



Knowle CE Primary Academy

Medium Term Plan: SCIENCE



YEAR: 2

TERM: Autumn term 1:1

TITLE: Use of everyday materials

REVISION / REMIND / REVISIT - Builds on Year 1 Everyday Materials	COHERENCE & CREDIBILITY	CREATIVITY - Working Scientifically	COMPASSION & Appreciation of Significant Scientists	COMMUNITY
	<p>NC Links</p> <ul style="list-style-type: none"> To identify and compare the suitability of everyday materials To find out how shapes of solid objects made from some materials can be changed <p>Key Learning</p> <ul style="list-style-type: none"> All objects are made of one or more materials that are chosen specifically because they have suitable properties for the task. For example, a water bottle is made of plastic because it is transparent allowing you to see the drink inside and waterproof so that it holds the water. When choosing what to make an object from, the properties needed are compared with the properties of the possible materials, identified through simple tests and classifying activities. A material can be suitable for different purposes and an object can be made of different materials. Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting. For example, clay can be shaped by squashing, stretching, rolling, pressing etc. This can be a property of the material or depend on how the material has been processed e.g. thickness. <p>Vocabulary</p> <p>Names of materials - increased range from year 1</p> <p>Properties of materials - as for year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid</p> <p>Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing.</p> <p>Bend/bending, stretch/stretching</p>	<ul style="list-style-type: none"> Classify materials Test the properties of materials for particular uses e.g. compare the stretchiness of fabrics to select the most appropriate for Elastigirl's costume, test materials for waterproofness to select the most appropriate for a rain hat (links to Stick Man) Comparative and fair testing- To investigate which materials are suitable for making a coat for Stick Man Sorting and classifying- Grouping objects according to their properties Sorting and classifying- To find out how the shape 	<p>John Dunlop, Charles Macintosh or John McAdam</p>	<p>Active Science - Material Scavenger Hunt</p>

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		<p>of some solid objects can be changed by squashing, bending, twisting, stretching</p> <ul style="list-style-type: none"> • Sorting and classifying- To name and explain why certain materials are good for specific jobs. 		
<p>ASSESSMENT CRITERIA</p> <p>Knowledge:</p> <ul style="list-style-type: none"> • Can name an object, say what material it is made from, identify its properties and make a link between the properties and a particular use • Can label a picture or diagram of an object made from different materials • For a given object can identify what properties a suitable material needs to have • Whilst changing the shape of an object can describe the action used • Can use the words flexible and/or stretchy to describe materials that can be changed in shape and stiff and/or rigid for those that cannot • Can recognise that a material may come in different forms which have different properties <p>Working Scientifically:</p> <ul style="list-style-type: none"> • Can sort materials using a range of properties • Can begin to choose an appropriate method for testing a material for a particular property • Can use their test evidence to select appropriate material for a purpose e.g. Which material is the best for a rain hat? 				



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YEAR: 2




TERM: Autumn term 1:2

TITLE: Living things and their habitats

REVISION / REMIND / REVISIT - Builds on	COHERENCE & CREDIBILITY	CREATIVITY - Working Scientifically	COMPASSION & Appreciation of Significant Scientists	COMMUNITY
	<p>NC Links</p> <ul style="list-style-type: none"> To explore and compare the differences between things that are living, dead and things that have never been alive To 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 To identify and name a variety of plant and animals in their habitats, including micro-habitats To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain <p>Key Learning</p> <ul style="list-style-type: none"> All objects are either living, dead or have never been alive. Living things are plants (including seeds) and animals. Dead things include dead animals and plants and parts of plants and animals that are no longer attached e.g. leaves and twigs, shells, fur, hair and feathers (this is a simplification but appropriate for year 2 children). An object made of wood is classed as dead. Objects made of rock, metal and plastic have never been alive (again ignoring that plastics are made of fossil fuels). Animals and plants live in a habitat to which they are suited which means that animals have suitable features that help them move and find food and plants have suitable features that help them to grow well. The habitat provides the basic needs of the animals and plants - shelter, food and water. Within a habitat there are different micro-habitats e.g. in a woodland - in the leaf litter, on the bark of trees, on the leaves. These micro- 	<ul style="list-style-type: none"> Explore the outside environment regularly to find objects that are living, dead and have never lived (encourage children to raise their own questions and record in scrapbook) Observe animals and plants carefully, drawing and labelling diagrams Create simple food chains from information given e.g. in picture books (Gruffalo etc.) Research- To describe how animals obtain their food from plants and other animals, using 		<p>Active Science - Journey Sticks/Tree Treasure hunt/Leaf Bingo/Food Chain Chase/Food Chain Dash/Habitat Build/Mini-beast and Habitat Hunt/Mini-beast Top Trumps/Living and Non-Living</p>

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	<p>habitats have different conditions e.g. light or dark, damp or dry. These conditions affect what plants and animals live there.</p> <ul style="list-style-type: none"> The plants and animals in a habitat depend on each other for food and shelter etc. The way that animals obtain their food from plants and other animals can be shown in a food chain. <p>Vocabulary Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc.</p>	<p>the idea of a simple</p> <p>food chain </p> <ul style="list-style-type: none"> What conditions do woodlice prefer to <p>live in? </p> <ul style="list-style-type: none"> How does the habitat of the Arctic compare with the habitat of the <p>rainforest? </p>		
<p>ASSESSMENT CRITERIA</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Can find a range of items outside that are living, dead and never lived Can name a range of animals and plants that live in a habitat and micro-habitats that they have studied Can talk about how the features of these animals and plants make them suitable to the habitat Can talk about what the animals eat in a habitat and how the plants provide shelter for them Can construct a food chain that starts with a plant and has the arrows pointing in the correct direction <p>Working Scientifically:</p> <ul style="list-style-type: none"> Can sort into living, dead and never lived Using a food chain can explain what animals eat Can explain in simple terms why an animal or plant is suited to a habitat e.g. the caterpillar cannot live under the soil like a worm as it needs fresh leaves to eat; the seaweed we found on the beach cannot live in our pond because it is not salty 				






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YEAR: 2 TERM: Spring Term

TITLE: Animals, including humans

REVISION / REMIND / REVISIT - Builds on Year 1 Animals, including humans	COHERENCE & CREDIBILITY	CREATIVITY - Working Scientifically	COMPASSION & Appreciation of Significant Scientists	COMMUNITY
	<p>NC Links</p> <ul style="list-style-type: none"> To know that animals and humans have offspring. To describe basic needs of animals and humans. To describe the importance of exercise, diet and hygiene <p>Key Learning</p> <ul style="list-style-type: none"> Animals including humans have offspring which grow into adults. In humans and some animals these offspring will be young, such as babies or kittens, that grow into adults. In other animals, such as chickens or insects, there may be eggs laid that hatch to young or other stages which then grow to adults. The young of some animals do not look like their parents e.g. tadpoles. All animals including humans have basic needs of feeding, drinking and breathing that must be satisfied in order to survive, and to grow into healthy adults they also need the right amounts and types of food and exercise. Good hygiene is also important in preventing infections and illnesses. <p>Vocabulary Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples - meat, fish, vegetables, bread, rice, pasta)</p>	<ul style="list-style-type: none"> Ask people questions and use secondary sources to find out about the life cycles of some animals  Ask questions of a parent about how they look after their baby  Ask pet owners questions about how they look after their pet  Investigate washing hands, using glitter gel 		<ul style="list-style-type: none"> Design hygiene posters for school toilets Hatching eggs and observing chicks e.g. living eggs
<p>ASSESSMENT CRITERIA</p> <p>Knowledge:</p> <ul style="list-style-type: none"> Can describe how animals including humans have offspring which grow into adults, using the appropriate names for the stages Can state the basic needs of animals, including humans, for survival. 				

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| | <ul style="list-style-type: none">• Can state the importance for humans of exercise, eating the right amounts of different types of food and hygiene.• Can name foods in each section of the Eatwell guide |
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Working Scientifically:

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| | <ul style="list-style-type: none">• Can describe, including using diagrams, the life cycle of some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child• Show what they know about looking after a baby/animal by creating a parenting/pet owners' guide• Explain how development and health might be affected by differing conditions and needs being met/not met. |
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YEAR: 2 TERM: Summer Term

TITLE: Plants

REVISION / REMIND / REVISIT - Builds on Year 1 Plants	COHERENCE & CREDIBILITY	CREATIVITY - Working Scientifically	COMPASSION & Appreciation of Significant Scientists	COMMUNITY
	<p>NC Links</p> <ul style="list-style-type: none"> To observe how seeds grow into plants Find out and describe how plants need water, light and temperature to grow and stay healthy <p>Key Learning</p> <ul style="list-style-type: none"> Plants may grow from either seeds or bulbs. These then germinate and grow into seedlings which then continue to grow into mature plants. These mature plants may have flowers which then develop into seeds, berries, fruits etc. Seeds and bulbs need to be planted outside at particular times of the year and they will germinate and grow at different rates. Some plants are better suited to growing in full sun and some grow better in partial or full shade. Plants also need different amounts of water and space to grow well and stay healthy. <p>Vocabulary Year 1 plus - light, shade, sun, warm, cool, water, grow, healthy</p>	<ul style="list-style-type: none"> Sorting and classifying- Classify seeds and bulbs  Observation over time- Make close observations and measurements of their plants growing from seeds and bulbs (and draw conclusions)  Observation over time- Seed/bulb life cycles  Observation over time- Bean growth Comparative or fair testing- to predict and observe plant growth in different locations  		

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		<ul style="list-style-type: none"> Do bigger seeds grow into bigger plants? 		
ASSESSMENT CRITERIA Knowledge: <ul style="list-style-type: none"> Can describe how plants that they have grown from seeds and bulbs have developed over time Can identify plants that grew well in different conditions Working Scientifically: <ul style="list-style-type: none"> Can spot similarities and difference between bulbs and seeds Can identify the different requirements of different plants 				