

Year 2 Science

By the end of Year 2 children will be able to...	NC PoS	Key Learning & Vocabulary
<p>Humans</p> <ul style="list-style-type: none"> • Talk about and describe how to look after themselves – what foods are best to eat; why we need to exercise; why and how to rest. • Make comparisons between themselves and people that are older and younger than them • Look after their own health e.g. brushing their teeth (the singing dentist), washing hands, drinking water, choosing appropriate clothing, appropriate activities, bedtimes etc. 	<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>Key Learning</p> <p>Humans have offspring which grow into adults. In humans these offspring are babies that grow into adults.</p> <p>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> <p>Key Vocabulary</p> <p>Offspring, growth, child, young/old stages exercise, heartbeat, breathing, hygiene, germs, disease, food types - meat, fish, vegetables, bread, rice, pasta. Comparative vocabulary – bigger, smaller taller, shorter, longer, narrower, wider, healthy, unhealthy.</p>
<p>Scientific enquiries for humans</p> <ul style="list-style-type: none"> • Are the tallest children the oldest children? (Pattern seeking) • How do athletes (knights) train? (Research) <p>Topic Questions</p> <ul style="list-style-type: none"> • How old do I need to be to become a knight? (changes of human development) • Am I fit enough to be a knight? (importance of diet, exercise, hygiene) 		
<p>Key Experiences</p> <ul style="list-style-type: none"> • Take part in different types of exercises and explore the changes in their body. • Take part in Knight school with a real life Knight • Visits from different stages of life (baby, adult, elderly person) • Being shown how to wash your hands and clean your teeth properly (visit from dentist and nurse) 		
<p>Animals</p> <ul style="list-style-type: none"> • Talk about how to look after a pet. 	<ul style="list-style-type: none"> • notice that animals, including humans, have offspring which grow into adults 	<p>Key Learning</p>

<ul style="list-style-type: none"> Describe how animals help humans. Talk about baby animals and their parents. Describe how baby animals change as they grow. Compare baby animals with their parents and other baby animals. 	<ul style="list-style-type: none"> find out about and describe the basic needs of animals, including humans, for survival (water, food and air) 	<p>Animals have offspring which grow into adults. In 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.</p> <p>All animals 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> <p>Key Vocabulary Offspring, growth, young/old stages, breathing, survive, oxygen Comparative vocabulary – bigger, smaller taller, shorter, longer, narrower, wider. Names of adult animal and baby animal e.g. cow and calf, horse and foal</p>
<p>Scientific Enquiries for animals</p> <ul style="list-style-type: none"> How does a chick (baby penguin) survive in the Arctic? Offspring – watching things grow e.g. how do animals change over time? (Hatching eggs, caterpillars, tadpoles etc.) Spring watch, BBC videos (Observing over time) How do animals grow and change? – hatching eggs/frogspawn/caterpillars (observing over time) 		
<p>Key Experiences</p> <ul style="list-style-type: none"> Animal visit in or out of school (farm visits) Watch spring watch Hatching eggs/frogspawn/caterpillars 		
<p>Living things and their habitats</p> <ul style="list-style-type: none"> Talk about and describe different habitats. Explain how an animal is designed for its habitat. Describe how animals and plants get what they need to survive from their habitat. 	<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 	<p>Key Learning</p> <p>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</p>

<ul style="list-style-type: none"> • Order a simple food chain. • Say if something is living, dead or never been alive. 	<p>habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <ul style="list-style-type: none"> • identify and name a variety of plants and animals in their habitats, including micro-habitats • 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>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).</p> <p>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-habitats have different conditions e.g. light or dark, damp or dry. These conditions affect what plants and animals live there. 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> <p>Key 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</p>
<p>Scientific Enquiries for living things & their habitats</p> <ul style="list-style-type: none"> • Where do we find the most snails/spiders/woodlice? (identifying and classifying) • Which are the most endangered animals? (Research) • How can we help the polar bear get his lunch? (observing over time) • Do all penguins look like Happy Feet? (Research; identifying and classifying) • Are polar bears the only animals that live in the Arctic? Sorting animals by features, habitats etc. (Identifying & classifying) 		
<p>Key Experiences</p> <ul style="list-style-type: none"> • Explore the school grounds and the different types of habitats that can be found for animals including the plants which belong to these habitats • Talk regularly about things that are living, dead, and things that have never been alive in day to day 		

- Watch clips from planet earth about polar regions

Uses of everyday materials

- Talk about and describe different objects/materials.
- Talk about the properties of everyday objects that we use.
- Talk about how they've made objects and things that went well or could be improved.
- Which object is the most suitable for a task. E.g. Which one of these bags is best for carrying my marking home in?
- Which material is the most suitable for an object. E.g. Which bag will protect my books from the rain?

- 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.

Key Learning

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.

Key Vocabulary

Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see through, not see through, opaque, transparent and translucent, reflective, non-reflective, flexible, rigid, Shape, push/pushing, pull/puling, twist/twisting, squash/squashing. Bend/bending, stretch/stretching

Scientific Enquiries for uses of everyday materials

- What's the best recipe for making the perfect sandcastle? (pattern seeking)
- How do I keep a penguin's egg warm? (Comparative/fair test)
- What is the best way to mop up a puddle? (Comparative/fair test)
- How does our iceberg change over time? (observing over time)

- What are the best clothes to wear if you are visiting the Arctic? (research)

Topic Questions

- What materials are castles made of and why? (observing and describing real life and toy castles)
- What's the best box for keeping the Queen's treasure safe? (testing different boxes and testing their properties)

Key Experiences

- Exploring a range of materials day to day and discussing their properties (what it is made out of and what it can do)
- Visit to the EYFS sand pit for sand building competition
- Watching planet earth clips about melting polar ice caps

Plants

- Talk about how to grow a variety of plants.
- Grow a variety of plants from seeds and bulbs
- Care for a variety of houseplants/plants over the whole of Y2
- Describe different seeds – what they look like, what they grow in to and how we use the plant.
- Talk about how to grow a variety of bulbs.
- Describe different bulbs – what they look like, what they grow in to and how we use the plant.
- Talk about the parts of the plants we eat.

- 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.

Key Learning

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.

Key Vocabulary

Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, light, shade, sun, warm, cool, water, grow, healthy.
Names of trees in the local area.
Names of garden and wild flowering plants in the local area.

Scientific Enquiries for plants

- Which are the best bulbs to grow a colourful spring display? (Comparative/fair testing)
- The seeds have fallen out of their packet, how can we sort them? (Identifying & classifying)
- Growing plants – all year round and watch them grow, including seeds, bulbs etc. (Observing over time)
- What happens to our cut flowers over time? (Observing over time)
- Is it true that plants live in the polar regions? (research)

Topic Questions

- Can we design, develop and grow our castle garden? (growing different seeds and bulbs)

Key Experiences

- Making a salad and tasting the different foods we can eat that grow from a plant
- Grow and care for different plants
- Exploring different types of seeds

Working Scientifically

- Observe, describe and compare using science words
- Sort and order observations
- Ask scientific questions and use information to help answer them
- Plan how to collect data to answer questions, with help
- Measure using non-standard, then standard units
- Talk about what might happen and compare it to what did happen
- Plan a simple fair test, with help
- Test out their own/someone else's ideas
- Explain why (in a simple way)
- Record information on tables and bar charts

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.

Observe, Describe, Compare, Sort, Measure, Record, fair test, pattern
 comparative language e.g. big, bigger, biggest, small, smaller, smallest, tall, taller, tallest, light, lighter, lightest, long, longer, longest
 language of data e.g. table, pictogram, bar chart, tally