

Reception Progression in Science - topics							
Topic	Animals inc Humans (Humans)	Animals inc Humans (animals) Living things and their habitats	Forces	Light	Plants	Materials	Seasonal changes
Term	Autumn 1	Autumn 1 Autumn 2 Spring 1 Spring 2 Summer 1	Spring 2 Summer 1 Summer 2	Autumn 1	Spring 2	Autumn 2 Spring 1	Throughout the year
Prior Knowledge (3-4 Development Matters)		Understand key features of the life cycle of animal. Begin to understand the need to respect and care for the natural environment and all living things.	Explore how things work. Explore and talk about different forces they can feel.		Plant seeds and care for growing plants. Understand key features of the life cycle of plant	Use all their senses in hands on exploration of natural materials. Explore collections of materials with similar and/or different properties and talk about differences between materials and changes they notice. Talk about the differences between materials and the changes they notice.	
Development Matters	Explore the natural world around them.	Begin to understand the need to respect and care for the natural environment and all living things. Explore the natural world around them. Describe what they see, hear and feel whilst outside.	Explore how things work. Explore and talk about different forces they can feel. Explore the natural world around them. Describe what they see, hear and feel whilst outside.	Explore the natural world around them. Describe what they see, hear and feel whilst outside.	Plant seeds and care for growing plants. Understand key features of the life cycle of plant Explore the natural world around them. Describe what they see, hear and feel whilst outside.	Explore collections of materials with similar and/or different properties and talk about differences between materials and changes they notice. Talk about the differences between materials and the changes they notice. Explore the natural world around them. Describe what they see, hear and feel whilst outside.	Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.
Key vocabulary	head, stomach, shoulders, arms, hands, legs, feet eyes, ears, nose, mouth and teeth taste, sight, sound, touch and smell.	Environments, habitats, live, cold, hot, change, care, respect, protect Polar bear, walrus, white fox, white hare, wolf, seal, snowy owl, robin, house sparrow, blue tit, woodpigeon, starling Blackbird, seagull, birds, mammals, insects fish, dogs, cats, goldfish, hamster, guinea pig and rabbit	Push, pull, twist, spin, move, forward, back, around, up, down, side-to-side Float, sink, magnet, metal, water wheels,	Light, dark, shadow, see-through	Plant, seed, leaf, bulb, roots, flower, stem, Beans Sunflowers chive, apple/pear trees, carrot Daffodils, primrose, daisy, rose Sunflowers, lavender, rose	Leaves, colours, crunchy, soft, sharp, bumpy, fruits, pointed, round, sorting Same different Sticks, straw, bricks	Autumn, winter, spring, summer, warm, hot, cold, trees, leaves, blossom, fruit, seasons
Assessment questions Orally only	Can you point to your head, stomach, shoulders, arms, hands, legs, feet? Can you point to your eyes, ears, nose, mouth and teeth? • Do they use their senses of taste, sight, sound, touch and smell to explore?	Can you name an animal from a hot and cold country? Can you tell me one way in which we can help protect the planet? Can you describe the life cycle of a chick? Can you name household pets- dogs, cats, goldfish, hamster, guinea pig and rabbit?	Can you use words to describe how you move on playground equipment? Can you apply a force to make a sound and describe what you have done? Can you identify something that is magnetic? Can you identify an object that floats and sinks? Can you find a way to move water?	Can you show which scene is in the night and which is in the day? Can you identify a material can block out the light?	Can you point at parts of a plant? Can you tell me how to look after plants?	Can you tell me something about this leaf? Can you find me something that is the same or different? Can you tell me how this has changed (in relation to heating and cooling)?	How can trees change? Can you point to the picture in the summer and the winter? How can you tell? How do we keep ourselves safe in summer?

Essential knowledge	I know ... • The head, stomach, shoulders, arms, hands, legs, feet are parts of my body • Eyes, ears, nose, mouth and teeth are parts of our faces. • how to use our senses of taste, sight, sound, touch and smell. dogs, cats, goldfish, hamster, guinea pig and rabbits can be pets	I know... Different animals live in different habitats Animals habitats are changing over time which means they can't live there. What we can do to help protect habitats in our world Eggs hatch into chicks	I know..... How to explore a variety of playground and fairground equipment and how I can move that by applying a force a sound can be made causing a vibration (exploring outdoor musical instruments) A magnet attracts metal by pulling it towards it objects can float and sink how water moves with water wheels, tubes and pipes	I know ... what is light and what is not light (dark). Light is in the day and dark is at night Blocking light causes dark Some materials don't block light	I know.... Planting wild flowers can attract bees How to plant and care for: Beans Sunflowers chives, apple/pear trees carrots	I know ... • how to describe the properties of materials. How to group materials by a single attribute How to explore material changes through heating and cooling Melting chocolate Baking Christmas cakes and bread Freezing water to make lollies (summer)	I know ... • there are different seasons • leaves can change colour • Some trees lose their leaves in Winter • Wearing a hat, sun cream and sunglasses will protect me from the sun. In Winter it is cold and in summer it is hot We need to change our clothes to suit the weather
Six adult led inputs Songs, rhymes, books	Owl Babies Funnybones Heads, Shoulders, Knees and Toes The Gruffalo Red Leaf, Yellow Leaf Leaf Thief	Leaf My Butterfly Bouquet Godfrey is a Frog	A Quiet Night In By Jill Murphy The Tin Snail And Everyone Shouted Pull	Can't You Sleep Little Bear The Sun Thief Flashlight	Sam Plants a Sunflower Bloom Ten Seeds Life Cycle of a Plant The Oak Tree	There's a hole in my bucket Sneezy the Snowman	
Curiosity cube (Inside)	What happens to a pumpkin when it is left over time?		What happens to snow when it is taken inside?		How does a seed grow into a plant?	What stages are there when a XX grows?	
Investigation area (Inside)	Mirror Exploration Tray Add: mirrors face photos dry wipe pens laminated blank faces Children can: identify eyes, ears, nose, mouth, teeth draw and label facial features compare similarities/differences Smell Pots Use cotton wool in small pots with: vanilla mint orange peel coffee lavender	Build a Habitat Challenge Provide: blocks natural materials cardboard tubes moss fabric stones Challenge: "Can you build a home for a rabbit?" "What would a penguin need?" Recycling Investigation Station Provide: clean recycling materials sorting bins pictures of rubbish/plastic pollution Children sort: paper plastic metal	Vibration Investigation Tray Provide: elastic bands over boxes drums tuning forks (adult-led) rice on drums Children can: see vibrations feel vibrations compare sounds Magnetic Treasure Hunt Provide: magnets trays of mixed objects Include: paper clips coins foil wood plastic fabric Children test: what magnets attract which objects are metal	Shadow Investigation Station Provide: torches animal figures blocks translucent shapes Children explore: making shadows blocking light Transparent, Translucent and Opaque Investigation Provide materials such as: tissue paper cellophane clear plastic foil card fabric Children test: Can light go through? Does it make a shadow?	Wildflower Planting Station Provide: seed packets soil trowels watering cans pots or planters Children plant: wildflower seeds bee-friendly flowers Discuss: bees need flowers flowers provide nectar Bee Investigation Tray Include: toy bees flowers magnifying glasses pollen pictures honeycomb images Children explore: how bees move between flowers why flowers attract bees	Mystery Bag Investigation Place objects inside feely bags. Children use touch to describe: texture shape Hardness Waterproof Materials Test Provide: fabric paper foil plastic sponge Children test with droppers or spray bottles: Which materials absorb water? Which keep water out?	
	<u>Autumn</u> Leaf sorting migration	<u>Autumn/winter</u> hibernation	<u>Winter</u> Arctic animals Bird feeders	<u>Spring</u> Nest building	<u>Spring</u> hatching	<u>Summer</u> Animal babies	<u>Summer</u> Growing into adults
Investigation shed (Outside)	Weather chart	Wind box	Snow box	Rain box	Mud kitchen –	Sun box	
Clothing chart	Coats on	Coats zipped up	Hats, gloves, wellies	Raincoats, umbrellas, wellies		Sun cream, sun hats, sun glasses	Swimsuits,
Mud kitchen	soups	hot choc	ice recipes			flower soup	

Early Learning Goals	<ul style="list-style-type: none"> • Use all their senses in hands-on exploration of natural materials • Talk about what they see, using a wide vocabulary. • 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.
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Reception Progression in Science – working scientifically						
Prior knowledge for working scientifically	Use all their senses in hands on exploration of natural materials .					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Foundations to working scientifically	<p>Use all their senses in hands-on exploration of natural materials</p> <p>Talk about what they see, using a wide vocabulary.</p> <p>Using simple equipment eg curiosity cube</p>	<p>Use all their senses in hands-on exploration of natural materials</p> <p>Talk about what they see, using a wide vocabulary.</p> <p>Using simple equipment eg bug viewers, trowels</p> <p>Sorting using ring/hoops.</p> <p>Record through use of drawings and colour,</p>	<p>Use all their senses in hands-on exploration of natural materials</p> <p>Talk about what they see, using a wide vocabulary.</p> <p>Using simple equipment eg bug viewers, trowels</p> <p>Sorting using ring/hoops.</p> <p>Record through use of drawings and colour,</p>	<p>Use all their senses in hands-on exploration of natural materials</p> <p>Talk about what they see, using a wide vocabulary.</p> <p>Using simple equipment eg magnifying glasses</p> <p>Sorting using ring/hoops.</p> <p>Record through use of drawings and colour,</p>	<p>Use all their senses in hands-on exploration of natural materials</p> <p>Talk about what they see, using a wide vocabulary.</p> <p>Using simple equipment eg bug viewers, trowels</p> <p>Sorting using ring/hoops.</p> <p>Record through use of drawings and colour, introducing simple recording frames</p>	<p>Use all their senses in hands-on exploration of natural materials</p> <p>Talk about what they see, using a wide vocabulary.</p> <p>Using a variety of simple equipment</p> <p>Sorting using ring/hoops.</p> <p>Record through use of drawings and colour, introducing simple recording frames</p>
Foundation questions for working scientifically	<p>I am beginning to ask simple questions</p> <p>I can make observations</p> <p>I can sort and group objects into the same or different</p> <ul style="list-style-type: none"> • I can record using drawings and simple tables <p>I can talk about what I can see</p>					