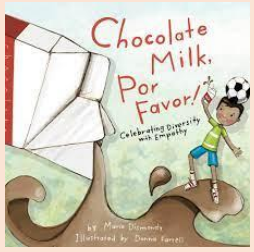
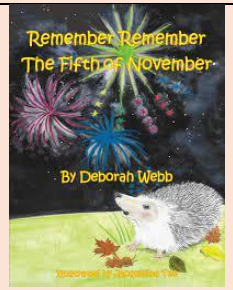
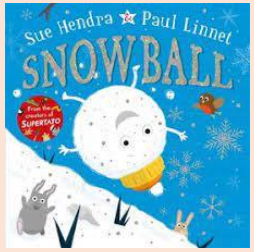
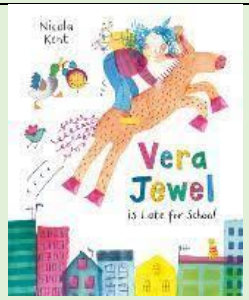
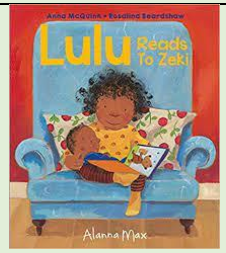
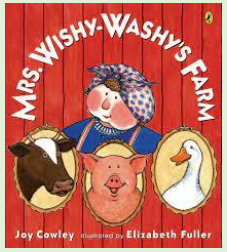
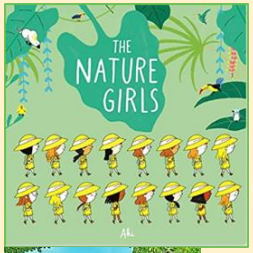
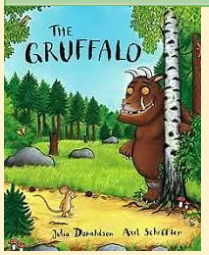
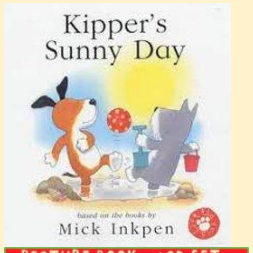
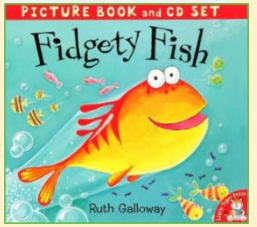
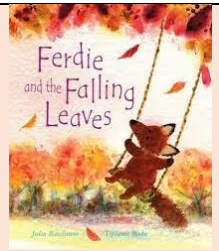
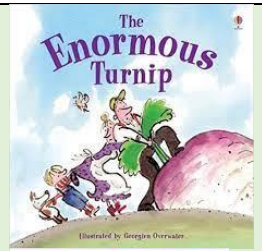
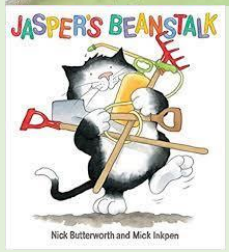
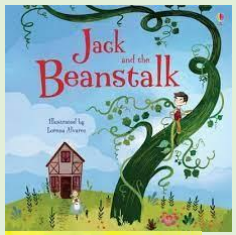
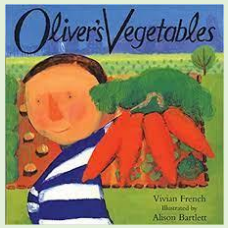
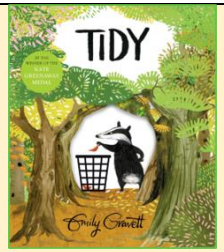
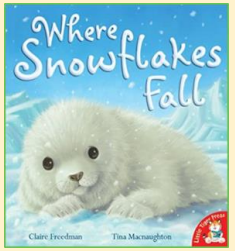
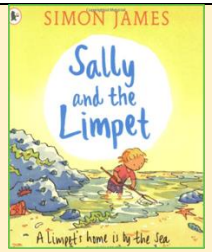
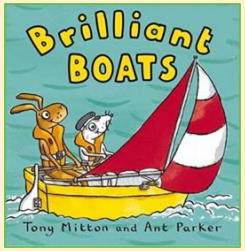
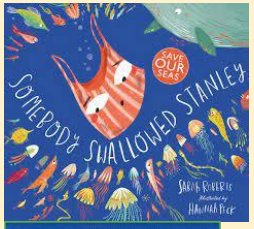
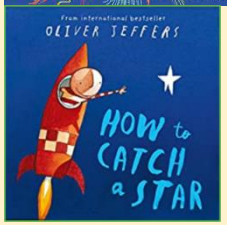
EYFS Curriculum Coverage of Science (Understanding the World – The Natural World)

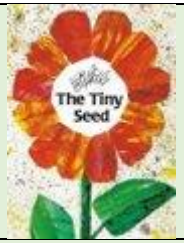
What an EYFS scientist needs to understand;	**Understanding the world** involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension
• That observing, predicting, thinking critically, being curious and discussing is vital in making sense of the scientific world around us • That asking simple questions is crucial to exploring the world around us and helps us to explain how and why things happen • Learning by trial and error is an important process when working scientifically • That their senses helps them to explore the world around them	

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Expectations for a child of a good level of development and to meet this ELG	• I can ask questions about aspects of my familiar world such as the place where I live or the natural world.		• I can talk about why things happen and how things work. • I can start to develop an understanding of growth, decay and changes over time. • I can show care and concern for living things and the environment • I can explore the natural world around me. • Describe what they see, hear and feel whilst outside. • Recognise some environments that are different to the one in which they live. • Understand the effect of changing seasons on the natural world around them.		**The Natural World ELG** 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.	
Topic	**All About Me** 	**Celebrations** 	**People Who Help Us** 	**Growing** 	**Habitats** 	**Under the Sea** 
Big ideas/Key Questions	What makes me different to others? How am I the same/different to others? What changes happen outside in autumn?	What changes happen outside in winter? How do fireworks work? What do you see, hear and smell on bonfire night? What happens to our bodies in hot/cold weather?	**Construct a vehicle** What does it do? How does it work? What will happen? How could you find out? How could it be even better? I wonder what would happen if.....?	What things grow and what is a life cycle? What do they need to grow? How does a human/animal/plant change over time? Can you name some of the parts of a plant?	What is a habitat and what makes a good habitat? Can you name some different types of habitats? What animals live in them? What are the different parts of the rainforest? How have polar animals adapted to survive their habitat?	What is the seaside like and what animals live in the sea? What changes happen outside in summer? How can we predict if something will float or sink? I wonder what would happen if.....?

				What food are healthy/non healthy? What else do our bodies need to stay fit and healthy? What is the difference between a fruit and a vegetable? What changes happen outside in spring?	What is climate change? What are some of the causes of climate change? What impact has it had? What can we do about climate change? How are these materials the same/different? (sorting)	What happens to the boat on the water? Why are our oceans becoming polluted? What is the impact of our oceans becoming polluted? What can we do about ocean pollution? What is a solar system?
Curriculum content	Understand what makes my family unique (thinking about the height of family members and other features such as hair and eye colour). Identify what makes them unique and the key features of their own appearance. Compare appearance with others (same/different). Explain the changes that happen in autumn. Why do these changes happen? **Animals incl. Humans (biology)** Animals and plants are alive. Label some common parts of the human face and body. **Seasonal changes (biology/physics)** There are four seasons: spring, summer, autumn and winter. Certain changes happen in the environment in different seasons.	Understand how fireworks work (ignite, propel, explode). Use senses to describe the sights, smells and sounds of bonfire night. Understand the difference between hot and cold – ice cube experiment. Understand how humans react differently to hot and cold (how weather affects our bodies). Name things that you can see outside in winter. **Seasonal changes (biology/physics)** There are four seasons: spring, summer, autumn and winter. Certain changes happen in the environment in different seasons.	Explain how something (vehicle) works (become an engineer – design, test, improve, explain). Build a bridge (become an engineer, build a bridge and test it). Think about what bridges are used for and the materials they are made from.	Understand that humans grow and change over time and what they need to do this (compare a photo of when we were a baby to now and think how our abilities have changed. Sequence a life cycle of a human – how our abilities change and develop as we grow. Know the names of the offspring of farm animals and know what they need to grow (food, water, shelter). Sequence the life cycle of an animal. Understand what plants need to grow and sequence the stages of a plant growing (life cycle). Look closely at a flower and identify the different parts. Explain the changes that happen in spring. Why do these changes happen? Identify foods that are healthy and non-healthy and learn about different food groups.	To understand what a habitat is and what makes a good one. Identify different habitats and begin to understand why different animals live in different habitats. Match animals to different habitats. Identify animals that live in a woodland habitat. Identify what habitats minibeast like and think about what materials should be used to construct a bug hotel. Identify different parts of the rainforest and the animals that live there. Identify different parts of a polar habitat and the animals that live there. Identify how polar animals have adapted to survive the polar habitat. Understand the impact of cutting down trees on the rainforest (impact of climate change and what is happening to our planet).	To identify the changes that happen in summer. Why do these changes happen? How do we look after our bodies in the summertime? Identify some creatures that live under the sea. Explore what features they must have to survive in the underwater habitat. Name what they might see at the beach and identify the animals that live there. Understand what floating and sinking is. Predict what will float and sink and experiment to find out whether they float or sink. Understand why our oceans are becoming polluted, some of the effects and understand what steps a can be taken to combat polluting the ocean. Understand some features of our solar system and have an introduction to planets. **Forces & magnets (physics)** Making observations about if objects float or sink in water

				Learn about different fruits and vegetables and the difference between them. Create a healthy dish – the importance of fruit and vegetables in our diet and what else our bodies need to stay fit and healthy. **Animals incl. Humans (living things & their habitats)** Animals and plants are alive and change as they grow. **Green plants (biology)** Plants are alive and change. They need water and soil to grow **Seasonal changes (biology/physics)** There are four seasons: spring, summer, autumn and winter. Certain changes happen in the environment in different seasons.	Understand the impact of global warming on the polar habitat. Understand what they can do about climate change (explore causes and changes that can be made). **Animals incl. Humans (living things & their habitats)** Animals and plants are alive and change as they grow. They live in different habitats.	**Seasonal changes (biology/physics)** There are four seasons: spring, summer, autumn and winter. Certain changes happen in the environment in different seasons.
Story text linked to learning	 	 		 	 	 

						
National Curriculum content that this learning prepares the children for	Label and describe the basic structure of a variety of common animals. Different animal groups have some common body parts, such as eyes and a mouth, and some different body parts, such as fins or wings (Y1) The UK has typical weather in each of the seasons. For example, winter is cold and sometimes frosty, whereas summer is warm and sometimes sunny. There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons (Y1)	The UK has typical weather in each of the seasons. For example, winter is cold and sometimes frosty, whereas summer is warm and sometimes sunny. There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons (Y1) Observe what happens when a range of everyday materials, including foods, are heated and cooled (Y2) Describe the water cycle using words or diagrams and explain the part played by evaporation and condensation (Y4)	Using their observations and ideas to suggest answers to questions (WS KS1) Perform simple tests (WS KS1) Observe closely, using simple equipment (WS KS1)	Living things need to be cared for in order for them to survive. They need water, food, warmth and shelter (Y1)	Describe a range of local habitats and habitats beyond their locality (Y1)	
Other possible learning opportunities / classroom environment	Mirrors Portrait drawing Forest school – nature portraits All About Me books in Cosy Corner Topic books	Watch a bonfire display Make fireworks Senses investigation trays (smell, taste, touch) Sounds CD Winter walk Winter investigation tray Pack a suitcase for hot/cold weather	Role play (engineers) Construction/building materials	Planting – beans/seeds (watch them grow) Construct a beanstalk Fruits, vegetables, flowers in investigation tray (dissect/draw) Seeds (fine motor activity with tweezers) Garden center role play	Small world animals (different habitats) Create a habitat for a teddy/animal – what would they need? Animal tracks in different habitats. Construct a minibeast	Summer walk Summer investigation tray Build a summer flower Water tray – sea animals Create an ocean habitat Build an underwater cave Create a sea creature Pack a bag for the beach Make sunglasses

	Story books representing different ethnicities and cultures Autumn walk Autumn investigation tray	Topic books		Topic books Photos of themselves/family to see how they have changed over time. Spring walk Spring investigation tray Spring collage Small world animals with offspring Farm Role play – taking care of a baby	Make a bug hotel Forest schools – minibeast hunt Create a rainforest in a jar Igloo building Animal/habitat painting Melting ice cubes Create snowflake Recycling Create a poster to promote saving our planet Materials - sorting	Construct a boat (float/sink) Plastic bag jelly fish Playdough rubbish collecting Build rockets
Powerful knowledge *(the knowledge listed to the right is that which will support pupils to answer the key questions identified. Often we would want them to recall this knowledge in response to scaffolded questions or stimuli, we are not always expecting cold/generative recall)*	Our body has lots of different body parts for doing different things with; head, teeth, tongue, shoulders, arms, elbows, legs, ankle, knee, toes. We have five senses. They are; • Sight – using our eyes • Smell – using our nose • Touch – Using out fingers (and other parts of body) • Taste – Using our tongue • Hearing – Using our ears We must brush our teeth twice a day to clean off any old food, especially sugar, as this damages our teeth. During autumn time, the leaves on some trees start to die. They change colour and fall off. The weather is starting to get colder. Animals that hibernate prepare their nest ready for winter. Animals hibernate during winter. They go to sleep in a safe place to keep away from the cold. Some animals store food so that they have it in their winter den. That way they do not go hungry.	Fireworks are ignited, propelled into the sky and then explode. Some of the senses are: We have five senses. They are; • Sight – using our eyes • Smell – using our nose • Touch – Using out fingers (and other parts of body) • Taste – Using our tongue • Hearing – Using our ears We can use our senses to describe an event (Bonfire Night). Water freezes to ice when it gets very cold. Ice melts to water when it gets warm. We need to protect our bodies in sunny hot weather (sun cream, hats, sunglasses, water). We need to protect our bodies from cold weather (coat, hat, scarf, gloves). Winter is the coldest season of the year. During wintertime, the branches of some trees are bare. The weather is colder, and days are shorter. Some animals hibernate.	To check if my design works, I can test it. My design models can be modified to be improved. There are different types of bridges that are made from different materials to suit their use.	Our body needs food, water and shelter to survive. We are living things. Plants need water, sunlight and food to grow well. Parts of a plant include; the stem, the petal, the leaves, the roots. Some plants grow from a seed or a bulb. Some food we eat grows on trees or bushes. Some grow underground in the soil and some grow on top of the soil. Some plants can only grow in other countries e.g., a banana tree grows in hot countries. Fruits have seeds in them, vegetables do not. Bees are important for our plants. They help them to spread pollen which they flower needs to grow. A lifecycle is the stages an animal or plant goes through during its life. All plants and animals go through life cycles. In spring, the weather usually starts to turn warmer. Trees begin to	Animals need food, water and shelter to survive. A habitat is the place where an animal lives. Within a habitat, it provides it with food, water and shelter. A woodland has lots of small habitats in it such as under a log, in a tree, under the ground. A woodland is an area of land that has lots of trees. A mini-beast is a small animal. Mini beasts include worms, snails and spiders. Some species of animals live in more than one area e.g., Snake lives in the desert and the rainforest. Some animals have changed to help them live in different places. Polar bear – Blubber, camouflage, black skin under their fur. By recycling and using less fuel (electricity – turn off lights, petrol – walk/cycle instead of using the car) they can do their bit to save the planet.	Summer is the hottest season of the year. The days become long, Lots of trees and plants produce fruit during summer Some materials float and some materials sink. Float – It lies on the top of the water. Sink – It goes to the bottom of the container. A sea has lots of small habitats e.g., coral, under the sand, under rocks. A fish is an animal which lives and breathes in the water. Fish breathe air through their gills. They have fins and scales. Pollution is when something is added to the environment that is harmful or poisonous to living things, e.g., people and animals. Our planet is called Earth and it is made of land and water. The moon is made of rock. The sun is a giant star. There are lots of different planets.

				grow their leaves; plants start to grow their buds and young animals such as chick and lambs are born. Stages of human growth; baby, toddler, child, teenager, adult, elderly. Exercise is important for us. It helps to keep us fit and keeps different parts of our body healthy. When we exercise, our heart beats faster to pump more blood around our body. We must brush our teeth twice a day to clean off any old food, especially sugar, as this damages our teeth. Eating healthy food is important for our bodies. Too much unhealthy food can be bad for our body. Eating a variety of food is important. • Healthy food – Fruit, vegetables • Unhealthy food – Food with lots of sugar in such as chocolate and sweets Female farm animals have babies. Here are the names of their babies; Cows – Calf Sheep – Lambs Chickens – Chicks Hoses – Foals Pigs – Piglet Goat - Kid	Some animals are endangered. This means they are in danger of not being around on Earth anymore. Everything is made up of material. Some materials we might know are; Wood, plastic, glass, paper, metal, bricks Materials can be described using different words such as soft, hard, bumpy, rough, smooth, shiny Some materials are better for certain jobs e.g., waterproof materials would be better for a raincoat.	The sun gives off light. This is the day. When the sun is not in the sky, it is night-time. A shadow is a dark shape.
Misconceptions	That we only differ from each other by the way we look. All trees drop their leaves in Autumn. All leaves change colour. The leaves fall to the ground and never disappear.	That materials just exist in one state. That ice is a different material from liquid water, not water in different states That everything freezes/melts at the same temperature That we can wear the same clothing all year round.	All bridges are made the same. Any materials can be used to make bridges.	Everyone grows at the same rate That all living things breathe in the same way. That all food comes from 'the shop!' That plants do not need 'food' . All plants grow in the same way.	All animals eat the same food Insects only live on land Penguins live on both the Arctic and Antarctic Deserts do not have many living things in them A desert is always hot	That larger objects always sink, and smaller objects always float All heavy things sink, and all light things float Fish do not breath It doesn't rain in the Summer That the main source of light comes from blubs/electricity.

				That plants can only grow in spring. A lifecycle always starts with an egg/live baby Eating lots of fruit is good for you (sugars)	That there is nothing that they can do to reduce climate change. That a material just relates to cloth or fabric	The Earth stays still. The moon only comes up at night. The sun turns around at night and becomes the moon. The sun and the moon are the same size, and Earth is larger than the sun.
Vocabulary (explicit)	unique, Appearance autumn Hibernate	Winter, Hot, cold	engineer	Growing, Farm, Herbivore, Carnivore, Omnivore, Temperature, Spring, Healthy, Unhealthy, Fruit, Vegetable Lifecycle Seed	Habitat, Woodland, Hibernation, Rainforest, Polar, Climate change, Global warming, Hotter/colder, Deforestation,	Summer, Sink, Float, Ocean, Pollution, Solar system,
Vocabulary (implicit)	Body, human Face same/different Body parts (head, teeth, tongue, shoulders, arms, elbows, legs, ankle, knee, toes) senses, sight, smell, taste, hearing, teeth, Hibernate season	Ignite Propel Explode Melt Freeze Temperature senses, sight, smell, taste, hearing Season hibernate protect	Construct Test Design Explore Improve Bridge Materials	seasons, weather, change, plants and animals plants, fruit, vegetable, root, shoot Exercise Variety Female/male Sunlight Stem Petal Leaf Roots Temperature Trees Bushes Underground Soil Bulb	adapted Food Water Shelter Min-beast Worms Snail Spider Camouflage Blubber Skin Endangered Material Wood Plastic Glass Paper Soft Hard Bumpy Rough Smooth Shiny Metal Bricks Waterproof Hard wearing	Seasons weather Rock Star Sun Moon Shadows Day Nighttime Sea Coral Backbone Fish Gills Fins Scales