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Term 1 : Animals including Humans (Year 1 unit)

National Curriculum Objectives	Key Knowledge	Vocabulary	Key Scientists	Prior Learning	Future Learning
<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>	<p>There are many different animals with different characteristics.</p> <p>Animals have senses to help individuals survive.</p> <p>When animals sense things they are able to respond.</p> <p>Animals need food to survive.</p> <p>Animals need a variety of food to help them grow, repair their bodies, be active and stay healthy.</p>	<p>Amphibians, birds, fish, mammals, reptiles, carnivores, herbivore, omnivore, sight, hearing, touch, taste, smell, head, neck, ear, mouth, shoulder, hand, fingers, leg, foot, thumb, eye, nose, knee, toes, teeth, elbow.</p>	<p>Chris Packham (Animal Conservationist)</p>	<p>EYFS: Explore the natural world around them, making observations and drawing pictures of animals.</p> <p>Children know about similarities and differences in relation to living things.</p> <p>Be able to identify different parts of their body.</p> <p>Be able to show care and concern for living things.</p> <p>Can talk about things they have observed including animals.</p>	<p>Year 2: Know that animals, including humans, have offspring which grow into adults.</p> <p>Know the basic stages in a life cycle for animals, including humans.</p> <p>Find out and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>
<p>Key Question(s):</p>	<p>Working Scientifically opportunities:</p>	<p>Big Question - Assessment opportunity</p>	<p>Linked Texts</p>		



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<p>What do animals eat? Do all animals eat the same food? Which of our senses is the most accurate at identifying food? Do all animals hunt? Why are animals different colours and patterns?</p>	<p>Competitive tests - Is our sense of smell better when we can't see?</p> <p>Identify and Classify - How can we organise all the zoo animals? What are the names for all the parts of our bodies?</p> <p>Observation Overtime - How does my height change over the year?</p> <p>Pattern Seeking - Do you get better at smelling as you get older?</p> <p>Research - Do all animals have the same senses as humans?</p>	<p>What are animals like?</p>	<p>The Big Book of the Blue (Yuval Zommer)</p> <p>The Big Book of Bugs (Yuval Zommer)</p> <p>A Butterfly Is Patient (Dianna Hutts Aston & Sylvia Long)</p> <p>The Bee Book (Charlotte Milner)</p> <p>Snail Trail (Ruth Brown)</p> <p>Superworm (Julia Donaldson & Axel Scheffler)</p> <p>The Coral Kingdom (Laura Knowles & Jennie Webber)</p>		
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Term 2: Seasonal Change - Focus is on Autumn / Winter (Year 1 unit)

National Curriculum Objectives	Key Knowledge	Vocabulary	Key Scientists	Prior Learning	Future Learning
<p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p>Weather can change</p> <p>There are lots of different types of weather: Rain, Sun, Cloud, Wind, Snow, etc</p> <p>Days are longer and hotter in the summer</p> <p>Days are shorter and colder in the winter</p> <p>There are four seasons: Spring, Summer, Autumn, Winter</p>	<p>Seasons, spring, summer, autumn, winter, windy, sunny, overcast, snow, rain, temperature</p>	<p>Holly Green (Meteorologist)</p>	<p>EYFS:</p> <p>Explore the natural world around them.</p> <p>Make comments and ask questions about the place they live in or the natural world.</p> <p>Develop an understanding of seasonal change.</p> <p>Observe and explain why certain things may occur (e.g. leaves falling off trees, weather changes).</p> <p>Looked closely at similarities, differences, patterns and change.</p>	<p>Year 3:</p> <p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>Find patterns in the way that the sizes of shadows change.</p>
<p>Key Question(s):</p>	<p>Working Scientifically opportunities:</p>	<p>Big Question - Assessment opportunity</p>	<p>Linked Texts</p>		



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<p>Why do more frequent days of rain saturate the ground? How long does it take for the ground to dry after it has been raining? Does more rain take longer to dry? Do countries with higher temperatures have less rain? How does rainfall and temperature change over time in our school grounds? Which leaf is the strongest/best shade cover/best at directing water? What do you notice about different leaves? What purpose to leaves serve for a tree? Why do you think leaves turn brown in Winter? What colours can we find outside? Does this</p>	<p>Competitive tests - In which season does it rain the most? Identify and Classify - How could you organise all the objects in the solar system into groups? Observation Overtime - How could you organise all the objects in the solar system into groups? Pattern Seeking - Does the wind always blow the same way? Research - Are there plants that are in flower in every season? What are they?</p>	<p>What is it like in Winter, Spring, Summer and Autumn?</p>	<p>Tree: Seasons Come, Seasons Go (Patricia Hegarty and Britta Teckentrup) One Year with Kipper (Mick Inkpen) After the Storm (Nick Butterworth) Froggy Day (Heather Pindar & Barbara Bakos) Lila and the Secret of Rain (David Conway & Jude Daly) The Snowflake Mistake (Lou Treleaven and Maddie Frost)</p>		
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<p>change across the seasons? What effect does rain have on the environment? What would happen if there was too much rain? What would happen if there wasn't enough rain?</p>					
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Term 3: Everyday Materials (Year 1 unit)

National Curriculum Objectives	Key Knowledge	Vocabulary	Key Scientists	Prior Learning	Future Learning
<p>Distinguish between and object and the material from which it is made. Identify and name a variety of everyday materials, including wood, metal, plastic, glass, water and rock, Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of</p>	<p>There are many different materials that have different describable and measurable properties. Materials that have similar properties are grouped into metals, rocks, fabrics, wood, plastic and ceramics (including glass). The properties of a material determine</p>	<p>Hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy/not bendy, waterproof/not waterproof, absorbent, opaque,</p>	<p>Roger Bacon (Invented the first magnifying glass) https://opticsmag.com/who-invented-the-magnifying-glass/</p>	<p>EYFS: Understand some important processes and changes, including the changing states of matter. Children know about similarities and differences in relation to objects. They talk about the features of their own immediate environment and how environments</p>	<p>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 shapes of solid objects made from some materials can be changed by squashing,</p>



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everyday materials on the basis of their simple properties	whether they are suitable for a purpose.			might vary from one another in relation to the objects within them. Be able to ask questions about the objects they use. Manipulates materials to achieve a planned effect.	bending, twisting and stretching.
Key Question(s):	Working Scientifically opportunities:	Big Question - Assessment opportunity	Linked Texts		
Theme: Rockets. Plan to investigate a couple of classes of materials and properties in this topic so children get a depth of experience and cover all the classes of materials over the key stage.	Competitive tests - Which materials are the most flexible? Which materials are the most absorbent? Which material would be best for the roof of the little pig's house? Identify and Classify - We need to choose a material to make an umbrella. Which	What are the things I use made from?	The Three Little Pigs (Lesley Sims) The Building Boy (Ross Montgomery) A Planet Full of Plastic: and how you can help (Neal Layton) Take a look at Planet Earth through the magnifying glass (Igloo Books Ltd)		



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	<p>materials are waterproof?</p> <p>Observation Overtime - What happens to materials over time if we bury them in the ground? What happens to shaving foam over time?</p> <p>Pattern Seeking - Is there a pattern in the types of materials that are used to make objects in a school?</p> <p>Research - How are bricks made? Which materials can be recycled?</p>				
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Term 4: Use of Materials (Year 2 unit)

National Curriculum Objectives	Key Knowledge	Vocabulary	Key Scientists	Prior Learning	Future Learning
Identify and compare the suitability of a	Materials can be changed by physical force (twisting,	Waterproof, fabric, rubber, cars, rock,	James Brindley (one of the early canal	Year 1:	Compare and group together different



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<p>variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>bending, squashing and stretching)</p>	<p>paper, cardboard, wood, metal, plastic, glass, brick, twisting, squashing, bending, matches, cans, spoons,</p>	<p>engineers who worked on some of the first canals of the modern era).</p>	<p>Distinguish between and object and the material from which it is made. Identify and name a variety of everyday materials, including wood, metal, plastic, glass, water and rock, Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple properties.</p>	<p>kinds of rocks on the basis of their appearance and simple physical properties Describe in simple terms how fossils are formed when things that have lived are trapped within rock Recognise that soils are made from rocks and organic matter.</p>
<p>Key Question(s):</p>	<p>Working Scientifically opportunities:</p>	<p>Big Question - Assessment opportunity</p>	<p>Linked Texts</p>		
<p>Theme: Eggs. Plan to investigate a couple of classes of materials and properties in this topic so children get a depth of experience and cover all the classes of</p>	<p>Competitive tests - Which shapes make the strongest paper bridge? Identify and Classify - Which materials will float and which will sink? Which materials will let electricity go through them, and which</p>	<p>How do we choose the best material for a given purpose?</p>	<p>Water: Exploring the Science of Everyday Materials (Jane Harris) Material Detectives Water: Let's Look at a Puddle (Angela Royston)</p>		



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<p>materials over the key stage.</p> <p>Eggs: Which material could I wrap my ice egg / snowman in to stop it melting, or would it make it melt quicker? What could I wrap a chicken egg in to keep it warm when it is waiting to hatch? What material could I make a parachute out of to save an egg?</p>	<p>will not? Which materials are shiny and which are dull?</p> <p>Observation Overtime - How long do bubble bath bubbles last for? What will happen to our snowman?</p> <p>Pattern Seeking - How do materials change with heat? leave outside in sunshine/windowsill/radiator How does amount of water affect the strength of a kitchen towel?</p> <p>Research - How have the materials we use changed over time? How are plastics made?</p>		<p>New From Old: Recycling Plastic (Anthony Robinson)</p> <p>The Great Paper Caper (Oliver Jeffers)</p> <p>Sheep to Jumper (Fiona MacDonald)</p>		
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Term 5: Seasonal Change - Focus will be on Spring (Year 1 unit)

National Curriculum Objectives	Key Knowledge	Vocabulary	Key Scientists	Prior Learning	Future Learning
Observe changes across the four seasons	Weather can change	Seasons, spring, summer, autumn, winter, windy,	Dr Steve Lyons (Extreme Weather)	EYFS:	Year 3:



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<p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p>There are lots of different types of weather: Rain, Sun, Cloud, Wind, Snow, etc Days are longer and hotter in the summer Days are shorter and colder in the winter There are four seasons: Spring, Summer, Autumn, Winter</p>	<p>sunny, overcast, snow, rain, temperature</p>		<p>Explore the natural world around them. Make comments and ask questions about the place they live in or the natural world. Develop an understanding of seasonal change. Observe and explain why certain things may occur (e.g. leaves falling off trees, weather changes). Looked closely at similarities, differences, patterns and change.</p>	<p>Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns in the way that the sizes of shadows change.</p>
<p>Key Question(s):</p>	<p>Working Scientifically opportunities:</p>	<p>Big Question - Assessment opportunity</p>	<p>Linked Texts</p>		
<p>Why do more frequent days of rain saturate the ground? How long does it take for the ground to dry after it has been raining?</p>	<p>Competitive tests - In which season does it rain the most? Identify and Classify - How could you organise all the objects in the</p>	<p>What is it like in Winter, Spring, Summer and Autumn?</p>	<p>Tree: Seasons Come, Seasons Go (Patricia Hegarty and Britta Teckentrup) One Year with Kipper (Mick Inkpen)</p>		



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<p>Does more rain take longer to dry? Do countries with higher temperatures have less rain? How does rainfall and temperature change over time in our school grounds? Which leaf is the strongest/best shade cover/best at directing water? What do you notice about different leaves? What purpose to leaves serve for a tree? Why do you think leaves turn brown in Winter? What colours can we find outside? Does this change across the seasons? What effect does rain have on the environment? What would happen if there was too much rain?</p>	<p>solar system into groups? Observation Overtime - How could you organise all the objects in the solar system into groups? Pattern Seeking - Does the wind always blow the same way? Research - Are there plants that are in flower in every season? What are they?</p>		<p>After the Storm (Nick Butterworth) Little Cloud (Anne Booth & Sarah Massini) The Squirrels' Busy Year: A Science Storybook about the Seasons (Martin Jenkins)</p>		
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What would happen if there wasn't enough rain?					
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Term 6: Plants (Year 2 Unit)

National Curriculum Objectives	Key Knowledge	Vocabulary	Key Scientists	Prior Learning	Future Learning
<p>Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and warmth to grow and stay healthy.</p>	<p>Plants grow from seeds/bulbs Plants need light, water and warmth to grow and survive. Flowers make seeds to make more plants (reproduce). Plants are important We need plants to survive (to clean air, to eat). We can eat different parts of the plants (leaves, stems, roots, seeds, fruit).</p>	<p>Leaves, trunk, branch, root, seed, bulb, flower, stem, wild, garden, deciduous, evergreen, observe, grow, compare, record, temperature, predict, measure, diagram, germinate, warmth, sunlight.</p>	<p>Agnes Arber (Botanist) Alan Titchmarsh (Botanist & Gardener)</p>	<p>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 common flowering plants. Identify and name the roots, trunk, branches and leaves of trees.</p>	<p>Year 3: Identify and describe the functions of different parts of the flowering plant: roots, stem/trunk/leaves and flowers. Explore the part flowers play in a flowering plants life cycle, including: pollination, seed formation and seed dispersal. Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary between plants.</p>



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Key Question(s):	Working Scientifically opportunities:	Big Question - Assessment opportunity	Linked Texts		
<p>Do cress produce seeds, how could we find out?</p> <p>Do all plants produce flowers and seeds?</p> <p>What is different between freshly cut and planted flowers?</p> <p>Do plants flower all year round?</p> <p>What are flowers for?</p> <p>What happens to a plant after it has produced seeds?</p>	<p>Competitive tests - Do cress seeds grow quicker inside or outside?</p> <p>Identify and Classify - How can we identify the trees that we observed on our tree hunt?</p> <p>Observation Overtime - What happens to my bean after I have planted it?</p> <p>Pattern Seeking - Do bigger seeds grow into bigger plants?</p> <p>Research - How does a cactus survive in a desert with no water?</p>	<p>What should I do to grow a healthy plant?</p>	<p>Eddie's Garden: and How to Make Things Grow (Sarah Garland)</p> <p>Ten Seeds (Ruth Brown)</p> <p>A Seed Is Sleepy (Dianna Aston)</p> <p>Oliver's Vegetables (Vivian French and Alison Bartlett)</p> <p>The Little Gardener (Emily Hughes)</p>		<p>Know the way in which water is transported between plants.</p>