

## Science Non-Negotiable Key Skills, Knowledge and Vocabulary YEAR 2

### National Curriculum:

#### Working Scientifically:

- During year 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:
- 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.

#### All living things and 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.

#### 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.

#### 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.

#### Uses of everyday materials:

- 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 Concepts:

Working Scientifically: *Use practical scientific methods, processes and skills to understand how ideas and theories are investigated and how this improves scientific knowledge and skills*

All living things and their habitats: *Animals can be classified into groups dependent on their physical characteristics. Animals are affected by their habitats and this may cause them to change.*

Plants: *Plants are living organisms that require specific conditions to adapt and grow.*

Animals including humans: *All animals, including humans, share life processes, which allows them to adapt and grow.*

Uses of everyday materials: *Objects are made up of a variety of materials and are used for particular things based upon their properties.*

Topic	Key Skills	Subject Knowledge	Key Vocabulary
Working scientifically	<ul style="list-style-type: none"> <li>Ask simple questions about the world around me.</li> <li>Observe closely, using simple equipment.</li> <li>Perform simple tests.</li> <li>Identify and classify.</li> <li>Use my observations and ideas to suggest answers to questions</li> </ul>	<p>To know:</p> <ul style="list-style-type: none"> <li>what an appropriate question is</li> <li>what an observation is</li> <li>what to observe and measure in a simple test</li> <li>how to predict</li> <li>how to report findings in oral form</li> <li>how to use scientific language to explain and describe</li> <li>how to draw a conclusion based on aims</li> </ul>	<p>Pattern changes plan record observe            identify classify data question answer            compare measure equipment test sort            group label list larger smaller faster            slower stronger weaker brighter            dimmer louder quicker data logger</p>
All living things and their habitats	<p><b>Classify, group and compare</b> differences (between things that are living, dead, and things that have never been alive)</p> <p><b>Identify and investigate using secondary research</b> (most living things live in habitats to which they are suited)</p> <p><b>Research and explain</b> (different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other)</p> <p><b>Explain</b> (animals obtain their food from plants and other animals)</p>	<p>To know:</p> <ul style="list-style-type: none"> <li>a variety of plants and animals in their habitats, including microhabitats</li> <li>a simple food chain</li> <li>a variety of different food sources</li> <li>how to use classification keys</li> </ul>	<p>Living things plants animals habitats            conditions living dead alive dark            light water damp dry micro-habitats            food food chain sources food webs            producer prey predator environment            local protected endangered species            birds reptiles mammals amphibians            fish</p>

Plants	<p><b>Observe and describe</b> (how seeds and bulbs grow into mature plants)</p> <p><b>Describe and investigate using secondary research</b> (how plants need water, light and a suitable temperature to grow and stay healthy).</p>	<ul style="list-style-type: none"> <li>• how plants grow and stay healthy</li> <li>• parts of a plant and their functions (stem, root, leaf/leaves, flower)</li> <li>• how a plant dies</li> </ul>	<p>Plants seeds bulbs mature water light healthy temperature germinate growth reproduce roots flowers petal stem insects pollen leaves sun</p>
Animals including humans	<p><b>Notice and describe</b> (animals, including humans, have offspring which grow into adults)</p> <p><b>Investigate using secondary research and explain</b> (basic needs of animals, including humans, for survival)</p> <p><b>Test and explain</b> (importance for humans of exercise, eating the right amounts of different types of food, and hygiene)</p>	<p>To know:</p> <ul style="list-style-type: none"> <li>• what it means to have offspring</li> <li>• that basic needs of animals include water, food and air (oxygen)</li> <li>• how humans can stay healthy</li> <li>• a variety foods that help humans maintain a healthy diet</li> <li>• hygiene habits that maintain health and cleanliness</li> <li>• a variety of movements to keep the body healthy</li> <li>• what happens to the body when we exercise</li> </ul>	<p>Animal human adult parent young offspring water food air exercise hygiene environment fossil skeleton body organs healthy diet height growth weight</p>
Uses of everyday materials	<p><b>Identify and compare</b> (suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard)</p> <p><b>Investigate</b> (materials for particular uses)</p> <p><b>Investigate and report findings</b> (how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching)</p>	<p>To know:</p> <ul style="list-style-type: none"> <li>• a variety of everyday materials including wood, plastic, glass, metal, water, and rock</li> <li>• physical properties of materials</li> <li>• the suitability of materials based upon their properties</li> <li>• that some solid objects' forms can be changed by squashing, bending, twisting and stretching</li> </ul>	<p>Materials shape suitability solid changes properties heat insulators conductors forces squashing bending twisting stretching reflective similarities differences wood metal plastic glass brick rock paper cardboard uses</p>