SCIENCE IMPLEMENTATION AND CURRICULUM PROGRESSION

Science Implementation and Progression at Black Horse Hill Infant School

Vocabulary and Reading Development	Inclusion	Assessment
Spoken language is promoted in all lessons for all children including strategies such as: no hands up , explicit teaching of vocabulary, modelled thinking and use of vocabulary by the teacher, think, pair, share, my turn-your turn, Talk Partners, Sentence Stems Reading is promoted wherever possible and wider texts are used to deepen knowledge across all subject areas.	All children will be given the same task because we believe in teaching a mastery approach across all subject areas and equal access for all. Quality first teaching for all children Teacher modelling and scaffolded practice for all children. Focus groups with adult support for children needed further support Pre-teach sessions Talk partners to build confidence Now and next boards to support completion of tasks Intervention External advice sought to support inclusion	Prior knowledge/retrieval opportunities are included at the beginning of units of work so that planning can be adapted/amended to support gaps or misconceptions. Clear sequence of lessons which identify the key knowledge that children need to know at the end of a lesson/unit of work. Children's books Knowledge Quizzes Assessment tick sheets to identify cohort, group and individual gaps
Retrieval practice (Knowing more and remembering more)	**Cultural Capital opportunities**	**British values and SMSC**
Expectations for classroom working walls. Revisit sessions Retrieval/fluency sessions Knowledge organisers published versions and class knowledge organisers	Trips- Port Sunlight Village, Beeston castle Visitors School assemblies: Remembrance, Gun Powder plot Significant figures Experiences- ,	Teaching students to respect and value diversity is encouraged in the day-to-day teaching and learning through showing respect for different viewpoints and ideas as well as in the ability to work effectively together both individually and in groups. We

		approach the teaching of Science with an awareness to children's different faiths and beliefs. We consider how life has changed for people over time and how rules and laws have changed. Children engage in debates, allowing for freedom of speech and different views to be heard and expressed By looking at the achievements of significant people across the world children develop an awareness of how they have influenced and shaped the country and world in which we live.

Black Horse Hill Infant School Science Curriculum Progression Map

Early Years Foundation Stage

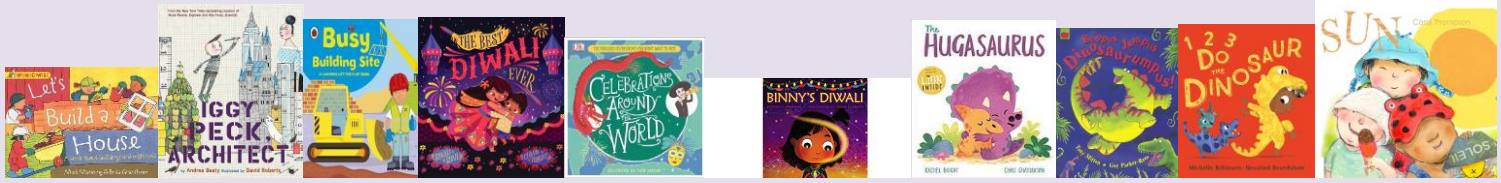
Foundation 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Project for the half term	**Once upon a time** (Literacy)  **Build it Up** (UofW) 	**Sparkle and Shine** (PSED) 	**Dangerous Dinosaurs** (UofW) 	**Puddles and Rainbows** (UofW)  **Let's Explore** (UofW) 	**Creep, Crawl and Wriggle** (UofW)  **Animal Safari** (UofW) 	**Splash!** (UofW)  **On the Beach (UofW)** 
Link to Development Matters	Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar	Use all their senses in hands-on exploration of natural materials	Use all their senses in hands-on exploration of natural materials	Use all their senses in hands-on exploration of natural materials Explore collections of materials with	Explore the natural world around them, making observations and drawing pictures of animals and plants.	Use all their senses in hands-on exploration of natural materials

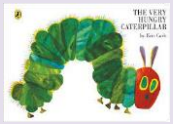
	and/or different properties. Talk about what they see, using a wide vocabulary.	Explore collections of materials with similar and/or different properties.	Explore collections of materials with similar and/or different properties. Talk about the differences between materials and changes they notice. Explore and talk about different forces they can feel. -Talk about what they see, using a wide vocabulary.	similar and/or different properties. Explore and talk about different forces they can feel Plant seeds and care for growing plants. A habitat is a place where living things live. Living things, including plants and animals, live in the local environment.		Explore collections of materials with similar and/or different properties. Begin to understand the need to respect and care for the natural environment and all living things
Key Knowledge, key questions and people	Construction, properties of materials. Types of buildings, materials, bridges	Seasonal Change – Autumn- Make a collection of found objects	Seasonal Change - Winter Ball Investigation sorting and classifying.	Animals and their young Planting and growing Provide the children with plant	Continue to experience, observe, talk about and record the weather.	Continue to experience, observe, talk about and record the weather.

	Investigation linked to the 3 Little Pigs-which materials can you blow? Different materials for the 3 Pigs houses e.g blocks, straw, sticks etc Make porridge - explore dry and wet oats. Baking activities e.g. gingerbread people, mince pies. changing properties	Experience, observe, talk about and record the weather Baking-changing prop Dark nights - link to festivals. Light and dark Experience, observe, talk about and record the weather.	Continue to experience, observe, talk about and record the weather. Through the Dinosaur project begin to name, label and classify dinosaurs/animals ,	pots, compost, watering cans and a variety of plant seeds. Look at the pictures of the plants and talk about their names and the colours of the flowers. Invite the children to talk about what plants need to grow and survive. Read the instructions on the seed packets with the children and follow them to sow the seeds. Talk about the best places to leave the plant pots so that the seeds have what they need to grow Seasonal Change – Spring	Ice marbles - Change over time Rainy day clothes What is a reflection? Does your reflection move? What happens when you move closer to the mirror? What happens when you move further away from the mirror? What else can you see in the mirror? How can you make a shadow?	Floating and sinking

					Can you make your shadow change shape? Can you run away from your shadow	
Key Vocabulary	Garden, glass, garage ,house, material, plastic roofer, metal, roof tower, construction design, door, site window, wood, wall , carpenter, architect brick, bridge, bricklayer ,build, strong, sturdy, weak, changes	Season, Autumn, Christmas, light, dark, lantern, winter, candle, weather	Extinct, Fossil, herbivore, Carnivore, crocodile dinosaur, diplodocus insect, bird, palaeontologist reptile, prehistoric, shark stegosaurus triceratops, turtle tyrannosaurus, velociraptor palaeontologist	orange purple rain rainbow blue cloud green hail red season sleet snow spring sun wind yellow	Antennae,bumblebee chrysalis, insect ladybird, leg, life cycle,butterfly caterpillar, Egg, minibeast hotel Log, plant ,rock shell, Snail,spider, web wing, beak, bird egg Feathers, habitat, herbivore, mammal, Camouflage, carnivore,	Beach, gills, ocean starfish, tail habitat, crab, rock pool ,fin, litter, sea fish, low, tide seashore, Cold, drink, freeze ice, lake, container Earth, float, liquid, melt, pour, river, sea, sink, warm ,water, solid

					Reptile, omnivore scaly	
Working Scientifically	Showing curiosity about objects, events and people. Using senses to explore the world around them. Showing particular interests Seeking challenge Taking a risk, engaging in new experiences and learning by trial and error.					
Child Initiated Learning and adult supported Links to EYFS (Enabling environments)	Show and explain the concepts of growth, change and decay with natural materials. Suggestions: • plant seeds and bulbs so children observe growth and decay over time • observe an apple core going brown and mouldy over time • help children to care for animals and take part in first-hand scientific explorations of an-imal life cycles, such as caterpillars or chick eggs. Plan and introduce new vocabulary related to the exploration. Encourage children to use it in their dis-cussions, as they care for living things. Encourage children to refer to books, wall displays and online resources. This will support their investigations and extend their knowledge and ways of thinking Draw children's attention to forces. Suggestions: how the water pushes up when they try to push a plastic boat under it, how they can stretch elastic, snap a twig, but cannot bend a metal rod.Plan and introduce new vocabulary related to the exploration and encourage children to use it. Provide children with opportunities to change materials from one state to another. Suggestions: cooking – combining different ingredients, and then cooling or heating (cooking) them melting – leave ice cubes out in the sun, see what happens when you shake salt onto them (children should not touch to avoid danger of frostbite) Explore how different materials sink and float. Explore how you can shine light through some materials, but not others. Investigate shadows. Plan and introduce new vocabulary related to the exploration and encourage children to use it.					
Child Initiated Learning	Animals including humans - role play doctors, dentists, vets, family visits, stories, dolls, Living things and their habitats - exploring outside, birds, minibeasts, planting and growing and observing new growth and dying					

Opportunities Links to N/C Science themes (examples)	Materials - creative play with a variety of materials, shaving foam, play dough, mixing paint, messy play, cooking, water play, sand wet and dry. Plants - planting and growing and observing new growth and dying Forces - bats, balls, ride on equipment, climbing and swinging equipment, magnets, train sets, wind up toys, water wheels, toy vehicles, ramps, marble runs, wheels on construction kits, paper aeroplanes Light - torches and dark dens, shadow play, play with mirrored and shiny objects Electricity - Use of battery operated equipment and mains ICT Seasons - Outside in all weathers, regular walks across the year Rocks and soils - sand pit, mud kitchen, digging and planting Sound - musical instruments, manufactured and created, listening games Earth in space - Exploring shadows outside Environment- stories, animal preservation, dinosaur topic, seasonal change
Progress in science enquiry for assessment	Questions and enquiry Making predictions Fair testing Observation and measurement Analysing evidence Interpreting evidence Presenting evidence/ results
Wider Texts	

Foundation 2

Foundation 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic for the half term	**Me and My Community** (PSED) 	**Exploring Autumn** (UofW) 	**Winter Wonderland** (UofW) 	**Starry Night** (UofW)  **Signs of Spring** (UofW) 	**Sunshine and Sunflowers** (UofW) 	**Big Wide World** (UofW) 

Link to Development Matters	Looking at their own immediate environment. Explore the natural world around them. -Describe what they see, hear and feel whilst outside. -Recognise some environments that are different from the one in which they live.	-Understand the effect of changing seasons on the natural world around them. -Explore the natural world around them. -Describe what they see, hear and feel whilst outside. -Recognise some environments that are different from the one in which they live. Harvest and autumn foods Investigate floating and sinking	-Understand the effect of changing seasons on the natural world around them. -Explore the natural world around them. -Describe what they see, hear and feel whilst outside.	Nocturnal animals and night sky -Handle and describe materials. -Test and sort materials. -Explore the natural world around them. Learn where food comes from -Look at animals that live on the farm -Learn about growing plants and crops -Name animal body parts -Look closely at similarities, differences, patterns and change. Weather	-Understand the effect of changing seasons on the natural world around them. -Explore the natural world around them. -Describe what they see, hear and feel whilst outside. -Learn about growing plants	-Find out about types of transport and how things move Recognise some environments that are different from the one in which they live. Different types of transport Weather and climate

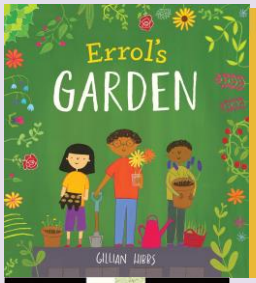
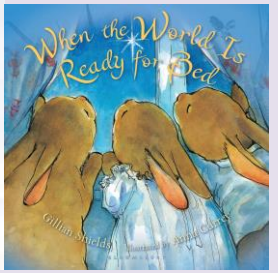
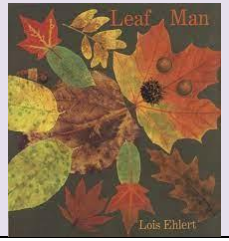
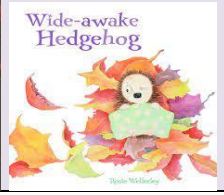
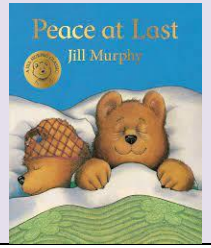
Key Knowledge, key questions and people	Explore the school grounds and the natural environment. First hand exploration of indoor and outdoor environments. Use block play and outdoor construction kits to explore the properties of materials. Explore different types of paper, card, boxes, tapes etc to find out about the properties of materials.	Autumn is a season. Autumn is the time of year when leaves change colour and fall from the trees. There are four seasons. They are spring, summer, autumn and winter. Some animals collect food ready for winter. Squirrels collect nuts, such as acorns, which they bury underground until they need them. In autumn the weather starts to get colder and the days get shorter.	There are four seasons. They are spring, summer, autumn and winter. Winter is one of the seasons. In winter, the days are short and the nights are long. The weather can be very cold in winter and water in puddles and ponds can freeze into ice. Sometimes it snows in winter. Lots of trees have no leaves in winter and not many plants can grow.	At night time it is dark. Most people sleep at night time. It is important to get a good night's sleep every night. Some people work at night, like members of the emergency services. Some animals sleep in the day and are awake at night. They are known as nocturnal animals. Bats, owls, foxes and badgers are nocturnal animals. We live on a planet called Earth. It gets dark at night	A plant is a living thing. A sunflower is a type of plant. Plants need air, sunlight, warmth, water and nutrients from soil to grow. Parts of a plant include the roots, stem, leaves, flowers and petals. An animal is a living thing. A butterfly is an animal. It is a type of insect. Insects have six legs, two antennae and a hard outer shell. Some insects have wings.	We live on a planet called Earth. A 3-D model of Earth is called a globe. The land on Earth is surrounded by seas and oceans. Maps show a 2-D image of land, seas and oceans. We can travel between places on Earth by using vehicles, such as cars, buses, trains, boats and aeroplanes. On Earth, the climate and weather changes depending on location. Some places are very

	Continue to explore sand, water, and understand their properties	Some animals, like hedgehogs, get ready to hibernate. This means they will sleep through the cold winter.	Some places are cold and snowy all year round like the Arctic and the Antarctic.	because our part of Earth is facing away from the Sun. There are four seasons. They are spring, summer, autumn and winter. Spring is a time when many baby animals are born, such as ducklings and lambs. Trees start to grow leaves in spring. Some trees grow blossom or catkins. Frogs lay frogspawn in ponds. Tadpoles hatch out of the frogspawn and grow into frogs.	In summer, on hot, sunny days, it is important to wear sun cream, sun hats, sunglasses and drink plenty of water.	cold, some are very hot and some are wet or dry. A habitat is the place where an animal or plant lives. Every habitat has a different group of animals or plants that live there. Habitats include oceans, mountains, forests, savannahs, woodlands, rivers and deserts

				Easter is a springtime festival that is celebrated by Christians. Holi is a springtime festival celebrated by Hindus. It is known as the 'festival of colours'.		
Key Vocabulary	Paper, card, metal, wood, glass, plastic, strong, tear, rip, fragile, leaf, trees, insects, habitats.	Season, weather, autumn, float, sink, acorns, autumn conkers, fox, harvest, hedgehog pine cones pumpkins hibernate leaves woodland	Antarctic Arctic freeze frost ice season icicle night plant snow tree weather winter	Earth emergency services fox light Moon badger bat bedtime dark daytime night time nocturnal owl planet sleep stars sun	air animal flower insect leaf leg petal plant root shell soil stem sun cream sunflower sunglasses sun hat sunlight water warmth wing	aeroplane boat desert animal bus land car Earth forest globe habitat map mountain ocean river plant savannah sea train

		squirrel wild animal season spider, vegetables				weather travel woodland
Working Scientifically	Showing curiosity about objects, events and people. Using senses to explore the world around them. Showing particular interests Seeking challenge Taking a risk, engaging in new experiences and learning by trial and error.					
Child Initiated Learning and adult supported Links to EYFS (Enabling environments)	Provide children with frequent opportunities for outdoor play and exploration. Encourage interactions with the outdoors to foster curiosity and give children freedom to touch, smell and hear the natural world around them during hands-on experiences. Create opportunities to discuss how we care for the natural world around us. Offer opportunities to sing songs and join in with rhymes and poems about the natural world. After close observation, draw pictures of the natural world, including animals and plants. Observe and interact with natural processes, such as ice melting, a sound causing a vibration, light travelling through transparent material, an object casting a shadow. Encourage focused observation of the natural world. Listen to children describing and commenting on things they have seen whilst outside, including plants and animals. Encourage positive interaction with the outside world, offering children a chance to take supported risks, appropriate to themselves and the environment within which they are in. Name and describe some plants and animals children are likely to see, encouraging children to recognise familiar plants and animals whilst outside Guide children's understanding by drawing children's attention to the weather and seasonal features. Provide opportunities for children to note and record the weather.					

	Select texts to share with the children about the changing seasons. Throughout the year, take children outside to observe the natural world and encourage children to observe how animals behave differently as the seasons change. Look for children incorporating their understanding of the seasons and weather in their play.
Child Initiated Learning Opportunities Links to N/C Science themes (examples)	Animals including humans - role play doctors, dentists, vets, family visits, stories, dolls, Living things and their habitats - exploring outside, birds, minibeasts caterpillars, planting and growing and observing new growth and dying Materials - creative play with a variety of materials, shaving foam, play dough, mixing paint, messy play, cooking, water play Plants - planting and growing and observing new growth and dying Forces - bats, balls, ride on equipment, climbing and swinging equipment, magnets, train sets, wind up toys, water wheels, toy vehicles, ramps, marble runs, wheels on construction kits, paper aeroplanes Light - torches and dark dens, Electricity - Use of battery operated equipment and mains ICT Seasons - Outside in all weathers, regular walks across the year Rocks and soils - sand pit, mud kitchen, digging and planting Sound - musical instruments, manufactured and created, listening games Earth in space - Planets, the moon and stars Environment- stories, animal preservation, seasonal change
Progress in science enquiry for assessment	Questions and enquiry Making predictions Fair testing Observation and measurement Analysing evidence Interpreting evidence Presenting evidence/ results

Wider Texts	 Errol's GARDEN GILLIAN HIBBS  David  WELCOME to our WORLD  One Winter's Day  All About Animals In Winter  When the World Is Ready for Bed  THE DARK BY LEMONY SNICKET ILLUSTRATED BY JON KLASSEN  Leaf Man Lois Ehlert  Wide-awake Hedgehog  Peace at Last Jill Murphy

KS1

YEAR 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Project for the half term	**Childhood** (History)  **Funny Faces & Fabulous Features** (Art & Design) 	**Animal Parts** (Science)  **Paws, claws and whiskers** (Art & Design) 	**School Days** (History & Geography)  **Street View** (Art & Design) 	**Bright, Lights, Big City** (Geography)  **Taxi** (D&T)  **Seasonal Change** (Science & Geography)	**The Enchanted Woodland** (Science)  **Are all leaves the same?** (Science) 	**Moon Zoom!** (History)  **Everyday Materials** (Science)  **What keeps us dry?** (Science) 

			Seasonal Change (Science & Geography) 		**How do leaves change?** (Science)  **Do pinecones know it is raining?** (Science) 	
Link to the National Curriculum	-identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	-identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	-observe changes across the 4 seasons -observe and describe weather associated with the seasons and how day length varies		identify and name a variety of common wild and garden plants,	-Distinguish between an object and the material from which it is made

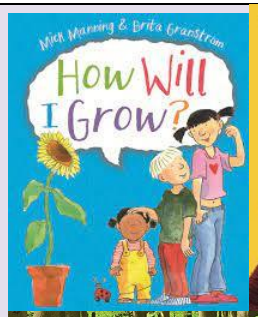
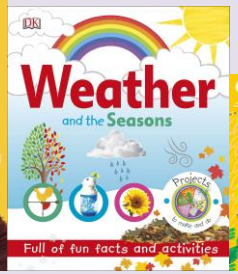
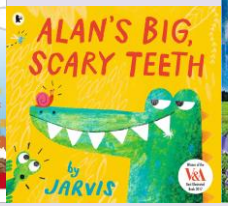
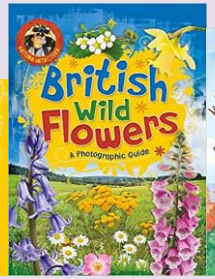
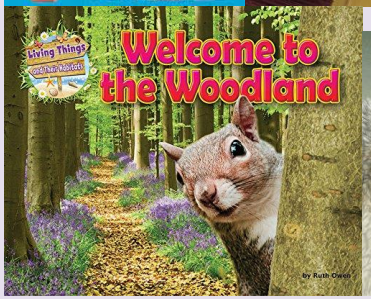
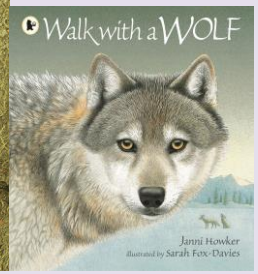
		-identify and name a variety of common animals that are carnivores, herbivores and omnivores -describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets		including deciduous and evergreen trees -identify and describe the basic structure of a variety of common flowering plants, including trees	-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 -compare and group together a variety of everyday materials on the basis of their simple physical properties
Key Knowledge, key questions and people	Humans have key parts in common with other animals, but these vary from person to person. Humans (and other animals) find out about the	Animals vary in many ways having different structures e.g. wings, tails, ears etc. They also have different skin	In the UK, the day length is longest at mid-summer (about 16 hours) and gets shorter each day until mid-winter (about 8 hours)	Growing locally, there will be a vast array of plants which	All objects are made of one or more materials. Some objects can be made from different materials e.g. plastic, metal or wooden

	world using their senses. Humans have five senses – sight, touch, taste, hearing and smelling. These senses are linked to particular parts of the body.	coverings e.g. scales, feathers, hair. These key features can be used to identify them. Animals eat certain things - some eat other animals, some eat plants, some eat both plants and animals.	before getting longer again. The weather also changes with the seasons. In the UK, it is usually colder and rainier in winter, and hotter and dryer in the summer. The change in weather causes many other changes. Some examples are: numbers of minibeasts found outside; seed and plant growth; leaves on trees; and type of clothes worn by people.	all have specific names. These can be identified by looking at the key characteristics of the plant. Plants have common parts, but they vary between the different types of plants. Some trees keep their leaves all year while other trees drop their leaves during autumn and grow them	spoons. Materials can be described by their properties e.g. shiny, stretchy, rough etc. Some materials e.g. plastic can be in different forms with very different properties.

				again during spring.	
Key Vocabulary	Head, body, eyes, ears, mouth, teeth, leg, hand, fingers, mouth, nail, arm, elbow, wrist, knee, foot, toe, waist, chest, torso, pupil, iris, eyeball, palm, thigh, calf, shin, ankle, heel, lungs, ribs, bones, skeleton. Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue	Fish, amphibian, reptile ,bird, mammal Habitat, herbivore, omnivore,domestic, habitat, predador, prey, wild, Deciduous evergreen, season, head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, names of animals experienced first-hand from each vertebrate group, parts of the body including those within the school's RSE policy, senses, touch, see, smell, taste, hear, fingers, skin, eyes, nose, ear, tongue	weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length, deciduous, evergreen, temperature, precipitation, forecast, hibernate, migrate, hemisphere, volume	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, amphibian, bark, bird, mammal, invertebrate, reptile, predator, prey, carnivore, herbivore, omnivore, evergreen, deciduous , oak, holly	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through

				hawthorn, birch, elder, rowan , ash, horse chestnut , yew, sycamore, beech, lime	
National Curriculum Working Scientifically	Statutory Requirements Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests. Identifying and classifying. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions.		Pupils in years 1 and 2 should explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships. They should ask people questions and use simple secondary sources to find answers. They should use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language. These opportunities for working scientifically should be provided across years 1 and 2 so that the expectations in the programme of study can be met by the end		

		of year 2. Pupils are not expected to cover each aspect for every area of study.

Wider Texts	 Mick Manning & Brita Granström How Will I Grow?  Rachel Bright Jim Field THE LION INSIDE  DK Weather and the Seasons Projects Full of fun facts and activities  ALAN'S BIG, SCARY TEETH by JARVIS  British Wild Flowers A Photographic Guide  A STROLL THROUGH THE SEASONS written by Kay Barnham illustrated by Maddie Frost  Living Things and their Habitats Welcome to the Woodland  Walk with a WOLF Janni Howker illustrated by Sarah Fox-Davies

YEAR 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Project for the half term	**Wriggle and Crawl** (Science)  **Where do snails live?** (Science) 	**Movers and Shakers** (History)  **Still Life** (Art) 	**Let's Explore the World** (Geography)  **How do germs spread?** (Science) 	**The Scented Garden** (Science) 	**Magnificent Monarchs** (History)  **Portraits & Poses** (Art & Design)  **Uses of Materials** (Science)  **Cut, Stitch, Join** (D & T)	**Coastline** (Geography)  **Will it degrade?** (Science)  **Beach Hut** (D&T) 

					 **Push and Pull** (D&T)	
Link to the National Curriculum	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) -describe the importance for humans of exercise,		How do germs spread? Use their observations and ideas to suggest answers to questions. Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	-observe and describe how seeds and bulbs grow into mature plants -find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	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	Use their observations and ideas to suggest answers to questions. Gather and record data to help in answering questions. Explore and compare the differences between things that are living, dead, and things that have never been alive.

	eating the right amounts of different types of food, and hygiene 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,		Identify and classify. Know the risks associated with an inactive lifestyle (including obesity). Know what constitutes a healthy diet (including understanding calories and other nutritional content). Know the characteristics of a poor diet and risks associated with unhealthy eating (including, for example, obesity and tooth decay) and other behaviours (e.g. the		be changed by squashing, bending, twisting and stretching	Identify and classify.

	and how they depend on each other -identify and name a variety of plants and animals in their habitats, including microhabitats -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		impact of alcohol on diet or health). Know the importance of sufficient good quality sleep for good health and that a lack of sleep can affect weight, mood and ability to learn. Know about dental health and the benefits of good oral hygiene and dental flossing, including regular check ups at the dentist. Know about personal hygiene and germs			

			including bacteria, viruses, how they are spread and treated, and the importance of handwashing.			
Key Knowledge, key questions and people	A Minibeast or invertebrate is a small creature. There are thousands of different minibeasts in the United Kingdom. These include ladybirds, snails, spiders and woodlice. A habitat is a place where plants and animals live. Habitats must have everything the		How do germs spread? The word 'germ' is a general term used to mean any microorganism that can cause illness in humans. Scientifically, germs that cause disease include viruses, bacteria and certain types of fungi.	A plant is a living thing. Plants are useful because they give us oxygen to breathe and food to eat. There are many different plants found all over the United Kingdom. A plant has several different parts; the main parts are called the roots, stem, leaves and flower. Each part	Materials are made from. There are many different materials such as baked clay, fabric, glass, metal, paper, plastic, rock or wood. A property is a quality that a material has. Properties include: absorbent, not absorbent, opaque ,transparent, bendy, not bendy, rough,	Earth's seas and oceans are routinely used as a large rubbish bin. Plastics are the most common pollutant and marine animals often eat debris that causes great harm or kills them. Winds, tides and currents push a lot of the world's plastic rubbish into great

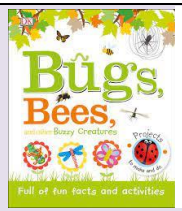
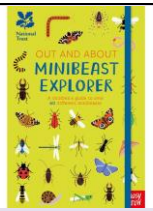
	plants and animals need to survive including water, air food and shelter. Animals are adapted to survive in the habitat in which they live. Some minibeasts live in micro habitats. A microhabitat is a small habitat. Under a log or stone could be a microhabitat. Minibeasts can be identified and grouped by their features such as colour, shape and the number of legs they have in all their body parts.		We find germs on almost every surface we come into contact with, which makes it incredibly common for our bodies to be exposed. Germs are passed directly from person to person or indirectly by touching dirty equipment or surfaces. We can reduce the spread of germs by washing our hands with soap and hot water. Soap removes the natural oils from	has a job to keep the plant healthy. roots taking water from the soil. The stem supports the plant and also transports water to the leaves and flowers. leaves make food for the plant. flowers produce seeds to make new plants. A plant grows from a seed or bulb. seeds and bulbs need nutrients from soil water and warmth to germinate. plants need water, light and a suitable temperature to grow and stay healthy.	smooth, hard, soft, stretchy, not stretchy, strong, not strong, waterproof, not waterproof. Objects are made from materials with suitable properties. Materials can be shaped by bending, stretching, twisting and squashing. Recycling makes less waste and uses fewer of the Earth's natural resources. There are three ways we can save the Earth's natural resources. Reduce the number of	accumulations in the sea. The Great Pacific Garbage Patch is a floating mass of mostly plastic debris thought to be as large as the United States. The action of an ocean's waves and salinity of the water means many materials break up very quickly into confetti-like pieces that float just under the surface.

	Food chains show how animals get energy from food. Plants get energy from sunlight. Animals get energy from eating plants. A food chain always starts with a producer such as a plant and ends with the Predators, such as a fox. Minibeasts use different ways to protect and defend themselves from predators that one sees. They may use camouflage mimicry warning colours or play Dead to trick Predators. Some minibeasts use		our hands, which the germs stick to.	Taking care of the environment can help plants to grow. removing l and weeds will give plants more space and make the area look tidier. Compost can be added to improve the soil and new seeds or bulbs can be planted. Plants that can be used in cooking, medicines and perfumes. They can be used straight from the plant or can be dried. herbs come from the leafy part of the plant and spices come from the	objects we buy and the amount of packaging we use. Reuse items like carrier bags and envelopes. Recycle as much waste as possible. An absorbent material easily soaks up liquid. An opaque material stops light from travelling through it, so you cannot see through it. A transparent material allows you to see through it. A waterproof material does not	

	stings bites or sprays to protect themselves. Honey bees are insects. They are important because they collect pollen and carry it from flower to flower. This helps plants to make seeds so new plants will grow. honey bees also collect nectar from flowers and use it to make honey.			roots common seeds, flowers, berries, bark and stem. some plants can be harmful if they are touched or eaten. they can cause problems with the skin karma sickness or even death. it is best to stay away from these type of plants.	let water pass through it.	
Key Vocabulary	Antennae, camouflage, food chain, habitat, honey, identify, life-cycle, micro-habitat, mimicry, pollen, predator, warning colours, playing dead		Clean, dirty, germ, illness, soap, wash.	light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling Common plant names (daffodil,	wood, metal, plastic, glass, brick, rock, paper, cardboard opaque, transparent and translucent, reflective, nonreflective, flexible, rigid,	degrade environment material pollution seawater

	offspring, reproduction, growth, baby, toddler, child, teenager, adult, old person, survive, survival, water food, air, exercise, heartbeat, breathing, hygiene, germs, disease, food types (e.g. meat, fish, vegetables, bread, rice, pasta, dairy)			bluebell); common harmful plant names (e.g. nettle); flowers; findings; table; seeds; bulb; germinate; compost; nutrients; sunlight; watering; soil; warmth; sweet pea (Lathyrus); Sunflower (Helianthus); senses; garden herbs; sense of smell: scent; aromatic; peppery; spicy; deaf; blind; loss of taste; flower head; plant; identify; classify; petal; bud; leaf; bulb; root; stem; transport; stalk; seed; shoot; germinate; root; nutrient; predict;	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through, Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching	alive dead

				Barrell; Strawberry and Hedgehog.		
National Curriculum Working Scientifically	<u>Statutory Requirements</u> Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests. Identifying and classifying. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions.			Pupils in years 1 and 2 should explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships. They should ask people questions and use simple secondary sources to find answers. They should use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language. These opportunities for working scientifically should be provided across years 1 and 2 so that the expectations in the programme of study can be met by the end of year 2. Pupils are not expected to cover each aspect for every area of study.		
Wider Texts						


Bugs, Bees,
Busy Creatures
Full of fun facts and activities

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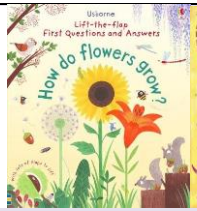
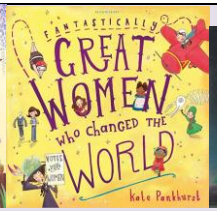
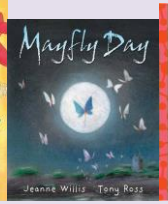
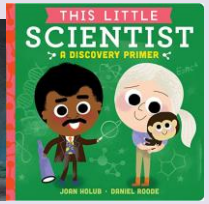
EXPLORER

Usborne
Lift-the-Flap
First Questions and Answers
How do flowers grow?

FANTASTICALLY
GREAT
WOMEN
who changed the
WORLD
Kate Pankhurst

Mayfly Day
Jeanne Willis
Tony Ross

THIS LITTLE
SCIENTIST
A DISCOVERY PRIMER
JOAN HOLUB · DANIEL ROODE

Science Lesson Structure

Long Term Memory (Retrieval)

Review and revisit previous knowledge-make links to knowledge from previous lesson, unit, term and year.

Amend future planning to incorporate and gaps in knowledge.

Introduce new knowledge

Teacher introduces vocabulary and new knowledge in small steps to the children making links to prior learning.

Teachers will provide modelling, explanations and practice to the children.

Developing the Knowledge

Teachers will ask questions and use strategies to check for pupil understanding and to identify the next steps in the lesson.

Review-has learning been successful?

Teachers and children will review the learning that has taken place. Misconceptions addressed and feedback given.

Applying the Knowledge

New knowledge is sometimes deepened by applying knowledge to complete practice tasks. Tasks are carefully planned to ensure that they are purposeful and support the application of new knowledge.