

Cumwhinton School Curriculum - Science Y2 AUT

Year 2	NC Content	<p><u>Living things and their habitats</u> Pupils should be taught to:</p> <ul style="list-style-type: none">-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, 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. <p><u>Plants</u> Pupils should be taught to:</p> <ul style="list-style-type: none">-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. <p><u>Animals, including humans</u> Pupils should be taught to:</p> <ul style="list-style-type: none">-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, eating the right amounts of different types of food, and hygiene. <p><u>Uses of everyday materials</u> Pupils should be taught to:</p> <ul style="list-style-type: none">-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 be changed by squashing, bending, twisting and stretching.
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Mapping across the Year

	AUTUMN	SPRING	SUMMMER
Scientific Knowledge & Understanding	<p>Animals including humans 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, eating the right amounts of different types of food, and hygiene</p> <p>Living Things & Their Habitats 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, 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</p>	<p>Plants 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</p>	<p>Uses of everyday materials</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>
Science Enquiry & Working Scientifically	<p>Identifying and classifying Asking simple questions and recognising that they can be answered in different ways</p> <p>Identifying and classifying</p>	<p>Identifying and classifying Observing closely, using simple equipment</p>	<p>Asking simple questions and recognising that they can be answered in different ways Performing simple tests Observing closely, using simple equipment Using their observations and ideas to suggest answers to questions Gathering and recording data to help in answering questions</p>
Uses & Implications of Science today and for the future	<p>Investigate washing hands, using glitter gel.</p> <p>Create a life cycle book for a younger child</p> <p>Show what they know about looking after an animal by creating a pet owners' guide.</p> <p>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</p>	<p>Research and plan when and how to plant a range of seeds and bulbs. Look after the plants as they grow - weeding, thinning, watering etc.</p>	<p>Make suggestions about alternative materials for a purpose that are both suitable and unsuitable Test the properties of materials for particular uses e.g. compare the stretchiness of fabrics to select the most appropriate for a superhero costume, test materials for waterproofness to select the most appropriate for a rain hat/umbrella, test the absorbency of different brands of baby's nappies as an investigation for a supermarket.</p>

CONCEPTUAL SCHOOL AMBITION DRIVERS

	EYFS & KS1	LKS2	UKS2
AUT	Diversity	Fairness	Individuality
SPR	Truth	Change	Resilience
SUM	Responsibility	Equality	Sustainability

HUMANITY - Diversity

Scientific Knowledge & Understanding

Science Enquiry & Working Scientifically

Uses & Implications of Science today and for the future

How are animals and humans similar and different?

	NC	CUMWHINTON CURRICULUM
<p>Finding out (Facts & knowledge)</p>	<p><u>Animals including humans</u> Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about 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>Basic needs of animals and humans All animals have 3 basic needs for survival: water, food and air. There are other things that are also important for animals and humans including shelter and being healthy. Discuss some things are essential for animals/ humans to survive, while others are not. Animals, including humans, have offspring which grow into adults. Chn to recognise that offspring are often very much, but not exactly/ always, like their parents. Understand that most animal babies need to be fed and cared for by their parents. Chn to match different animals to their offspring and explain what changes have taken place as it has grown. Reproduction is when an organism has offspring. Some animals lay eggs, while others give birth to live young. - Recap animal groups for year 1 Offspring change as they grow into adults. Offspring are the young of an animal. Chn discuss what humans need to survive. Discuss some things are essential for humans to survive, while others are not. Chn learn about life cycles - frog, butterfly, duck & human. Chn to consider and sequence different stages in human life. Humans change as they grow older. What changes do you notice? How have you changed? Stages in a human life to include baby, toddler, child, teenager, and adult. Children learn about the 5 food groups and how they keep us healthy. Humans need food to survive. Food can be placed in food groups. Food groups include carbohydrates, fruits and vegetables, proteins, milk and dairy, and fats and sugars. Carbohydrates provide energy. Fruits and vegetables provide vitamins and minerals. Proteins help muscle growth. Dairy contains calcium for healthy teeth and bones. Fats and sugars should be eaten in limited amounts. Discuss the importance of eating the right amounts of different types of food. To understand what eating healthily means We need the right amount of different types of food to be healthy. Hygiene Chn learn about the importance of cleanliness when preparing food and eating. Food hygiene means being clean when eating. Discuss hand hygiene. Eating dirty food can make us ill. Eating food with dirty hands can make us ill. Food is covered in tiny microorganisms. Some microorganisms can make us ill. Some foods last longer if refrigerated. The importance of exercise Chn learn about the benefits and effects of exercise. They carry out an investigation into the muscles used when performing different activities. Exercise is good for mind and body. During exercise, the heart beats faster and we breathe more quickly.</p>

		<p>Exercise burns food energy and can lead to weight loss. Exercise causes the body to get hotter, and can produce sweat to cool down. Lack of exercise can cause diseases. Humans need exercise in order to be healthy. Exercise makes you muscles (including your heart) and your bones stronger.</p>
<p>Using (Applying & analysing)</p>	<p>Identifying and classifying Asking simple questions and recognising that they can be answered in different ways</p> <p>Identifying and classifying</p>	<p>Matching parents and babies correctly (e.g. kitten → cat, tadpole → frog)</p> <ul style="list-style-type: none"> • Compare and contrast baby animals and their parents • Order the stages in human life (baby > toddler > child > teenager > adult) • Explore what happens when animals basic needs are not met --- Learn about how the RSPCA help to keep animals safe. • Sorting food into groups and explaining how/why they chose those groups • Sort food pictures into a food groups & Sort food groups into a food pyramid • Record a food-diary and evaluate their diet using food pyramid. • Collect and present data about favourite foods. • Carousel around physical activities thinking about how the activities make their bodies feel.
<p>Concluding (Evaluating & Summarising)</p>	<p>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</p>	<p>What do humans need to survive? Why do you need food? Why do you need water? What do animals need to survive? What would happen if their basic needs were not met? How are humans and animals similar and different? Would a fish survive out of water? Why/ Why not? Would a cow survive in an ocean? Why/ Why not?</p>
<p>Science - AUTUMN 1 - YEAR 2 - Living things and their habitats</p>		

HUMANITY - Diversity

Scientific Knowledge & Understanding

Science Enquiry & Working Scientifically

Uses & Implications of Science today and for the future

	NC	CUMWHINTON CURRICULUM
Finding out (Facts & Knowledge)	<p><u>Living Things & Their Habitats</u> Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>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, and how they depend on each other</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>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</p>	<p>Living & Non Living Chn to consider what the members of each group have in common, and discuss. Some things are living, or alive. Some things are non-living, or not alive. Chn learn that some things are alive, some things are dead (used to be alive), and some things have never been alive. Some things are alive, including plants and animals. Some things are dead, and used to be alive. Some things have never been alive. Children learn what a habitat is. A habitat is where an organism lives. An organism is a living thing. A habitat provides everything an organism needs to survive. Chn learn about what adaptations are. Organisms are adapted to their habitats. An adaptation is a body feature that helps an organism to survive in its habitat. Chn to name a variety of familiar animals and plants. They think about ways to group them. Organisms can be grouped in different ways. A habitat is a place where an organism lives. A microhabitat is a small habitat where a smaller organism lives. Children learn how to read and explain a food chain. They create four of their own food chains, each containing three organisms. Plants make their own food. They are producers. Animals need to eat other organisms. They are consumers. Some animals eat plants, and some animals eat other animals. A food chain shows how organisms are eaten by other organisms. The arrows in a food chain show how energy moves through the chain. Chn learn about food chains which start with a producer and end with a human being. Food chains show what different animals eat. Plants are producers, while animals are consumers. Herbivores are animals that eat only plants. Carnivores are animals that only eat other animals. Omnivores are animals that eat both animals and plants</p>
Using (Applying & analysing)	Identifying and classifying	<p>Children carry out a field investigation looking into three local micro-habitats. They predict what they might see, draw what they can see, and after the investigation compare and contrast the three micro-habitats. How does a habitat provide for the needs of the plants that live there? With the children's help, establish what needs a plant has; i.e. water, 'air', light and a particular temperature.</p>
Concluding (Evaluating & Summarising)	<p>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.</p>	<p>Pattern-seeking enquiry - Which caterpillar will survive? Children record what they find and create a bar chart of the numbers of each colour worm found. The children record why they thought they found a particular colour of worm more than others.</p>