Carr Hill Community Primary School



Lower Key Stage Two

**Science Mapping** 

CARR HILL			Science Curric Lowe	culum Mapping er KS2			
			Сус	le 1			
Year 3 & 4	<u>Prior Learning</u> These should be considered in flash backs / core 4 / revised where topic not covered for long time	Dazzling Smiles Biology Animals, Including Humans – teeth, digestion	Islam Physics Light	<u>Volcanoes</u> Chemistry Rocks	WW2 Evacuees Physics Electricity	Human Life Cycle Biology Living Things and their habitats	<u>Romans</u> Biology Animals, including Humans
Autumn 1	In KS1 children should:		National	Curriculum Object	tives		Flash Backs
	<ul> <li>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li> <li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>Know that animals, including humans, have offspring which grow into adults</li> <li>Know the basic stages in a life cycle for animals. including</li> </ul>	<ul> <li>Dazzling Smiles Biology Animals, In</li> <li>Describe the simple functions of Identify the different types of the Key Learning</li> <li>Food enters the body through tongue rolls the food into a bail broken down further by being</li> <li>The food passes into the small elsewhere in the body. The rest the body. What is left is then st</li> <li>Humans have four types of tee</li> </ul>	ncluding Humans – tee of the basic parts of the teeth in humans and th the mouth. Digestion s II. The food is swallowe churned around and ot intestine. Here nutrien t of the food then pass tored in the rectum uni- th: incisors for cutting;	th, digestion e digestive system in hum eir simple functions. Y4 tarts when the teeth star d and passes down the o her chemicals are added. ts are removed from the es into the large intestine cil it leaves the body throw canines for tearing; and	t to break the food down. esophagus to the stomach food and leave the digesti e. Here the water is remov ugh the anus when you go molars and premolars for a	Saliva is added and the . Here the food is ve system to be used ed for use elsewhere in to the toilet. grinding (chewing).	Parts of the body (KS1)
	<ul> <li>Find out 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.</li> </ul>	<ul> <li>Working Scientifically Skills to be to Ask increasingly relevant scienti</li> <li>Make some decisions about whit time, noticing patterns, groupin</li> <li>I can decide when and how resetore</li> <li>Set up practical enquiries, comp</li> <li>Recognise when a fair test is new</li> <li>Make predictions drawing on pr</li> <li>Gather, record and classify data</li> <li>Record findings using simple sci</li> <li>Record on findings using oral and</li> <li>Use results to draw simple concol</li> <li>Can spot patterns in results and</li> </ul>	augnt fic questions and use d ich types of enquiry wil g and classifying, carryi earch will help and carry tarative and fair tests. cessary and decide how revious experience and in a variety of ways. entific language, drawin d written explanations, lusions, make predictio look for changes, simil	ifferent types of scientific I be the best way of answ ng out simple comparativ out research on my owr to set it up. knowledge. ngs, labelled diagrams, ba displays or presentation ns, suggest improvement arities and differences.	c enquiries to answer them vering questions including ve and fair tests, finding th n. ar charts, keys and tables. Is. ts and raise further questio	n. observing changes over ings out.	

		<ul> <li>Say what I have found out linking cause and effect.</li> </ul>	
		Suggests improvements to an investigation.	
		Make systematic and careful observations and where appropriate, take accurate measurements	
		using standard units using a range if equipment- e.g. thermometers, data loggers.	
		• Help make decisions about what observations to make, how long to make them for and the type of equipment that might be	
		used.	
		Can choose from a selection of equipment.	
		<ul> <li>Identify similarities, differences or changes related to simple scientific ideas or processes.</li> </ul>	
		<ul> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> </ul>	
		Compare and group according to behaviour or properties.	
Autumn 2	In KS1 children should have:	Islam Physics Light	Seasons – where light
	Observed changes across the	<ul> <li>Recognise that they need light in order to see things, and that dark is the absence of light. Y3</li> </ul>	comes from
	four seasons	Notice that light is reflected from surfaces. Y3	
	Observed and describe weather	<ul> <li>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Y3</li> </ul>	
	associated with the seasons and	Becognise that shadows are formed when the light from a light source is blocked by an onaque object. Y3	
	how day length varies	<ul> <li>Find natterns in the way that the size of shadows change Y3</li> </ul>	
	Children may:	Kay Lagraina	
	<ul> <li>have some knowledge of were</li> </ul>	<u>Ney Learning</u>	
	light comes from	• We see objects because our eyes can sense light. Dark is the absence of light. We cannot see anything in complete darkness.	
	<ul> <li>have seen their shadows and</li> </ul>	Some objects, for example, the sun, light builds and candles are sources of light. Objects are easier to see if there is more light.	
	may know they appear when it is	The light from the and and an and the effective should be the difference of the table of the set of	
	suppy	• The light from the sun can damage our eyes and therefore we should not look directly at the sun and can protect our eyes by	
	• Have come understanding of a	wearing sunglasses or sunnats in bright light.	
	roflection	• Shadows are formed on a surface when an opaque or translucent object is between a light source and the surface and blocks	
	• May understand they need light	some of the light. The size of the shadow depends on the position of the source, object and surface.	4
	to be able to see things	Working Scientifically Skills to be taught	
	to be usie to see things.	Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.	
		• Make some decisions about which types of enquiry will be the best way of answering questions including observing changes over	
		time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out.	
		<ul> <li>I can decide when and how research will help and carry out research on my own.</li> </ul>	
		Set up practical enguiries, comparative and fair tests.	
		<ul> <li>Recognise when a fair test is necessary and decide how to set it up.</li> </ul>	
		<ul> <li>Make predictions drawing on previous experience and knowledge.</li> </ul>	
		Gather, record and classify data in a variety of ways.	
		Record findings using simple scientific language, drawings, labelled diagrams, bar charts, keys and	
		tables.	
		Record on findings using oral and written explanations, displays or presentations	
		Use results to draw simple conclusions, make predictions, suggest improvements and raise further questions	
		Can spot natterns in results and look for changes, similarities and differences	
		Say what I have found out linking cause and effect	
	<ul> <li>four seasons</li> <li>Observed and describe weather associated with the seasons and how day length varies.</li> <li>Children may: <ul> <li>have some knowledge of were light comes from.</li> <li>have seen their shadows and may know they appear when it is sunny.</li> <li>Have some understanding of a reflection.</li> <li>May understand they need light to be able to see things.</li> </ul> </li> </ul>	<ul> <li>Notice that light is reflected from surfaces. Y3</li> <li>Recognise that light is reflected from surfaces. Y3</li> <li>Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Y3</li> <li>Find patterns in the way that the size of shadows change. Y3</li> <li>Kev Learning</li> <li>We see objects because our eyes can sense light. Dark is the absence of light. We cannot see anything in complete darkness. Some objects, for example, the sun, light bulbs and candles are sources of light. Objects are easier to see if there is more light. Some surfaces reflect light. Objects are easier to see when there is less light if they are reflective.</li> <li>The light from the sun can damage our eyes and therefore we should not look directly at the sun and can protect our eyes by wearing sunglasses or sunhats in bright light.</li> <li>Shadows are formed on a surface when an opaque or translucent object is between a light source and the surface and blocks some of the light. The size of the shadow depends on the position of the source, object and surface.</li> <li>Working Scientifically Skills to be taught</li> <li>Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.</li> <li>Make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out.</li> <li>I can decide when and how research will help and carry out research on my own.</li> <li>Set up practical enquiries, comparative and fair tests.</li> <li>Recognise when a fair test is necessary and decide how to set it up.</li> <li>Make predictions drawing on previous experience and knowledge.</li> <li>Gather, record and classify data in a variety of ways.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams, bar charts, keys and tables.</li> <li>Record findings using</li></ul>	

		Suggests improvements to an investigation.	
		<ul> <li>Make systematic and careful observations and where appropriate, take accurate measurements</li> </ul>	
		using standard units using a range if equipment- e.g. thermometers, data loggers.	
		Help make decisions about what observations to make, how long to make them for and the type of equipment that might be	
		used.	
		Can choose from a selection of equipment.	
		<ul> <li>Identify similarities, differences or changes related to simple scientific ideas or processes.</li> </ul>	
		<ul> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> </ul>	
		Compare and group according to behaviour or properties.	
Spring 1	In KS1 children should:	Volcanoes Chemistry Rocks	Properties of
	• Distinguish between and object	<ul> <li>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Y3</li> </ul>	materials (KS1)
	and the material from which it is	<ul> <li>Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Y3</li> </ul>	Where do we find
	made	Recognise that soils are made from rocks and organic matter, V3	rocks/soil?
	Identify and name a variety of		
	everyday materials including		
	wood metal plastic glass water		
	and rock		
	Describe the simple physical		
	properties of a variety of	Koulograing	
	everyday materials	• Pack is a naturally accurring material. There are different types of rack e.g. canditional limestane, slate atc. which have different	
	Compare and group together a	<ul> <li>Note is a naturally occurring material. There are different types of fock e.g. satustone, intestone, state etc. which have different properties. Backs can be hard or soft. They have different sizes of grain or crystal. They may abcorb water. Backs can be different</li> </ul>	
	variety of everyday materials	shapes and sizes (stoppes pabbles, houlders). Sails are made up of pieces of ground down rock which may be mixed with plant and	
	based on their simple properties	shapes and sizes (stones, peoples, bounders). Sons are made up of pieces of ground down rock which may be mixed with plant and	
	<ul> <li>Identify and compare the</li> </ul>	animal material (organic matter). The type of rock, size of rock pieces and the amount of organic matter affect the property of the	
	suitability of a variaty of	SUII.	
	overvday materials including	<ul> <li>Some rocks contain rossils. Fossils were formed millions of years ago, when plants and animals died, they fell to the seabed. They have been a several and as were formed millions of years ago. When plants and animals died, they fell to the seabed. They have been a several and as were formed millions of years ago.</li> </ul>	
	wood motal plastic glass brick	became covered and squashed by other material. Over time the dissolving animal and plant matter is replaced by minerals from	
	wood, metal, plastic, glass, blick,	the water.	
	nock, paper and cardboard for	Working Scientifically Skills to be taught	
	<ul> <li>Find out how shapes of solid</li> </ul>	Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them	
	chiests made from some	<ul> <li>Make some decisions about which types of enguing will be the best way of answering questions including observing changes over</li> </ul>	
	objects made nom some	time, noticing nattorns, grouping and classifying, carrying out simple comparative and fair tests, finding things out	
	materials call be changed by	<ul> <li>Leap decide when and how recearch will help and carry out recearch on my own</li> </ul>	
	squashing, bending, twisting and	A Make systematic and careful observations and where appropriate take accurate measurements	
	Stretching.	• Wake systematic and careful observations and where appropriate, take accurate measurements	
	Children may:	using stanuard units using a range in equipment- e.g. thermometers, data loggers.	
	• iviay nave some understanding	• help make decisions about what observations to make, now long to make them for and the type of equipment that might be	
	or a variety of different rocks in	useu.	
	the natural world.	<ul> <li>Can choose from a selection of equipment.</li> <li>Identify similarities, differences or changes related to simple seis stifts identify a second s</li></ul>	
	• Some understanding of what	Identify similarities, differences of changes related to simple scientific ideas of processes.     Talk about addapting for any processes.	
	soil is. (how to identify soil etc)	<ul> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> </ul>	

	<ul> <li>May have some knowledge of what a fossil is.</li> </ul>	Compare and group according to behaviour or properties.	
Spring 2	In Early Years children: • May have some understanding	<ul> <li><u>WW2 Evacuees</u> Physics Electricity</li> <li>Identify common appliances that run on electricity. Y4</li> <li>Construct a simple partice electricity literative interval and the simple partice in the simple partice electricity. Y4</li> </ul>	What is electricity? Which objects use
	that objects need electricity to work.	<ul> <li>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Y4</li> </ul>	electricity to work?
	<ul> <li>May understand that a switch will turn something on or off.</li> </ul>	<ul> <li>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. Y4</li> </ul>	
		<ul> <li>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Y4</li> <li>Recognise some common conductors and insulators, and associate metals with being good conductors. Y4</li> </ul>	
		Key Learning	
		<ul> <li>Many household devices and appliances run on electricity. Some plug in to the mains and others run on batteries. An electrical</li> </ul>	
		circuit consists of a cell or battery connected to a component using wires. If there is a break in the circuit, a loose connection or a	
		short circuit, the component will not work. A switch can be added to the circuit to turn the component on and off.	
		• Metals are good conductors so they can be used as wires in a circuit. Non-metallic solids are insulators except for graphite (pencil	
		lead). Water, if not completely pure, also conducts electricity.	
		Working Scientifically Skills to be taught	
		<ul> <li>Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.</li> <li>Make some desiring about which types of enquiry will be the best way of enquiring questions including observing changes aver</li> </ul>	
		• Make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out.	
		<ul> <li>I can decide when and how research will help and carry out research on my own.</li> </ul>	
		Set up practical enquiries, comparative and fair tests.	
		Recognise when a fair test is necessary and decide how to set it up.	
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		Gather, record and classify data in a variety of ways.	
		Record findings using simple scientific language, drawings, labelled diagrams, bar charts, keys and	
		tables.	
		<ul> <li>Record on findings using oral and written explanations, displays or presentations.</li> </ul>	
		<ul> <li>Use results to draw simple conclusions, make predictions, suggest improvements and raise further questions.</li> </ul>	
		Can spot patterns in results and look for changes, similarities and differences.	
		Say what I have found out linking cause and effect.	
		Suggests improvements to an investigation.	
		Make systematic and careful observations and where appropriate, take accurate measurements     using standard units using a range if equipment, e.g. thermometers, data loggers	
		<ul> <li>Help make decisions about what observations to make how long to make them for and the type of equipment that might be</li> </ul>	
		• Their make decisions about what observations to make, now long to make them for and the type of equipment that might be	
		Can choose from a selection of equipment	
		<ul> <li>Identify similarities, differences or changes related to simple scientific ideas or processes.</li> </ul>	

		Talk about criteria for grouping, sorting and classifying and use simple keys.	
		Compare and group according to behaviour or properties.	
Summer 1	<ul> <li>In KS1, children should:</li> <li>Explore and compare the difference between things that are living, dead and things that have never been alive.</li> <li>Identify that most living things</li> </ul>	<ul> <li>Human Life Cycle Biology Living Things and their Habitats</li> <li>Recognise that living things can be grouped in a variety of ways. Y4</li> <li>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Y4</li> <li>Recognise that environments can change and that this can sometimes pose dangers to living things. Y4</li> </ul>	Habitats – different types of habitats. Animals that are specific to certain habitats
	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. • Identify and name a variety of	<ul> <li>Key Learning</li> <li>Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things.</li> <li>Living things live in a habitat which provides an environment to which they are suited (Year 2 learning). These environments may change naturally e.g. through flooding, fire, earthquakes etc. Humans also cause the environment to change. This can be in a good way (i.e. positive human impact, such as setting up nature reserves) or in a bad way (i.e. negative human impact, such as littering). These environments also change with the seasons; different living things can be found in a habitat at different times of the year.</li> </ul>	
	plants and animals in their habitats, including micro	Working Scientifically Skills to be taught	
	<ul> <li>habitats, including including including habitats.</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 the different sources of food.</li> </ul>	<ul> <li>Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.</li> <li>Make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out.</li> <li>Gather, record and classify data in a variety of ways.</li> <li>Record on findings using oral and written explanations, displays or presentations.</li> <li>Identify similarities, differences or changes related to simple scientific ideas or processes.</li> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>Compare and group according to behaviour or properties.</li> </ul>	
Summer 2	<ul> <li>In KS1 children should:</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</li> </ul>	<ul> <li><u>Romans</u> Biology Animals, including Humans</li> <li>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food <ul> <li>they get nutrition from what they eat. Y3</li> </ul> </li> <li>Life cycles – recap and revisit</li> </ul>	Healthy eating Eating the right amounts and types of food.
	<ul> <li>common animals that are carnivores, herbivores and omnivores.</li> <li>Know that animals, including humans, have offspring which grow into adults</li> </ul>	<ul> <li><u>Key Learning</u></li> <li>Animals, unlike plants which can make their own food, need to eat in order to get the nutrients they need. Food contains a range of different nutrients – carbohydrates (including sugars), protein, vitamins, minerals, fats, sugars, water – and fibre that are needed by the body to stay healthy. A piece of food will often provide a range of nutrients.</li> <li>Working Scientifically Skills to be taught</li> </ul>	
		<ul> <li>Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.</li> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> </ul>	

Know the basic stages in a l	• Compare and group according to behaviour or properties.	
cycle for animals, including		
humans.		
<ul> <li>Find out and describe the b</li> </ul>	sic	
needs of animals, including		
humans, for survival (wate	,	
food and air).		
<ul> <li>Describe the importance for</li> </ul>		
humans of exercise, eating	the	
right amounts of different		
types of food, and hygiene		

CARR HILL			Science C	urriculum Mappi Lower KS2	ng		
				Cycle 2			
Year 3 & 4	<u>Prior Learning</u> These should be considered in flash revised where topic not covered for long time	Anglo Saxons Chemistry States of Matter	Dreamcatchers Physics Sound	Travel the World - <u>Africa</u> Animals, including Humans – Food chains	Egyptians Physics Forces and Magnets	<u>Watch Me Grow</u> Biology Plants	Funny Bones Biology Animals, including Humans – skeletons and muscles
Autumn 1	<ul> <li>In KS1 children should:</li> <li>Distinguish between and object and the material from which it is made.</li> <li>Identify and name a variety of everyday materials, including wood, metal, plastic, glass, water and rock,</li> <li>Describe the simple physical properties of a variety of everyday materials.</li> <li>Compare and group together a variety of everyday materials based on their simple properties.</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> </ul>	<ul> <li>Anglo Saxons Chemia</li> <li>Compare and gro</li> <li>Observe that som temperature at w</li> <li>Identify the part evaporation with</li> <li>Key Learning</li> <li>A solid keeps its shap be poured and keeps powdery solids likes do not keep a level s</li> <li>Melting is a state cha Boiling is a change of gas can be seen in th gas), but it happens stemperature is higher cooling.</li> <li>Water at the surface forming clouds. Wher snow, sleet etc. and</li> <li>Working Scientific</li> </ul>	Nati stry States of Matter oup materials togethe ne materials change s which this happens in played by evaporation temperature. Y4 oe and has a fixed volume s a level, horizontal surfact and can be confused with urface when tipped. Each ange from solid to liquid. If f state from liquid to gas t he liquid. Water boils when slowly at lower temperatu er, the liquid is spread out e of seas, rivers etc. evapor an too much water has cor drain back into rivers etc.	ional Curriculum Ob er, according to wheth state when they are he degrees Celsius (°C). Yo on and condensation in . A liquid has a fixed volum e. A gas fills all available sp liquids because they can be individual grain demonstra Freezing is a state change f hat happens when a liquid in it is heated to 100oC. Eva ures and only at the surface or it is windy. Condensation rates into water vapour (a indensed, the water droplet This is known as precipitat at	pjectives her they are solids, lique eated or cooled, and r Y4 in the water cycle and we but changes in shape to bace; it has no fixed shape of the poured, but when poure ates the properties of a sol rom liquid to solid. The fre is heated to a specific tem aporation is the same state e of the liquid. Evaporation on is the change back from gas). This rises, cools and c ts in the cloud get too heave ion. This is the water cycle	uids or gases. Y4 measure or research the associate the rate of fit the container. A liquid c or volume. Granular and ed they form a heap and the id. ezing point of water is 0oC perature and bubbles of the change as boiling (liquid to happens more quickly if the a gas to a liquid caused by condenses back into a liquid ry and fall back down as raits.	Flash Backs  Properties.  Naming objects, materials and properties.  Suitability of materials for different purposes.

		<ul> <li>Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.</li> <li>Make some decisions about which types of enquiry will be the best way of answering questions including observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out.</li> <li>I can decide when and how research will help and carry out research on my own.</li> <li>Set up practical enquiries, comparative and fair tests.</li> <li>Recognise when a fair test is necessary and decide how to set it up.</li> <li>Make predictions drawing on previous experience and knowledge.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams, bar charts, keys and tables.</li> <li>Record on findings using oral and written explanations, displays or presentations.</li> <li>Use results to draw simple conclusions, make predictions, suggest improvements and raise further questions.</li> <li>Can spot patterns in results and look for changes, similarities and differences.</li> <li>Say what I have found out linking cause and effect.</li> <li>Suggests improvements to an investigation.</li> <li>Make systematic and careful observations and where appropriate, take accurate measurements using standard units using a range if equipment- e.g. thermometers, data loggers.</li> <li>Help make decisions about what observations to make, how long to make them for and the type of equipment that might be used.</li> <li>Can choose from a selection of equipment.</li> <li>Identify similarities, differences or changes related to simple scientific ideas or processes.</li> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>Compare and group according to behaviour or properties.</li> </ul>	
Autumn 2	<ul> <li>In KS1 children:</li> <li>May have some understanding that objects make different sounds.</li> <li>Some understanding that they use their ears to hear sounds.</li> <li>Know about their different senses.</li> </ul>	<ul> <li>Dreamcatchers Physics Sound</li> <li>Identify how sounds are made, associating some of them with something vibrating. Y4</li> <li>Recognise that vibrations from sounds travel through a medium to the ear. Y4</li> <li>Find patterns between the pitch of a sound and features of the object that produced it. Y4</li> <li>Find patterns between the volume of a sound and the strength of the vibrations that produced it. Y4</li> <li>Recognise that sounds get fainter as the distance from the sound source increases. Y4</li> </ul> Key Learning <ul> <li>A sound produces vibrations which travel through a medium from the source to our ears. Different mediums such as solids, liquids and gases can carry sound, but sound cannot travel through a vacuum (an area empty of matter). The vibrations cause parts of our body inside our ears to vibrate, allowing us to hear (sense) the sound. <ul> <li>The loudness (volume) of the sound depends on the strength (size) of vibrations which decreases as they travel through the medium. Therefore, sounds decrease in volume as you move away from the source. A sound insulator is a material which blocks sound effectively. </li> <li>Pitch is the highness or lowness of a sound and is affected by features of objects producing the sounds. For example, smaller objects usually produce higher pitched sounds.</li> </ul></li></ul>	<ul> <li>KS1 Spring 2 Cycle 1 – recap on instrument s and sound.</li> <li>Senses – what we use to hear</li> </ul>

B		
	<ul> <li>Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.</li> </ul>	
	• Make some decisions about which types of enquiry will be the best way of answering questions including observing changes	
	over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out.	
	Set up practical enquiries, comparative and fair tests.	
	Make predictions drawing on previous experience and knowledge.	
	Gather, record and classify data in a variety of ways.	
	<ul> <li>Record findings using simple scientific language, drawings, labelled diagrams, bar charts, keys and</li> </ul>	
	tables.	
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Spring 1	Travel the World - Africa	
Shime T	<u>Traver the world – Ajrica</u>	
	• Construct and interpret a variety of food chains, identifying producers, prey and predators. Y4	herbivore,
	Key Learning	omnivore
	• Living things can be classified as producers, predators and prey according to their place in the food chain.	• Food
	Working Scientifically Skills to be taught	chains - where food
	Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them	comos
	<ul> <li>Ask increasingly relevant scientific questions and use unreferictypes of scientific enquires to answer them.</li> <li>Make some decisions about which types of enquiry will be the best way of answering questions including observing changes</li> </ul>	Comes
	over time noticing natterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out	from
	• Gather record and classify data in a variety of ways	(sources of
	Becord findings using simple scientific language, drawings, labelled diagrams, bar sharts, keys and	food)
	tables	
	Record on findings using oral and written explanations, displays or presentations	
	Itse results to draw simple conclusions, make predictions, suggest improvements and raise further questions	
	Can spot patterns in results and look for changes, similarities and differences	
	<ul> <li>Help make decisions about what observations to make how long to make them for and the type of equipment that might be</li> </ul>	
	used.	
	<ul> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> </ul>	
	Compare and group according to behaviour or properties.	

Spring 2	Children may:	Egyptians Physics Forces and Magnets	<ul> <li>Magnets –</li> </ul>
	<ul> <li>May have an awareness</li> </ul>	<ul> <li>Compare how things move on different surfaces. Y3</li> </ul>	push and
	of how to make things stop	• Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Y3	pull (KS1
	and start, using simple	• Observe how magnets attract or repel each other and attract some materials and not others. Y3	Cycle 2
	pushes and pulls.	Compare and group together a variety of everyday materials on the basis of whether they are attracted	, Autumn 1)
	• They may know about	to a magnet, and identify some magnetic materials, V2	,
	floating and sinking	Describe magnets as having two poles. V2	
	May have experience of	<ul> <li>Describe magnets as having two poles. YS</li> <li>Describe magnets as having two poles. YS</li> </ul>	
	motals attracting to a	<ul> <li>Predict whether two magnets will attract or repel each other, depending on which poles are facing. Y3</li> </ul>	
	magnat	<u>Key Learning</u>	
	magnet.	<ul> <li>A force is a push or a pull. When an object moves on a surface, the texture of the surface and the object affect how it moves. It may help the object to move better or it may hinder its movement e.g. ice skater compared to walking on ice in normal shoes.</li> </ul>	
		• A magnet attracts magnetic material. Iron and nickel and other materials containing these, e.g. stainless steel, are magnetic. The	
		strongest parts of a magnet are the poles. Magnets have two poles – a north pole and a south pole. If two like poles, e.g. two	
		north poles, are brought together they will push away from each other – repel. If two unlike poles, e.g. a north and south, are	
		brought together they will pull together – attract.	
		Working Scientifically Skills to be taught	
		Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.	
		<ul> <li>Make some decisions about which types of enquiry will be the best way of answering questions including observing changes</li> </ul>	
		over time, noticing patterns, grouping and classifying, carrying out simple comparative and fair tests, finding things out.	
		I can decide when and how research will help and carry out research on my own.	
		Set up practical enquiries, comparative and fair tests.	
		Recognise when a fair test is necessary and decide how to set it up.	
		Make predictions drawing on previous experience and knowledge.	
		Gather, record and classify data in a variety of ways.     Beneral findings using simple scientific language, drawings, labelled diagrams, her shorts, keys and	
		• Record infumes using simple scientific language, drawings, labelled diagrams, bar charts, keys and tables	
		<ul> <li>Record on findings using oral and written explanations, displays or presentations.</li> </ul>	
		<ul> <li>Use results to draw simple conclusions, make predictions, suggest improvements and raise further questions.</li> </ul>	
		Can spot patterns in results and look for changes, similarities and differences.	
		Say what I have found out linking cause and effect.	
		Suggests improvements to an investigation.	
		<ul> <li>Make systematic and careful observations and where appropriate, take accurate measurements</li> </ul>	
		using standard units using a range if equipment- e.g. thermometers, data loggers.	
		<ul> <li>Help make decisions about what observations to make, how long to make them for and the type of equipment that might be used.</li> </ul>	
		Can choose from a selection of equipment.	
		Identify similarities, differences or changes related to simple scientific ideas or processes.	
		<ul> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> </ul>	

		Compare and group according to behaviour or properties.	
Summe r 1	In KS1 Children: • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. • Identify and describe the basic structure of a variety of common flowering plants. • Identify and name the roots, trunk, branches and leaves of trees. • Observe and describe how seeds and bulbs grow into mature plants. • Find out and describe how plants need water, light and warmth to grow and stay healthy.	<ul> <li>Watch Me Grow Biology Plants</li> <li>Identify and describe the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers. Y3</li> <li>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Y3</li> <li>Investigate the way in which water is transported within plants. Y3</li> <li>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Y3</li> <li>Kev Learning</li> <li>Many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. The roots absorb water and nutrients from the soil and anchor the plant in place. The stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination and seed dispersal. The leaves use sunlight and water to produce the plant's food. Some plants produce flowers which enable the plant to reproduce. Pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination). This forms seeds, sometimes contained in berries or fruits which are then dispersed in different ways. Different plants require different conditions for germination and growth.</li> <li>Working Scientifically Skills to be taught</li> <li>Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.</li> <li>Set up practical enquiries, comparative and fair tests.</li> <li>Record indings using simple scientific language, drawings, labelled diagrams, bar charts, keys and tables.</li> <li>Record on findings using oral and written explanations, displays or presentations.</li> <li>Use results to draw simple conclusions, make predictions, suggest improvements and raise further questions.</li> <li>Can sop tatterns in results and look for changees, similarities and diffe</li></ul>	<ul> <li>Names plants</li> <li>Name parts of a plant</li> <li>Plant lifecycle – what they need to grow</li> </ul>

		<ul> <li>Identify similarities, differences or changes related to simple scientific ideas or processes.</li> <li>Talk about criteria for grouping, sorting and classifying and use simple keys.</li> <li>Compare and group according to behaviour or properties.</li> </ul>	
Summe r 2	<ul> <li>In KS1 children should:</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 common animals that are carnivores, herbivores and</li> </ul>	<ul> <li>Funny Bones Biology Animals, including Humans – Skeleton and Muscles</li> <li>Identify that humans and some other animals have skeletons and muscles for support, protection and movement. Y3</li> </ul>	<ul> <li>Naming body parts</li> <li>How to stay healthy</li> </ul>
	omnivores. • Know that animals, including humans, have offspring which grow into adults	<ul> <li>Key Learning</li> <li>Humans, and some other animals, have skeletons and muscles which help them move and provide protection and support.</li> <li>Working Sciontifically Skills to be taught</li> </ul>	
	<ul> <li>Know the basic stages in a life cycle for animals, including humans.</li> <li>Find out 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.</li> </ul>	<ul> <li>Working Scientifically Skills to be taught</li> <li>Ask increasingly relevant scientific questions and use different types of scientific enquiries to answer them.</li> <li>I can decide when and how research will help and carry out research on my own.</li> <li>Gather, record and classify data in a variety of ways.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams, bar charts, keys and tables.</li> <li>Record on findings using oral and written explanations, displays or presentations.</li> <li>Can spot patterns in results and look for changes, similarities and differences.</li> <li>Say what I have found out linking cause and effect.</li> <li>Help make decisions about what observations to make, how long to make them for and the type of equipment that might be used.</li> <li>Can choose from a selection of equipment.</li> <li>Compare and group according to behaviour or properties.</li> </ul>	