



Subject Knowledge Plan – Science



This plan details the knowledge to be acquired over the key stages. Reception children will access information, experiences and make links through their continuous provision. Year 1 children will focus on acquiring basic skills and knowledge. Year 2 children will continue with progression of basic skills and be supported to recall knowledge and make conceptual links.

National Curriculum Objectives: (Bold objectives for Y2)

Plants in KS1

- 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.
- **Observe and describe how seeds and bulbs grown into mature plants**
- **Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.**

Animals, including humans in KS1

- 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, 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.
- **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**

Everyday materials in KS1

- 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
- **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**

Seasonal Changes in Year 1:

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

Living things and their habitats in Year 2:

- 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 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>Autumn 1</p> <p>Transition 2 weeks & Farms 5 weeks</p>	<p>Spring 1</p> <p>Knights & Castles 6 weeks</p>	<p>Summer 1</p> <p>The Sea 6 weeks</p>
<p>NC Objective Coverage:</p> <p>Y1- Seasonal Changes</p> <p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p> <p>Y2 – Living Things and their Habitats</p> <p>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 micro-habitats</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>NC Objective Coverage:</p> <p>Y1- Animals Including Humans</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Describe and compare the structure of a variety of common animas (fish, amphibians, reptiles, birds, mammals, including pets)</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>Y2 – Animals including Humans</p> <p>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>NC Objective Coverage:</p> <p>Y1- Materials</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>Y2 – Plants</p> <p>Observe and describe how seeds and bulbs grown into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>
<p>Autumn 2</p> <p>Fire Fire! 5 weeks & Christmas 2 weeks</p>	<p>Spring 2</p> <p>Africa 6 weeks inc Easter</p>	<p>Summer 2</p> <p>Journeys 6 weeks & Transition 2 weeks</p>
<p>NC Objective Coverage:</p> <p>Y1- Animals Including Humans</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Describe and compare the structure of a variety of common animas (fish, amphibians, reptiles, birds, mammals, including pets)</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>Y2 – 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>	<p>NC Objective Coverage:</p> <p>Y1- Materials</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>Y2 – Animals including Humans</p> <p>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>NC Objective Coverage:</p> <p>Y1- Plants</p> <p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Y2 – Plants</p> <p>Observe and describe how seeds and bulbs grown into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>

<p>Autumn 1 Transition 2 weeks & Farms 5 weeks</p>	<p>Spring 1 Knights & Castles 6 weeks</p>	<p>Summer 1 The Sea 6 weeks</p>
<p>Working Scientifically EYFS Y1 – Working Scientifically Observe similarities and differences. Predict colours in a leaf. Can explain what winter feels like. Labelled diagrams Evaluate test and suggest improvements Ask simple questions</p> <p>Y2 Ask questions Draw basic conclusions Record observations Use tables and pictograms Interpret results Communicate findings</p>	<p>Working Scientifically EYFS Y1 Ask questions Venn diagrams Make comparisons and give reasons. Observe features of human body Carry out tests to compare and classify Make predictions using senses.</p> <p>Y2 Identify animals and offspring Communicate findings Ask simple questions Communicate findings about animals Plan and carry out test Sort food into groups and record</p>	<p>Knowledge & Working Scientifically EYFS Y1 Use observations to classify Record in a table Ask and answer questions Simple test Make predictions on best materials. Evaluate test</p> <p>Y2 Label parts of a plant Make observations on how a plant grows Use a Venn diagram to sort and classify Identify plants using observations Make basic predictions Carry our simple tests</p>
<p>Scientific Enquiries Y1 Identify 4 seasons Look for patterns in colours. Observe formation of crystals over time. Compare results to research on rain. Simple comparative test. Identify different clouds.</p> <p>Y2 Identify and classify objects Identify habitats Research facts about animals Look for patterns in data Look for patterns in data Find out what animals eat.</p>	<p>Scientific Enquiries Y1 Identify parts of body. Spot patterns between groups of animals Identify and classify animals Comparative tests</p> <p>Y2 Look for patterns in animals Observe lifecycle over time Research facts about animals Identify foods animals eat Set up comparable table Identify and classify foods Look for patterns in how germs grow Use research Observe over time Revise, research and recall</p>	<p>Scientific Enquiries Y1 Identify materials and classify Classify based on how they feel. Classify materials Compare suitability of materials Patterns in test results</p> <p>Y2 Identify and classify parts of a plant Observe over time how plants grow Use a Venn diagram to sort and classify Identify plants using observations/Identify plants in environment Observe plants over time Carry out comparative test</p>

Autumn 2 Fire Fire! 5 weeks & Christmas 2 weeks	Spring 2 Africa 6 weeks inc Easter	Summer 2 Journeys 6 weeks & Transition 2 weeks
Knowledge & Working Scientifically Y1 Ask questions Venn diagrams Make comparisons and give reasons. Observe features of human body Carry out tests to compare and classify Make predictions using senses. Y2 Identify and classify materials. Labelled diagrams Draw basic conclusions Carry out simple comparative tests. Predicting best material Evaluate findings of tests	Knowledge & Working Scientifically Y1 Use observations to classify Record in a table Ask and answer questions Simple test Make predictions on best materials. Evaluate test Y2 Use art to represent food groups Make simple predictions Communicate using simple models Evaluate test Answer questions using scientific knowledge	Knowledge & Working Scientifically Y1 Make careful observations. I can explain how a seed grows. Draw and label a plant Label parts of a plant Ask yes and no questions to classify. Make simple predictions Y2 Communicate clearly how plants grow Ask questions to investigate Evaluate test Observe plants in different climates Record results/accurate measurements Evaluate learning
Scientific Enquiries Y1 Identify parts of body. Spot patterns between groups of animals Identify and classify animals Comparative tests Y2 Compare and group materials. Identify materials Use research for understanding. Comparative tests. Notice patterns between materials. Comparative test.	Scientific Enquiries Y1 Identify materials and classify Classify based on how they feel. Classify materials Compare suitability of materials Patterns in test results Y2 Identify and classify foods Look for patterns in how germs grow Use research Observe over time Revise, research and recall	Scientific Enquiries Y1 Find out how different fruits grow. Observe seeds over time. Identify plants in the environment. Identify and classify parts of a plant. Identify and classify leaves. Observe leaves over time. Y2 Record observations over time Look for patterns in my tests Look for patterns Use research Look for patterns Recap key concepts
Continuous Provision: Have resources available for children to photograph, draw, document somehow the world around them and then generate a discussion around this. Have flower beds accessible for children to observe, interact with and regularly plant and grow a variety of seeds bulbs and plants. Include indoor plants and planting, e.g. in Autumn 2, plant bulbs in pots for spring flowering. Provide regular access to animals in the classrooms and encourage observation over time, e.g. create wormeries, grow butterflies from eggs, chicks in incubators, fish in a tank, garden snails in a vivarium. Allow children access to the outdoor area so they can investigate their surroundings further.		