



## **Progression and Core Knowledge in Science**

### **The Big Ideas in Science**

- Develop secure scientific knowledge that builds on previous learning.
- Develop conceptual understanding through the specific disciplines of biology, chemistry and physics
- Develop an understanding of the nature, processes and methods of science
- Understand and create different types of scientific enquiries that help answer questions they have about the world around them
- Use their scientific knowledge to understand the uses and implications of science, today and for the future.
- Recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena

#### **Working Scientifically in KS1:**

- 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.

### **National Curriculum**

#### **Materials:**

##### **Y1:**

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.

##### **Y2:**

- 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.

## **Plants**

### **Y1:**

- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- Identify and describe the basic structure of a variety of common flowering plants, including trees.

### **Y2:**

- 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**

### **Y1:**

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).
- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

### **Y2:**

- Notice that animals, including humans, have offspring that 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.

## **Seasonal Changes – Y1**

- Observe changes across the four seasons.
- Observe and describe weather associated with the seasons and how day length varies.

## **Living Things and their habitats - Y2:**

- 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.

|                                 | FS                                                                                                                                                                                                                                                                         | Y1                                                                                                                                                                                                                                                                                                                          | Y2                                                                                                                                                                                                                                                           |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Materials</b>                | <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Explore the natural world around them, making observations.</p>                                                              | <p>Know the name of the materials an object is made from.</p> <p>Know about the properties of everyday materials.</p>                                                                                                                                                                                                       | <p>Know how materials can be changed by squashing, bending, twisting and stretching</p> <p>Know why a material might or might not be used for a specific job</p>                                                                                             |
| <b>Plants</b>                   | <p>Explore the natural world around them, making observations and drawings of plants.</p> <p>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.</p>  | <p>Know and name a variety of common wild and garden plants</p> <p>Know and name the petals, stem, leaves and root of a plant</p> <p>Know and name the roots, trunk, branches and leaves of a tree</p>                                                                                                                      | <p>Know and explain how seeds and bulbs grow into plants.</p> <p>Know what plants need in order to grow and stay healthy (water, light, suitable temperature)</p> <p>Name a variety of plants that grow in different habitats</p>                            |
| <b>Animals including humans</b> | <p>Explore the natural world around them, making observations and drawings of animals.</p> <p>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.</p> | <p>Know and classify animals by what they eat (carnivore, herbivore and omnivore)</p> <p>Know how to classify a range of animals by amphibian, reptile, mammal, fish and bird.</p> <p>Know the names of the parts of the body that can be seen.</p> <p>Know about the five senses and link them with parts of the body.</p> | <p>Know the basic stages in a life cycle for animals, (including humans)</p> <p>Know that animals need food, water and air to survive.</p> <p>Know why exercise, a balanced diet and good hygiene are important for humans</p>                               |
| <b>Seasonal Changes</b>         | <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>                                                                                                                              | <p>Know the seasons and know about the types of weather in each season.</p> <p>Observe and describe how day length varies across the seasons</p> <p>Observe changes in the seasons.</p>                                                                                                                                     |                                                                                                                                                                                                                                                              |
| <b>Living Things</b>            | <p>Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>Explain some similarities and differences between life in this country and life in other countries.</p>                                                   |                                                                                                                                                                                                                                                                                                                             | <p>Classify things by living, dead or never lived</p> <p>Name a variety of animals, including mini-beasts</p> <p>Match living things to their habitat</p> <p>Know how a specific habitat provides for the basic needs of plants and animals living there</p> |

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|  |  |  | Name some different sources of food for animals<br><br>Explain a simple food chain |
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### What's next in science?

Our KS2 school use 'Developing Experts' and the overview below

|                |                                                     |                                             |                    |                                                               |                         |                                 |
|----------------|-----------------------------------------------------|---------------------------------------------|--------------------|---------------------------------------------------------------|-------------------------|---------------------------------|
| <b>2Year 3</b> | Animals Including Humans - what makes us            | Exploring the World of Plants               | Forces and Magnets | Light                                                         | Plants - life cycles    | Rocks                           |
| <b>Year 4</b>  | Animals Including Humans - food and digestion       | Classifying things and their Habitats       | Electricity        | Living things and their Habitats - nature and the environment | Sounds                  | States of Matter                |
| <b>Year 5</b>  | Animals Including Humans - the human life cycle     | Changes of Materials                        | Earth and Space    | Forces                                                        | Properties of Materials | Studying Living Things          |
| <b>Year 6</b>  | Animals Including Humans - blood and transportation | Animals Including Humans - heart and health | Electricity        | Evolution and Inheritance                                     | Light                   | Living things and their Habitat |