li> <li>I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testing.</li> <li>I am beginning to talk about and identify differences and similarities in the properties or behaviour of living things, materials and other scientific phenomena.</li> <li>I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> <li>I am beginning sometimes to think of cause and effect</li> </ul>

Y5 Forces – Effects on movement			
Scientific knowledge and understanding		Vocabulary	
<b>Revision</b> Forces, friction and magnetic force. Contact and noncontact forces.	<ul> <li>Year 5</li> <li>Explain that unsupported objects fall towards mechanisms including levers, pulleys and gears the Earth because of the force of gravity acting between the Earth and the falling object.</li> <li>Identify the effects of air resistance, water resistance and friction that act between moving surfaces.</li> <li>Recognise that some mechanisms including levers, pulleys and gears allow for a smaller force to have a greater effect.</li> </ul>	Forces, friction, air resistance, water resistance, magnetic forces, gravity, levers, pulleys, gears, contact and non- contact.	





<ul> <li>There are different types of forces, (friction, air resistance, water resistance, magnetic forces, gravity) which have different effects on objects.</li> <li>Gravity can act without direct contact between the Earth and an object.</li> </ul>				
Scientist – Galileo Galilei, Isaac Newton Profession –				
Opportu	unities for science capital -			
	Scientific	Enquiry		
Questioning and Research		Planning and Re	cording	
<ul> <li>I can ask some relevant question</li> </ul>	ns about the world around us.	• I can begin to	make systematic and careful observations and, where	
•I can use some different types of	scientific enquiry to answer questions.	appropriate, tak	e accurate measurements using standard units.	
• I can set up some simple practic	al enquiries, including comparative and fair	I can begin to lo	ok for naturally occurring patterns and relationships and	
tests.		decide what da	ta to collect ad identity them.	
• I am beginning to carry out simp	le research on my own.	• I can begin to	I can begin to see a pattern in my results.	
• I can make systematic and care	ich variables to keep the same and which to	<ul> <li>I can begin to use notes, simple tables and standard units</li> <li>I can begin to record results in tables and bar charts</li> </ul>		
change	ich valiables to keep the same and which to		imple tables and standard units and beln to decide how to	
• I can begin to decide when rese	arch will help in my enquiny	record and and	use their data	
		Lam beginning	to collect data in a variety of ways including labelled	
		diaarams, pie ch	harts and tables.	
Equipment and Measurement	Communicating and Presenting		Considering Evidence and Evaluating	
• I can begin to observe and	• I am beginning to communicate findings u	ising simple	<ul> <li>I am beginning to identify differences, similarities or</li> </ul>	
measure accurately using	scientific language.		changes related to simple scientific ideas and processes.	
standard units eg. mm, cm, m	• I can gather, record, and begin to classify	and present	• I am beginning to talk about criteria for grouping, sorting	
including time in minutes and	data in a variety of ways to help in answerin	g questions.	and classifying and use simple keys.	
seconds.	<ul> <li>I can begin to record findings using simple scientific</li> </ul>		<ul> <li>I can begin to compare and group according to</li> </ul>	
<ul> <li>I can make systematic and</li> </ul>	d language, drawings, labelled diagrams, keys, bar charts and		behaviour or properties, based on testing.	
careful observations. • I can	tables.		<ul> <li>I am beginning to talk about and identify differences</li> </ul>	
begin to choose from a selection	• I am beginning to report on findings from enquiries,		and similarities in the properties or behaviour of living	
of equipment.	including oral and written explanations, displays or		things, materials and other scientific phenomena.	
• I can use a range of	presentations of results and conclusions.		I am beginning to use results to draw simple conclusions,	
equipment, including	• I am beginning to describe my observatio	ns and my	make predictions for new values, suggest improvements	
thermometers and data loggers.	ometers and data loggers.   findings.			



• I can decide which equipment	• I am beginning to use comparative and superlative	and raise further questions. • I am beginning to answer my
to use and can use new	descriptions e.g. longer / shorter than, longest / shortest.	questions using the results of my enquiry.
equipment e.g. data logger	<ul> <li>I can begin to describe cause and effect.</li> </ul>	• I am beginning sometimes to think of cause and effect.

Y5 Materials and their properties			
Scientific knowledge and understanding		Vocabulary	
Revision Properties of different materials. Opaque, translucent and transparent. Rocks properties and uses. Electricity. Insulators. Solids, liquids and gases. Magnetic force and metals.	<ul> <li>Year 5</li> <li>Compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets.</li> <li>Give reasons, based on evidence from comparative and fair tests, for the uses of everyday materials., including metals, wood, and plastic (advantages and disadvantages).</li> <li>Scientist – Profession – Opportunities for science capital -</li> </ul>		Materials, metals, wood, plastic, properties, hardness, solubility, transparency, conductivity (electrical and thermal), magnetic, metals, wood, plastic. Evidence, comparative tests, fair tests
Scientific Engu		Enquiry	
Questioning and Research		Planning and Re	cording
• I can ask some relevant q	uestions about the world around us.	• I can begin to	make systematic and careful observations and, where
<ul> <li>I can use some airrerent types of scientific enquiry to answer questions.</li> <li>I can set up some simple practical enquiries, including comparative and fair tests.</li> </ul>		I can begin to lo decide what da	ok for naturally occurring patterns and relationships and ta to collect ad identify them.
<ul> <li>I am beginning to carry out simple research on my own.</li> </ul>		• I can begin to	see a pattern in my results.
<ul> <li>I can make systematic and careful observations.</li> </ul>		<ul> <li>I can begin to</li> </ul>	use notes, simple tables and standard units
I am beginning to help decide which variables to keep the same and which to		<ul> <li>I can begin to</li> </ul>	record results in tables and bar charts.
change.		<ul> <li>I begin to use s</li> </ul>	simple tables and standard units and help to decide how to
<ul> <li>I can begin to decide when research will help in my enquiry.</li> </ul>		record and anal	yse their data.



		• I am beginning	to collect data in a variety of ways, including labelled
		alagrams, pie ch	narts and tables.
Equipment and Measurement	Communicating and Presenting		Considering Evidence and Evaluating
<ul> <li>I can begin to observe and</li> </ul>	<ul> <li>I am beginning to communicate findi</li> </ul>	ngs using simple	<ul> <li>I am beginning to identify differences, similarities or</li> </ul>
measure accurately using standard	scientific language.		changes related to simple scientific ideas and processes.
units eg. mm, cm, m including time in	• I can gather, record, and begin to clo	assify and	• I am beginning to talk about criteria for grouping, sorting
minutes and seconds.	present data in a variety of ways to hel	o in answering	and classifying and use simple keys.
I can make systematic and careful	questions.		<ul> <li>I can begin to compare and group according to</li> </ul>
observations. • I can begin to choose	<ul> <li>I can begin to record findings using sir</li> </ul>	nple scientific	behaviour or properties, based on testing.
from a selection of equipment.	language, drawings, labelled diagrams	, keys, bar charts	<ul> <li>I am beginning to talk about and identify differences</li> </ul>
<ul> <li>I can use a range of equipment,</li> </ul>	and tables.		and similarities in the properties or behaviour of living
including thermometers and data	<ul> <li>I am beginning to report on findings f</li> </ul>	rom enquiries,	things, materials and other scientific phenomena.
loggers.	including oral and written explanations,	displays or	I am beginning to use results to draw simple conclusions,
<ul> <li>I can decide which equipment to</li> </ul>	presentations of results and conclusions		make predictions for new values, suggest improvements
use and can use new equipment e.g.	• I am beginning to describe my obser	vations and my	and raise further questions. • I am beginning to answer my
data logger	findings.		questions using the results of my enquiry.
	• I am beginning to use comparative a	nd superlative	• I am beginning sometimes to think of cause and effect
	descriptions e.g. longer / shorter than, la	ongest / shortest.	
	• I can begin to describe cause and ef	fect.	

	Y5 Reversible and Irreversible changes	
	Scientific knowledge and understanding	Vocabulary
<b>Revision</b> Solids liquids and gases. Changing states. Evaporation and condensation, water cycle.	<ul> <li>Year 5</li> <li>Know that some materials will dissolve in liquid to form a solution, and to describe how to recover a substance from a solution.</li> <li>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, through filtering, sieving and evaporation.</li> <li>Demonstrate that dissolving, mixing and changes of state are reversible changes.</li> <li>Recognise everyday situations where dissolving occurs.</li> <li>Scientists - Chemists Spencer Silver, Ruth Benerito Profession – Opportunities for science capital –</li> </ul>	Reversible and irreversible change, solid, liquid, gas, mixtures, separate, dissolve, filter, sieve, evaporate.



	Scientific	Enquiry	
Scientific         Questioning and Research         • I can ask some relevant questions about the world around us.         • I can use some different types of scientific enquiry to answer questions.         • I can set up some simple practical enquiries, including comparative and fair tests.         • I am beginning to carry out simple research on my own.         • I can make systematic and careful observations.         I am beginning to help decide which variables to keep the same and which to the process.		Planning and Rec I can begin to m appropriate, take I can begin to loo decide what dato I can begin to se I can begin to u I can begin to use I can begin to use I can begin to use	ording nake systematic and careful observations and, where accurate measurements using standard units. k for naturally occurring patterns and relationships and a to collect ad identify them. ee a pattern in my results. se notes, simple tables and standard units ecord results in tables and bar charts.
<ul> <li>change.</li> <li>I can begin to decide when research will help in my enquiry.</li> </ul>		<ul> <li>I begin to use sin record and analys</li> <li>I am beginning the diagrams, pie choose sin the sin the</li></ul>	se their data. to collect data in a variety of ways, including labelled arts and tables.
<ul> <li>Equipment and Measurement</li> <li>I can begin to observe and measure accurately using standard units eg. mm, cm, m including time is minutes and seconds.</li> <li>I can make systematic and carefu observations.</li> <li>I can begin to choose from a selection of equipment.</li> <li>I can use a range of equipment, including thermometers and data loggers.</li> <li>I can decide which equipment to use and can use new equipment e.g data logger</li> </ul>	<ul> <li>Communicating and Presenting <ul> <li>I am beginning to communicate findiscientific language.</li> <li>I can gather, record, and begin to cled data in a variety of ways to help in answere I can begin to record findings using similanguage, drawings, labelled diagrams and tables.</li> <li>I am beginning to report on findings fincluding oral and written explanations, presentations of results and conclusions</li> <li>I am beginning to describe my obsertion findings.</li> <li>I am beginning to use comparative a descriptions e.g. longer / shorter than, longer is a specific to describe cause and effective and the specific to describe cause and effective to describe cause and effective</li></ul></li></ul>	ngs using simple assify and present wering questions. mple scientific s, keys, bar charts from enquiries, displays or displays or that superlative ongest / shortest. fect.	<ul> <li>Considering Evidence and Evaluating <ul> <li>I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testing.</li> <li>I am beginning to talk about and identify differences and similarities in the properties or behaviour of living things, materials and other scientific phenomena.</li> <li>I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> <li>I am beginning to results of my enquiry.</li> </ul> </li> </ul>



Y5 Animals and Plant Life Cycles				
	Scientific k	nowledge and understanding		Vocabulary
<b>Revision</b> Classification Structure and function Role of flowering plants in the life cycle	Year 5 • Describe th amphibian • Describe th animals. • Describe th Scientists – natu and Jane Goo Profession – Opportunities fr	the differences in the life cycles of a mammal, an n, an insect and a bird. The life processes of reproduction in some plants and the changes as humans develop to old age. turalists and animal behaviourists, David Attenborough odall for science capital –		Life cycle, mammal, amphibian, insect and bird. Life processes (Mrs Gren), Movement, Respiration, Senses, Growth, <b>Reproduction</b> , Excretion and Nutrition. Sexual and asexual reproduction. Puberty. Gestation. Comparative research.
		·	Scientific Enquiry	
Questioning and Research         • I can ask some relevant questions about the world around us.         • I can use some different types of scientific enquiry to answer questions.         • I can set up some simple practical enquiries, including comparative and fair tests.         • I am beginning to carry out simple research on my own.         • I can make systematic and careful observations.         I am beginning to help decide which variables to keep the same and which to change.         • I can begin to decide when research will help in my enquiry.		Planning and Recording • I can begin to make sy take accurate measuren I can begin to look for no data to collect ad identi • I can begin to see a po • I can begin to use note • I can begin to record re • I begin to use simple ta and analyse their data. • I am beginning to colle charts and tables.	stematic and careful observations and, where appropriate, nents using standard units. aturally occurring patterns and relationships and decide what fy them. attern in my results. es, simple tables and standard units esults in tables and bar charts. Ibles and standard units and help to decide how to record ect data in a variety of ways, including labelled diagrams, pie	
<ul> <li>Equipment and Meas</li> <li>I can begin to obse measure accurately units eg. mm, cm, m i in minutes and secon</li> <li>I can make system careful observations.</li> </ul>	urement rve and using standard ncluding time ds. atic and • I can begin	<ul> <li>Communicating and Presenting <ul> <li>I am beginning to communicate findings using simple scientific language.</li> <li>I can gather, record, and begin to classify and present data in a variety of ways to help in answering questions.</li> </ul> </li> </ul>		<ul> <li>Considering Evidence and Evaluating</li> <li>I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testina.</li> </ul>



Y6 Living things and their habitats - Classification			
Scientific knowledge and understanding		Vocabulary	
<b>Revision</b> Classification keys in broad groupings Skeletons, vertebrates and invertebrates Lifecycles	<ul> <li>Year 6</li> <li>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.</li> <li>Give reasons for classifying plants and animals based on specific characteristics.</li> <li>Scientist – Carl Linnaeus</li> <li>Profession -</li> <li>Opportunities for science capital -</li> </ul>		Classification, characteristics. Micro-organisms, plants and animals. Vertebrates and invertebrates. Flowering plants and non-flowering plants.
Scientific Enquiry			
Questioning and ResearchPlanni• I can ask some relevant questions about the world around us.• I can use some different types of scientific enquiry to answer questions.• I can set up some simple practical enquiries, including comparative and fair tests.• I can beginning to carry out simple research on my own.• I can make systematic and careful observations.• I can		Planning and Reco I can begin to m appropriate, take I can begin to lool decide what dato I can begin to se I can begin to us I can begin to recommended I can beg	ording nake systematic and careful observations and, where accurate measurements using standard units. k for naturally occurring patterns and relationships and a to collect ad identify them. ee a pattern in my results. se notes, simple tables and standard units accord results in tables and bar charts.



I am beginning to help decide wh	ich variables to keep the same and	• I begin to use sin	nple tables and standard units and help to decide how to
which to chunge.		record and analys	
<ul> <li>I can begin to decide when rese</li> </ul>	earch will help in my enquiry.	<ul> <li>I am beginning I</li> </ul>	to collect data in a variety of ways, including labelled
		diagrams, pie cha	irts and tables.
Equipment and Measurement	Communicating and Presenting		Considering Evidence and Evaluating
<ul> <li>I can begin to observe and</li> </ul>	<ul> <li>I am beginning to communicate finding</li> </ul>	gs using simple	• I am beginning to identify differences, similarities or
measure accurately using	scientific language.		changes related to simple scientific ideas and processes.
standard units eg. mm, cm, m	• I can gather, record, and begin to classify and present		• I am beginning to talk about criteria for grouping, sorting
including time in minutes and	data in a variety of ways to help in answering questions.		and classifying and use simple keys.
seconds.	I can begin to record findings using simple scientific		I can begin to compare and group according to
<ul> <li>I can make systematic and</li> </ul>	language, drawings, labelled diagrams, l	keys, bar charts	behaviour or properties, based on testing.
careful observations. • I can	and tables.		• I am beginning to talk about and identify differences and
begin to choose from a selection	• I am beginning to report on findings fro	om enquiries,	similarities in the properties or behaviour of living things,
of equipment.	including oral and written explanations, c	displays or	materials and other scientific phenomena.
<ul> <li>I can use a range of</li> </ul>	presentations of results and conclusions.		I am beginning to use results to draw simple conclusions,
equipment, including	• I am beginning to describe my observations and my		make predictions for new values, suggest improvements
thermometers and data loggers.	findings.		and raise further questions. • I am beginning to answer my
• I can decide which equipment	• I am beginning to use comparative and	d superlative	questions using the results of my enquiry.
to use and can use new	descriptions e.g. longer / shorter than, lor	ngest / shortest.	• I am beginning sometimes to think of cause and effect
equipment e.g. data logger	• I can begin to describe cause and effe	ect.	

Y6 Living things and their habitats- Evolution and inheritance		
	Scientific knowledge and understanding	Vocabulary
<b>Revision</b> Rocks and fossils in year 3 Reproduction sexual and asexual in year 5 Classification in year 4 and 6	<ul> <li>Year 6</li> <li>Recognise that living things have changed overtime and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>Recognise that living things produce offspring of the same kind but normally offspring vary and are not identical to their parent.</li> <li>Identify how plants and animals are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> <li>Scientists - Charles Darwin and Alfred Wallace.</li> </ul>	Evolution, inheritance, fossils, nonidentical offspring, adaptation. Advantages and disadvantages, selection.



Professic Opportu	on – unities for science capital -		
	Scientific	Enquiry	
Questioning and Research		Planning and	Recording
<ul> <li>I can ask some relevant question</li> </ul>	ns about the world around us.	<ul> <li>I can begin to make systematic and careful observations and, where</li> </ul>	
•I can use some different types of	scientific enquiry to answer questions.	appropriate,	take accurate measurements using standard units.
• I can set up some simple practic	al enquiries, including comparative and fair	I can begin to	o look for naturally occurring patterns and relationships and
tests.		decide what	data to collect ad identify them.
• I am beginning to carry out simp	le research on my own.	<ul> <li>I can begin</li> </ul>	to see a pattern in my results.
• I can make systematic and care	ful observations.	<ul> <li>I can begin</li> </ul>	to use notes, simple tables and standard units
I am beginning to help decide wh	ich variables to keep the same and which to	<ul> <li>I can begin</li> </ul>	to record results in tables and bar charts.
change.		<ul> <li>I begin to u</li> </ul>	se simple tables and standard units and help to decide how to
• I can begin to decide when research will help in my enquiry.		record and a	nalyse their data.
		<ul> <li>I am beginning to collect data in a variety of ways, including labelled</li> </ul>	
		diagrams, pie	charts and tables.
Equipment and Measurement	Communicating and Presenting		Considering Evidence and Evaluating
<ul> <li>I can begin to observe and</li> </ul>	• I am beginning to communicate findings using simple		<ul> <li>I am beginning to identify differences, similarities or</li> </ul>
measure accurately using	scientific language.		changes related to simple scientific ideas and processes.
standard units eg. mm, cm, m • I can gather, record, and begin to classify and p		and present	<ul> <li>I am beginning to talk about criteria for grouping, sorting</li> </ul>
including time in minutes and data in a variety of ways to help in answering que		g questions.	and classifying and use simple keys.
seconds.	• I can begin to record findings using simple	scientific	<ul> <li>I can begin to compare and group according to behaviour</li> </ul>
<ul> <li>I can make systematic and</li> </ul>	language, drawings, labelled diagrams, keys	s, bar charts	or properties, based on testing.
careful observations. • I can	ful observations. • I can and tables.		<ul> <li>I am beginning to talk about and identify differences and</li> </ul>
begin to choose from a selection • I am beginning to report on findings from enquiries,		similarities in the properties or behaviour of living things,	
of equipment. including oral and written explanations, displays or		materials and other scientific phenomena.	
<ul> <li>I can use a range of</li> </ul>	presentations of results and conclusions.		I am beginning to use results to draw simple conclusions,
equipment, including	ding • I am beginning to describe my observations and my		make predictions for new values, suggest improvements and
thermometers and data loggers.	ers and data loggers. findings.		raise further questions. • I am beginning to answer my
• I can decide which equipment	<ul> <li>I am beginning to use comparative and su</li> </ul>	perlative	questions using the results of my enquiry.
to use and can use new	descriptions e.g. longer / shorter than, longer	st / shortest.	<ul> <li>I am beginning sometimes to think of cause and effect</li> </ul>
equipment e.g. data logger	nt e.g. data logger • I can begin to describe cause and effect.		



Y6 Animals including humans- Exercise, health and the circulatory system			
S	cientific knowledge and understanding	·	Vocabulary
<b>Revision</b> Main body parts and internal organs (skeletal, muscular, digestive) in Year 3 and 4. Health and nutrition, food groups, diets in Year 3. Life processes in Year 5	<ul> <li>Year 6</li> <li>Identify the main parts of the circulated describe the functions of the heart, blood.</li> <li>Recognise the impact of diet exercises on the way bodies function.</li> <li>Describe the ways in which nutrients transported within animals including the Scientist - Profession - Opportunities for science capital –</li> </ul>	ory system and lood vessels and e, drugs and lifestyle and water are humans.	Circulatory system, blood vessels, oxygen, nutrients. Life processes, (MRS GREN), Movement, Respiration, Senses, Growth, Reproduction, Excretion and Nutrition. Proteins, fats, carbohydrates, vitamins and minerals.
Scientific Enquiry			
Questioning and ResearchScientific EnquiryI can ask some relevant questions about the world around us.I can ask some relevant questions about the world around us.I can use some different types of scientific enquiry to answer questions.I can begin to make s take accurate measure I can begin to look for r data to collect ad iden I can begin to see a p I can begin to use not I can make systematic and careful observations.I am beginning to help decide which variables to keep the same and which to change.I can begin to use simple t and analyse their data.I can begin to decide when research will help in my enquiry.I am beginning to col cohorts and tables		g systematic and careful observations and, where appropriate, ements using standard units. naturally occurring patterns and relationships and decide what tify them. pattern in my results. tes, simple tables and standard units results in tables and bar charts. tables and standard units and help to decide how to record lect data in a variety of ways, including labelled diagrams, pie	
Equipment and Measureme • I can begin to observe an measure accurately using standard units eg. mm, cm, including time in minutes an seconds.	AtCommunicating and Presentingd• I am beginning to communicatscientific language.m• I can gather, record, and begindpresent data in a variety of waysquestions.	te findings using simple n to classify and to help in answering	<ul> <li>Considering Evidence and Evaluating</li> <li>I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testing.</li> </ul>



· Loopo pooleo protoportio prod	- Learn hearing to record findings, using simple scientific	a Lana la aginarina ta tallu ala aut anal idantifu differenzasa anal
• I can make systematic and	• I can begin to record findings using simple scientific	• I am beginning to talk about and identity differences and
careful observations. • I can begin	language, drawings, labelled diagrams, keys, bar charts	similarities in the properties or behaviour of living things,
to choose from a selection of	and tables.	materials and other scientific phenomena.
equipment.	• I am beginning to report on findings from enquiries,	I am beginning to use results to draw simple conclusions,
• I can use a range of equipment,	including oral and written explanations, displays or	make predictions for new values, suggest improvements and
including thermometers and data	presentations of results and conclusions.	raise further questions. • I am beginning to answer my
loggers.	• I am beginning to describe my observations and my	questions using the results of my enquiry.
<ul> <li>I can decide which equipment</li> </ul>	findings.	<ul> <li>I am beginning sometimes to think of cause and effect</li> </ul>
to use and can use new	• I am beginning to use comparative and superlative	
equipment e.g. data logger	descriptions e.g. longer / shorter than, longest / shortest.	
	• I can begin to describe cause and effect.	
	-	

Y6 Electricity			
	Scientific knowledge and understanding		Vocabulary
<b>Revision</b> Electricity circuits in year 4.	<ul> <li>Year 6</li> <li>Associate the brightness of a lamp or the the number and voltage of cells used in</li> <li>Compare and give reasons for variation function, brightness of bulbs, loudness of positions of switches.</li> <li>Use recognised simple circuit in a diagra symbols.</li> <li>Scientist -</li> <li>Profession -</li> <li>Opportunities for science capital -</li> </ul>	e volume of a buzzer with the circuit. s in how components f buzzers, on and off am using recognised	Simple circuit diagrams, series circuits, switch, bulb, buzzer, motors. Prediction, systematic identification, cause and effect.
		Scientific Enquiry	
Questioning and ResearchPlanning and Reco• I can ask some relevant questions about the world around us.• I can begin to m• I can use some different types of scientific enquiry to answer• I can begin to mauestions.• I can begin to m		<ul> <li>Planning and Recording</li> <li>I can begin to make sy take accurate measurer</li> </ul>	rstematic and careful observations and, where appropriate, ments using standard units.



<ul> <li>I can set up some simple practical enquiries, including comparative and fair tests.</li> <li>I am beginning to carry out simple research on my own.</li> <li>I can make systematic and careful observations.</li> <li>I am beginning to help decide which variables to keep the same and which to change.</li> <li>I can begin to decide when research will help in my enquiry.</li> </ul>		I can begin to look for no data to collect ad identi I can begin to see a po I can begin to use note I can begin to record m I begin to use simple to and analyse their data. I am beginning to colle charts and tables.	aturally occurring patterns and relationships and decide what fy them. attern in my results. es, simple tables and standard units esults in tables and bar charts. ables and standard units and help to decide how to record ect data in a variety of ways, including labelled diagrams, pie
<ul> <li>Equipment and Measurement</li> <li>I can begin to observe and measure accurately using standard units eg. mm, cm, m including time in minutes and seconds.</li> <li>I can make systematic and careful observations.</li> <li>I can begin to choose from a selection of equipment.</li> <li>I can use a range of equipment, including thermometers and data loggers.</li> <li>I can decide which equipment to use and can use new equipment e.g. data logger</li> </ul>	<ul> <li>Communicating and Presenting</li> <li>I am beginning to communication scientific language.</li> <li>I can gather, record, and begin data in a variety of ways to help</li> <li>I can begin to record findings us language, drawings, labelled dict and tables.</li> <li>I am beginning to report on finincluding oral and written explant presentations of results and conce</li> <li>I am beginning to describe my findings.</li> <li>I am beginning to use compared descriptions e.g. longer / shorter</li> <li>I can begin to describe cause of the science of the sc</li></ul>	te findings using simple n to classify and present in answering questions. using simple scientific agrams, keys, bar charts adings from enquiries, nations, displays or clusions. v observations and my ative and superlative than, longest / shortest. and effect.	<ul> <li>Considering Evidence and Evaluating <ul> <li>I am beginning to identify differences, similarities or changes related to simple scientific ideas and processes.</li> <li>I am beginning to talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>I can begin to compare and group according to behaviour or properties, based on testing.</li> <li>I am beginning to talk about and identify differences and similarities in the properties or behaviour of living things, materials and other scientific phenomena.</li> <li>I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> <li>I am beginning the results of my enquiry.</li> </ul> </li> </ul>

Y6 Light and Astronomy – How Light Travels		
	Scientific knowledge and understanding	Vocabulary
Revision	Year 6	Light source, reflection and shadow. Periscope. Rainbows,
Light sources, reflectors	<ul> <li>Recognise that light appears to travel in straight lines.</li> </ul>	colours on soap bubbles.
and shadows in year 3		



Expl into light Ligh shap Scientist Professic Opportu	ain how objects are seen because they give of the eye. Light travels from light sources to the sources to objects and then to our eyes. It travels in straight lines thus explaining how sh be of the object that cats them. Alhazan on: unities for science capital:	out or reflect light eyes or from adows are the	
Overtiening and Decograph	Scientific	Enquiry	e evelin e
Questioning and Research	· · l· · · · · · · · · · · · · · · · ·	Planning and Re	coraing
• I can ask some relevant question	is about the world around us.	• I can begin to	make systematic and careful observations and, where
• I can use some allerent types of	al anguiring including comparative and fair	appropriate, lak	e accurate measurements using standard units.
• I can set up some simple practic	arendomes, incloaing comparative and rai	docido what da	ta to collect ad identify them
Tests.		• L can begin to	see a pattern in my results
• Fam beginning to carry our simple research on my own.		• I can begin to	use notes, simple tables and standard units
• I can make systematic and caletal observations.		• I can begin to	record results in tables and bar charts
change		I begin to use s	imple tables and standard units and help to decide how to
I can begin to decide when research will help in my enquiry.		record and anal	vse their data
		• I am beainninc	to collect data in a variety of ways, including labelled
		diagrams, pie ch	harts and tables.
Equipment and Measurement	Communicating and Presenting		Considering Evidence and Evaluating
<ul> <li>I can begin to observe and</li> </ul>	• I am beginning to communicate findings u	sing simple	<ul> <li>I am beginning to identify differences, similarities or</li> </ul>
measure accurately using	scientific language.		changes related to simple scientific ideas and processes.
standard units eg. mm, cm, m	• I can gather, record, and begin to classify	and present	<ul> <li>I am beginning to talk about criteria for grouping, sorting</li> </ul>
including time in minutes and	data in a variety of ways to help in answering questions.		and classifying and use simple keys.
econds.     • I can begin to record findings using simple scientific		<ul> <li>I can begin to compare and group according to</li> </ul>	
<ul> <li>I can make systematic and</li> </ul>	can make systematic and language, drawings, labelled diagrams, keys, bar charts and		behaviour or properties, based on testing.
careful observations. • I can	rvations. • I can tables.		<ul> <li>I am beginning to talk about and identify differences</li> </ul>
begin to choose from a selection	• I am beginning to report on findings from enquiries,		and similarities in the properties or behaviour of living
of equipment.	equipment. including oral and written explanations, displays or		things, materials and other scientific phenomena.
<ul> <li>I can use a range of</li> </ul>	can use a range of presentations of results and conclusions.		I am beginning to use results to draw simple conclusions,
equipment, including	<ul> <li>I am beginning to describe my observations and my</li> </ul>		make predictions for new values, suggest improvements
thermometers and data loggers.	findings.		



• I can decide which equipment	• I am beginning to use comparative and superlative	and raise further questions. • I am beginning to answer my
to use and can use new	descriptions e.g. longer / shorter than, longest / shortest.	questions using the results of my enquiry.
equipment e.g. data logger	<ul> <li>I can begin to describe cause and effect.</li> </ul>	I am beginning sometimes to think of cause and effect

Scientific Enquiry			
Questioning and Research		Planning and Recording	
• I can ask some relevant questions about the world around us.		• I can begin to make systematic and careful observations and, where appropriate,	
I can use some different types of scientific enquiry to answer		take accurate measurements using standard units.	
questions.		I can begin to look for naturally occurring patterns and relationships and decide what	
<ul> <li>I can set up some simple practical enquiries, including</li> </ul>		data to collect ad identify them.	
comparative and fair tests.		<ul> <li>I can begin to see a pattern in my results.</li> </ul>	
<ul> <li>I am beginning to carry out simple research on my own.</li> </ul>		<ul> <li>I can begin to use notes, simple tables and standard units</li> </ul>	
<ul> <li>I can make systematic and careful observations.</li> </ul>		<ul> <li>I can begin to record results in tables and bar charts.</li> </ul>	
I am beginning to help decide which variables to keep the same		<ul> <li>I begin to use simple tables and standard units and help to decide how to record</li> </ul>	
and which to change.		and analyse their data.	
<ul> <li>I can begin to decide when research will help in my enquiry.</li> </ul>		• I am beginning to collect data in a variety of ways, including labelled diagrams, pie	
		charts and tables.	
Equipment and Measurement	Communicating and Presenting		Considering Evidence and Evaluating.
<ul> <li>I can begin to observe and</li> </ul>	<ul> <li>I am beginning to communicate findings using simple</li> </ul>		<ul> <li>I am beginning to identify differences, similarities or</li> </ul>
measure accurately using	<u>scientific language.</u>		changes related to simple scientific ideas and processes.
<u>standard units eg. mm, cm, m</u>	<ul> <li>I can gather, record, and begin to classify and present</li> </ul>		<ul> <li>I am beginning to talk about criteria for grouping, sorting</li> </ul>
including time in minutes and	data in a variety of ways to help in answering questions.		and classifying and use simple keys.
seconds.	<ul> <li>I can begin to record findings using simple scientific</li> </ul>		• I can begin to compare and group according to behaviour
<ul> <li>I can make systematic and</li> </ul>	language, drawings, labelled diagrams, <u>keys, bar charts</u>		or properties, based on testing.
careful observations. • I can	and tables.		<ul> <li>I am beginning to talk about and identify differences and</li> </ul>
begin to choose from a selection	<ul> <li>I am beginning to report on findings from enquiries,</li> </ul>		similarities in the properties or behaviour of living things,
<u>of equipment.</u>	including oral and written explanations, displays or		materials and other scientific phenomena.
<ul> <li>I can use a range of</li> </ul>	presentations of results and conclusions.		I am beginning to use results to draw simple conclusions,
equipment, including	<ul> <li>I am beginning to describe my observations and my</li> </ul>		make predictions for new values, suggest improvements and
thermometers and data loggers.	findings.		raise further questions.
• I can decide which equipment	<ul> <li>I am beginning to use comparative and superlative</li> </ul>		• I am beginning to answer my questions using the results of
to use and can use new	descriptions e.g. longer / shorter than, longest / shortest.		my enquiry.
equipment e.g. data logger	<ul> <li>I can begin to describe cause and effect.</li> </ul>		<ul> <li>I am beginning sometimes to think of cause and effect</li> </ul>

