RSS Science Knowledge, Vocabulary & Skills Overview

Working	YEAR 1	YEAR 2
Scientifically	 Ask simple questions and recognise that they can be answered in different ways (Year 1 focus) Use simple equipment to observe closely (Year 1 focus) Perform simple tests (Year 1 focus) Identify and classify (Year 1 focus) Use observations and ideas to suggest answers to questions (Year 1 focus) Gather and record data to help in answering questions (Year 1 focus) 	 Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum (Year 2 focus) Use simple equipment to observe closely including changes over time (Year 2 focus) Perform simple comparative tests (Year 2 focus) Identify, group and classify (Year 2 focus) Use observations and ideas to suggest answers to questions noticing similarities, differences and patterns (Year 2 focus) Gather and record data to help in answering questions including from secondary sources of information (Year 2 focus)

ELG: The Natural World Children at the expected level of development will: - Explore the natural world around them, making observations and drawing pictures of animals and plants; - 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; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

ELG: Managing Self Children at the expected level of development will: - Be confident to try new activities and show independence, resilience and perseverance in the face of challenge; - Explain the reasons for rules, know right from wrong and try to behave accordingly; - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.





Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills
	Year 1	DIC	sight Your eyes let you see all	Adult A fully grown up animal	Year 1
	• identify, name, draw and	QUESTIONS	the things around you.	or plant.	
	label the basic parts of		hearing Your ears let you listen	Develop The changes living	Identify, name, draw and label
	the human body and say	What are senses and why do we	to all the things around you.	things go through to become	the basic parts of the human
	which part of the body is	need them?	Your brain is able to tell what	an adult.	body and say which part of the
	associated with each	What do humans and other	different sounds are.	Offspring The child of an	body is associated with each
	sense	animals need to survive?	touch Your skin gives you the	animal.	sense.
	Vear 2	What do humans need to do to	sense of touch. You can tell if	Reproduce When living	
	 notice that animals 	stay happy and healthy?	something is warm, cold,	things make a new living	Observe how our own senses
	• notice that animals,	How does excersise affect my	smooth or rough without even	thing of the same kind.	help us to understand and
	offenring which grow	body?	looking at it!	Young Offspring that has not	learn about the world around
	into adults		taste Your sense of taste comes	reached adulthood	us.
		Year 1	from your tongue. You can tell	live young Offspring that has	
	 find out about and 	 There are 5 main senses and 	if something tastes bitter or	not hatched from an egg.	Explore how losing a sense
	describe the basic needs	those sense help us understand	sweet. You might have some	dehydrate To lose water (dry	might change our perception of
	of animals, including	and learn about the world	tastes you like and some you	out).	the world around us.
	humans, for survival	around us (sight, hearing, taste,	don't.	Diet The food and water that	
	(water, food and air)	touch, smell).	smell You smell using your	an animal needs.	Observe how humans' bodies
	• describe the importance	• Different parts of our body help	nose. Your nose can tell if	Disease Illness or sickness.	are different and similar.
	for humans of exercise,	us to use our senses.	things smell nice or not nice.	Energy The power needed to	
	eating the right amounts	• Our bodies can be differrent.		carry out a task.	Year 2
	of different types of	We can be different heights.	Key parts of the body	Exercise A physical activity to	
	food, and hygiene	weights have different colour	• Head	keep your body fit.	Observe and then, gather and
		eves bair or skin. However, we	• Eye	Germs Small living things that	record data on how human
		all have the same recognizable	• Ear	cause disease and illness.	bodies are different and how
		fostures of key body parts	Shoulder	Virus Small living things that	humans change over time.
		o Our hadiaa ahar sa aa wa sat	 Elbow 	lives inside other living	
		• Our bodies change as we get	Neck	things, such as animals or	Observe how humans change
		older.		plants. Sometimes, it can	over time.
		 We need to look after our 	Aouth	make us feel unwell and stop	
es		bodies and keep good hiegene		our body from working	Describe the importance for
odi		to stay happy and healthy.	• leeth	properly.	humans to exercise, eat the
г В		Washing our hands properly is	• Arm	Bacteria Small living things	right amounts and different
0		part of this.	• Hand	that are all around us. Our	types of foods.
pue		Year 2	• Thumb	bodies need good bacteria	
us à		• All young animals change at	• Knee	and they work as a team.	Classify different foods into
ma		different stages as they grow	• Leg	Sometimes, bad bacteria	tood groups.
Hu		into adults	• Toes	cause disease and illness by	
		into addito.			

		 young. Their offspring normally look like them when they are born, such as mammals. Other animals have offspring which do not look like them, e.g. fish and amphibians. Some animals lay eggs which hatch into live young. This young then develops into an adult. When these eggs hatch, some animals look like their adult, for example birds and reptiles. To stay alive, animals have 3 basic needs (water, food, air). To stay happy and healthy, humans need more, for example exercise and shelter. All animals have adapted to diets that make their bodies work at their best. Humans need a varied and balanced diet made up of vegetables, fruits, carbohydrates, protein and dairy. We must drink to stay hydrated. 6-8 glasses of water a day. High sugar and high fat foods we must eat in moderation. Exercise changes our temperature, breath and heart rate. 	Germs Small living things that can cause disease and illness.	working properly. heart rate The number of times a heart beats in one minute. Hygiene How clean something is (to stay healthy and stop disease and illness spreading). Nutrition Food needed to live. Pulse The beating of the heart that can be felt in your neck and wrist.	 kinds of exercise on the body. Observe and record the effects of exercise of the body on a simple table or chart. Notice that animals, including humans, have offspring, which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Communicate how humans may have other needs beyond basic survival to stay happy and healthy. Communicate the importance of hygiene, for preventing disease and illness spreading.
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Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills
Humans and other animals	 National Curriculum POS Year 1 identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) Year 2 explore and compare the differences between things that are living, dead, and things that have never been alive 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 identify and name a variety of plants and animals in their habitats, including microhabitats 	 Knowledge What is a habitat? What is the difference between fish, mammals, amphibians and birds? What does being alive mean? How do I know if something is alive, dead or has never been alive? Do all animals have the same needs? How can I identify different native trees and plants? Year 1 / 2 Animal species can be classified into groups based on similar characteristics. The main groups are birds, amphibians, mammals, reptiles and fish. Some animals are suitable for keeping as pets but some are not. Pets need food, water, space, shelter and medicine. Animals that are not pets are known as wild animals. Owning a pet is an important responsibility because pets will not be happy, healthy or safe if we do not give them the things that they need. Animals can also be classified based on similarities in their diets. They may need certain kinds of foods to survive, for example carnivores, herbivores and omnivores. 	 Vocabulary Year 1/ Year 2 Reptiles- All reptiles breathe air. They have scales on their skin. They are cold blooded which means that they are as warm as the temperature around them. Reptiles lay eggs. Birds- All birds have a beak, two legs, feathers and wings. Birds lay eggs and are warm blooded. Mammals - Mammals are animals thatbreathe air, grow hair or fur and feed on their mother's milk as a baby. Mammals are warm blooded which means that they can regulate their own bodies' temperature. Amphibians-Amphibians live in the water as babies and on land as they grow older. They havesmooth, slimyskin and are cold blooded Fish- Fish live and breathe under water. They have scaly skin, fins to help them swim and they breathe through gills. Fish lay eggs. Carnivores- Animals that mostly eat other animals (meat) are carnivores. Herbivore- Animals that only eat plants are herbivores. 	Vocabulary Year 2 life processes These are the things that all living things do. They move, breathe, sense, grow, make babies, get rid of waste and get their energy from food. Living Things that are living have all the life processes. Dead Things that are dead were once living. They did have all the life processes but don't now never living Things made out of metal, plastic or rock were never living. They never had the life processes. food chain A food chain shows how each animal gets its food. Food chains are one of the ways that living things depend on each other to stay alive. food sources This is the place a living thing's food comes from. Habitat A habitat is the natural place something lives. A habitat provides living things with everything they need to survive such as food, shelter and water. Microhabitat A microhabitat is a very small	 Progression of Skills Year 1 Communicate previous knowledge of different animals, including pets. Observe and classify different animals by identifying their features, for example amphibians, mammals, birds, fish and reptiles. Classfify animals into groups according to what they eat. This includes identify and name a variety of common animals that are carnivores, herbivores and omnivores Year 2 Observe differences between things that are alive, dead or have never been alive. Classify into categories of alive, dead or never been alive using observations. Identify and communicate the differences in habitats around the world. Observe microhabitats and how these can support a range of life, such as invertebrates, small mammals and birds. Observe and describe simple food chains, which show different animals and plants

	 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 	 Year 2 Some things are alive, some things have been alive but are now dead and some things have never been alive. All living things are part of a food chain. This is the description of how different animals depend on each other for survival. A food chain is made up of producers and consumers. Minibeasts live in microhabitats. These creatures are a range of invertebrates. This means that they do not have a backbone, for example worms, spiders. All living things live in a habitat. This is the environment in which a living thing has adapted to survive. Living things support and depend each other in their 	Omnivore- Animals that eat both plants and other animals are omnivores.	 habitat in places like under a rock, under leaves or on a branch. Minibeasts live in microhabitats. The microhabitats have everything they need to survive. Depend Many living things in a habitat depend on each other. This means they need each other for different things. Survive This means to stay alive. 	depend on each other to survive.
		depend each other in their respective habitats.			
Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills
Materials & their Properties	 Year 1 Distinguish between an object and the material from which it is made Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Describe the simple physical properties of a 	Why do we need different materials? Can materials be adapted for different purposes? What are different materials made from? Year 1 and 2 All objects are made from materials.	Transparent – light passes through easily and objects are seen clearly Opaque – cannot be seen through Soft – not firm to the touch Hard – sold, firm, rigid Flexible – easy to bend Float – able to rest on the surface of water and liquids Sink – unable to rest on the surface of water and liquids	Reflective – will bounce light off its surface Magnetic – is attracted to magnets Translucent – will let some light through, but not enough to see detailed shapes. Rigid – unable to be bent or forced out of shape Suitability - Suitability means having the properties, which are right for a specific purpose.	YEAR 1 Distinguish between an object and the material from which it is made Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Describe the simple physical properties of a variety of everyday materials

 variety of everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties. Year 2 Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	 Different materials have different using in and around school because of their different properties. Materials can be different, such as rough or smooth, bendy or stiff and soft or hard. Some materials can float and some sink in water. Some materials allow water to pass through them and some do not allow water to pass through them. Some materials allow light to pass through them and some do not. Wood/card/paper comes from trees Metal comes from rocks under the ground Plastic is made from oil Glass is made from sand Rock the hard solid material that forms part of the surface of the earth and some other planets Water a liquid without colour, smell or taste that falls as rain, and can be found in lakes, rivers and seas Ice is water in a different state. The melting of ice can be sped up or slowed down by a number of factors, for example Ice melts more quickly as the temperature increases. 	Waterproof – repels water and liquids Non- waterproof – does not repel water and liquids Shiny- reflects light Dull – lacks shine or brightness Rough – uneven/irregular surface Smooth – an even and regular surface	Properties - This is what a material is like and how it behaves (soft, stretchy, waterproof). Durabilty- The property that a material can withstand damage or wear. Absorbent – The property that a material can take in and hold water. Strength- Strength is the ability to resist breaking. Recycle - Some materials have the property of being able to be recycled. This means that they can be processed and remade into something else to be used again. Elasticity – The property of a material to go back to its original shape after being stretched or squashed.	Compare and group together a variety of everyday materials on the basis of their simple physical properties Predict the outcome of a test to see the suitably of different materials. Test to see the suitably of different materials. Observe how different materials can sink or float. YEAR 2 Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Classify different objects using materials as a criteria. Predict the outcome of a test to see how absorbent different materials are. Conduct a fair test and record data, which measures the absorbency of different materials.
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		 Wool comes from sheep YEAR 2 Cotton comes from a plant Rubber is made from the latex in a tree called the rubber tree (dandelions contain latex!) Brick baked clay Floating and sinking is related to buoyancy and density. Some materials have the ability to take in and hold water. Hard materials can also have the ability to absorb water. Some materials are found naturally and some materials are manmade, for example plastic. Some materials can have forces put on them, such as pulling, twisting, bending and squashing. Other materials can resist forces. This makes them useful for particular uses. Different materials have different elasticities 			Test the strengths of different kinds of paper and record the results.
Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills
Plants	 Year 1 identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a 	What do plants need to grow? What is the difference between a vegetable and a fruit? Are all plants edible? Can I grow my own food?	wild plants A wild plant seed grows where it falls. It doesn't need to be planted or cared for as it grows. garden plants Garden plants are plants that people choose to grow in their gardens.	germination When the conditions are right, the seed soaks up water and swells, and the tiny new plant bursts out of its shell. This is called germination. sprout When a plant sprouts, it grows new shoots.	Year 1 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

	variety of common	Why is it important to grow our	weed Weeds are wild plants	shoot A shoot grows upwards	common flowering plants,
	flowering plants,	own food?	that grow in places where	from the seed or plant to find	including trees.
	including trees	How can I identify different	people don't want them.	sunlight.	
		flowers and trees?	deciduous A deciduous tree	seed dispersal Seed dispersal	Year 2
•	observe and describe	What does native mean?	loses its leaves each year.	is when the seeds move away	Observe and describe how
	how seeds and bulbs		evergreen An evergreen tree	from the parent plant. They	seeds and bulbs grow into
	grow into mature plants	Year 1/2	keeps its green leaves all year	can be moved by the wind or	mature plants
•	find out and describe	Dandelion, daisy, buttercup,	round, even in the winter.	animals.	
	how plants need water,	nettles, ivy, dog rose, clover and	roots Roots take in water and	sunlight All plants need light	Observe and describe how
	light and a suitable	brambles are all common wild	nutrients from the soil.	from the sun to grow well.	plants need water, light and a
	temperature to grow	plants.	stem The stem holds the plant	Some plants need lots of	suitable temperature to grow
	and stav healthy		up and carries the water and	sunlight. Some plants only	and stav healthy.
.,		Pandy, sunflower, sweet pea.	, nutrients from the roots to the	need a little sunlight.	
Yea	r 2	fuchsia. rose . lavender and iris	leaves and flowers.		Conduct a test and record the
•	observe and describe	are all common garden plants.	leaves Leaves catch sunlight to	te grow Without	results of growing plants from
	how seeds and bulbs	0 1	make energy.	to grow. Without	seed in different conditions.
	grow into mature plants	Many types of plants can flower	flowers Flowers attract insects	water, seeds and builds will	
•	find out and describe	and grow more rapidly. at	and birds.	tomporature Tomporature is	
•	how plants need water	different times of the year.	petals Petals are the colourful	temperature remperature is	
	light and a suitable	,	part of the flower.	now warm or cold something	
	tomporature to grow	Cedar. Horse Chestnut. Oak. Silver	fruit Fruit contains the plant's	of somewhere is, some	
	and stay healthy	Birch. Willow and Holly trees are	seeds. Sometimes humans try	plants like cooler	
	and stay healthy	common.	, to grow fruit without seeds	temperatures and some like	
			because it's easier to eat.	warmer temperatures.	
		Some trees are deciduous which	seed Seeds grow into new	nutrition Food of	
		means that they shed their leaves	plants.	nourishment. Plants make	
		in autumn and others are non-	bulb Bulbs grow into new	their own food in their leaves	
		deciduous which means that they	plants.	using sunlight.	
		keep their leaves all year round.			
		Plants need space and light to be			
		healthy. Seeds need the right			
		temperature and water to			
		germinate. Soil is important to			
		support root growth and for the			
		uoptake of nutriets and water			
		Gardens can be different and			
		varied. They are spaces which are			
		tended and cared for by people to			
		help plants grow.			
		•			

	A seeds and bulb and begin to		
	grow in darkness but will need a		
	source of light to grow on.		
	Plants have a basic structure of		
	roots, stem, leaves and flowers.		
	Flowers may not be visible		
	through the whole year.		
	Bark grows around the truck and		
	branches of a tree to protect it		
	and to help water and nutrients		
	get to the crown of the tree		
	Set to the clown of the free.		
	Year 2		
	Germination is the process from		
	where a seed goes from being		
	dormant to beginning to grow		
	All plants have a life cycle that		
	culminates in creating and		
	dispersing its own seeds.		
	Plants require sunlight, water,		
	suitable temperature, pace and		
	nutrition to grow and be healthy		
	Compost can be used instead of		
	soil as a growing medium and is		
	broken down organic material.		
	such as leaves and other dead		
	plants. We can make our own		
	compost to use on a compost		
	heap.		
	Potatoes are tubers and not		
	'seeds'. Potato plants need a lot		
	of water.		
	Insects are attracted to flowers,		
	which pollinates them.		

		Green potatoes are toxic . Potato plants can create seed heads which look like tomatoes- These are toxic . We can eat and need lots of plants and seeds as part of a healthy, balanced diet. However, many are toxic which means that they cannot be eaten.			
Unit	National Curriculum POS	Knowledge	Vocabulary Year 1/ Year 2	Vocabulary Year 2	Progression of Skills
asonal Changes & Environment	 Year 1 Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies. Year 2 Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	Why do we have four seasons? Why do our shadows change shape and size? How are the seasons different? Can I make a difference to the environments? How can I reduce the waste that we make? Why is protecting our environment important? Year 1/2 We can go outside and look at the weather. Temperature is measured in Celsius and records how hot or how cold something is. Different weather types require us to wear different clothing. Understand how the observed weather is typical (or not) of the weather for the season	Seasons – Spring, Summer, Autumn, Winter Weather The weather includes the temperature outside, the wind direction and strength, as well as rain, cloud, snow and sun. Daylight is when it is light outside. The amount of daylight changes with each season. Forecast A forecast is a prediction of what the weather will be like. Temperature is a way to measure how hot or cold something is. Temperature is measured in degrees Celsius The temperature can change during different seasons. Generally, it is colder in winter and warmer in summer.	Energy Energy makes everything work. Power Electricity, gas and oil are all sources of power. They give us energy to make things work. Non-renewable Non- renewable power sources such as coal, oil and gas can't be replaced once they have been used. Scientists think these are running out. Renewable Renewable power sources can be replaced. This means they will never run out. Solar power, wind power, geothermal power, biomass and wave power are all renewable power sources. Endangered means that scientists think that a type of animal or plant is at risk. Extinct Extinct means that there are none of that type	Year 1 Observe the weather and record findings. Observe and measure shadow length. Predict how much rainfall will be experienced, measure and record findings. Observe and record wind direction and strength. Year 2 Observe how waste can impact on the local environment where we live and how we have means to dispose of that waste, Classify and sort materials that can and cannot be recycled.
Se	living things live in	and varies from season to season.		of animal or plant left alive.	

habitats to which	Shadows can also change through	Climate Change Climate	Communicate and follow
they are suited and	the day and in different seasons.	change is a change in the	Instructions on now to create
describe now	Different seasons can have more	overall weather and	recycled paper.
provide for the basic	or less typical measures of	temperature on Earth. (Not	Observe and record how
needs of different	rainfall	the day-to-day weather). The	energy is used around school
kinds of animals and		Earth is getting warmer due	chergy is used around school.
plants, and how they	A wind sock can measure wind	to some of the things	Test how much water can be
depend on each	direction. Different times of day	humans are doing This	saved by turning off the tap
other	can affect the wind.	means it will be more difficult	while washing hands.
		for livings things to survivo	0
	Year 2	for invings trinigs to survive.	
	The environment is where we		
	live. Our planet provides		
	everything that we and all living		
	things need. We call it our		
	environment.		
	Humans create waste that needs		
	to be managed. Otherwise it can		
	lifequeles that roly on it. We have		
	a responsibility for reducing		
	waste		
	waste.		
	There are ways to get rid of		
	waste. All have some impact on		
	our environment. Some can be		
	burnt or incinerated; some is		
	buried and some in recycled or		
	reused.		
	Humans are changing the world		
	by affecting the climate. This can		
	droughts, more storms and can		
	melt sea ice		
	Organic waste can be used to		
	create compost.		
	Some waste can be recycled but		
	needs to be sorted into different		

	materials first (paper, glass,		
	metal, some plastics).		
	Some products are a mixture of		
	materials which cannot be		
	recycled. Some products share		
	logos or information about		
	recycling.		
	Energy makes everything work.		
	Electricity, gas and oil are all		
	sources of power. They give us		
	energy to make things work.		
	Non-renewable power sources		
	such as coal, oil and gas can't be		
	replaced once they have been		
	used. Scientists think these are		
	running out. Renewable power		
	sources can be replaced. This		
	means they will never run out.		
	Solar power, wind power,		
	geothermal power, biomass and		
	wave power.		
	Saving water is an important part		
	of reducing climate change. We		
	can reduce water by changing our		
	everyday habits.		