



Year 2: Science

Autumn Term – Chemistry Use of Everyday Materials

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
In Year 2, pupils identify and compare the suitability of a variety of everyday materials. They also find out how the shapes of solid objects, made from some materials, can be changed.	<ul style="list-style-type: none"> the materials different objects are made from how materials are used in their local area gather and use data to compare the suitability of different materials perform simple tests to explore how the shapes of objects made from some materials can be changed suggest ways to stop plastic pollution understand how new materials have been/are discovered 	<ul style="list-style-type: none"> gathering and recording of data to help in answering of questions performing simple tests using their observations and ideas to help in answering questions

Sequence:

This unit is designed to expand pupils' knowledge of materials and what they are used for. It builds on what pupils learnt in Year 1. The first session is a revision session of the work completed in Year 1, designed to remind pupils of the names of common materials and their properties. This unit is deliberately placed alongside the History unit 'The Great Fire of London' so that links can be made between the two subjects.

Autumn Term – Biology Animals including humans - Needs for Survival

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
In Year 2, pupils are taught to find out about and describe the basic needs of animals, including humans, for survival (water, food, air). They learn to recognise that animals, including humans, have offspring and to describe the importance of exercise, eating the right amounts of types of foods and of hygiene for humans.	<ul style="list-style-type: none"> the things that animals need to survive. know how animals change as they grow know why exercise is important to health what a balanced diet is and apply this knowledge to understanding their own diet understand what hygiene is and why it is important 	<ul style="list-style-type: none"> observing closely, using simple equipment asking simple questions using their observations and ideas to suggest answers to questions

Sequence:

In Year 1, pupils gained a strong foundational knowledge of what all living things do. They were introduced to the different types of vertebrate animals (those with a backbone) and learnt about common animals including fish, amphibians, reptiles, birds, and mammals. During classification and identification work, pupils observed similarities and differences between species. From this learning, pupils already understand that humans are mammals and belong to the animal kingdom.

Spring Term – Biology Plants

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
In Year 2, pupils are taught to observe and describe how seeds and bulbs mature into plants. Pupils also find out and describe how plants need water, light and a suitable temperature to stay healthy	<ul style="list-style-type: none"> • what seeds are and the different types of seeds • that plants can grow from seeds but can also grow from bulbs • what is meant by 'seed dispersal' • what is meant by 'germination' and that seeds need certain conditions to germinate • the needs of a plant for survival after the initial germination stage 	<ul style="list-style-type: none"> • observing closely, using simple equipment • gathering and recording data to help in answering questions • using their observations and ideas to suggest answers to questions • performing simple tests

Sequence:

Pupils in Year 1 were introduced to common wild and garden plants, including deciduous and evergreen trees. They also identified and described the basic structure of a variety of common flowering plants, including trees. Earlier in Year 2, pupils added to their knowledge of plants by looking at plants within different habitats, the role plants play in food chains and why trees are important.

Spring Term – Biology Living Things and their Habitats

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
In Year 2, pupils are taught the difference between things that are living, dead and things that have never been alive. They are also taught that most organisms live within habitats, that the organisms within an environment are suited to life there and that they depend on each other. Pupils are then able to construct simple food chains in addition to identifying and classifying organisms within habitats.	<ul style="list-style-type: none"> • recognise and classify objects and organisms as: alive, dead, or never alive • explore how we know if an object or organism is alive – using the life processes • know some of the different habitats plants are found in • investigate and name the minibeasts found in a range of different microhabitats • which animals are found in different world habitats with a focus on the Arctic and the Sahara • understand simple food chains using the vocabulary carnivore, herbivore, omnivore, predator and prey • understand that habitats can change over time 	<ul style="list-style-type: none"> • identifying and classifying • using their observations and ideas to suggest answers to questions

Sequence:

This unit is designed to expand pupils' knowledge of living things. In Year 1, pupils discovered the different types of vertebrates: fish, mammals, birds, reptiles and amphibians and that animals can be classified as carnivores, herbivores or omnivores. They also investigated what animals need to survive. This unit builds upon that knowledge with habitats and food chains.

Summer Term – Biology
Living Things and their Habitats (continued)

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
In Year 2, pupils are taught the difference between things that are living, dead and things that have never been alive. They are also taught that most organisms live within habitats, that the organisms within an environment are suited to life there and that they depend on each other. Pupils are then able construct simple food chains in addition to identifying and classifying organisms within habitats.	<ul style="list-style-type: none"> • recognise and classify objects and organisms as: alive, dead, or never alive • explore how we know if an object or organism is alive – using the life processes • know some of the different habitats plants are found in • investigate and name the minibeasts found in a range of different microhabitats • which animals are found in different world habitats with a focus on the Arctic and the Sahara • understand simple food chains using the vocabulary carnivore, herbivore, omnivore, predator and prey • understand that habitats can change over time 	<ul style="list-style-type: none"> • identifying and classifying • using their observations and ideas to suggest answers to questions •

Sequence:

This unit is designed to expand pupils' knowledge of living things. In Year 1, pupils discovered the different types of vertebrates: fish, mammals, birds, reptiles and amphibians and that animals can be classified as carnivores, herbivores or omnivores. They also investigated what animals need to survive. This unit builds upon that knowledge with habitats and food chains.

Summer Term – Biology
Living Things and their Habitats
Conservation - Protecting the Environment

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
The National Curriculum does not require pupils to explore the human impact on the environment until Year 4 but within our Science curriculum, pupils will first be introduced to this concept here in Year 2. This ensures that pupils have the necessary foundational knowledge but also that pupils are considering the environment and their role in protecting it.	<ul style="list-style-type: none"> • why we need to protect our planet • what we mean by the word 'environment' • why trees are so important for the environment • how habitats can be negatively impacted • how their local environment is being impacted • the different ways in which we can save or conserve water and electricity • how their actions at home could support the protection of the environment 	<ul style="list-style-type: none"> • asking simple questions • using their observations and ideas to suggest answers to questions

Sequence:

This unit is designed to expand pupils' subject knowledge of habitats through the lens of how and why habitats should be protected. The content is designed to support pupils in understanding why the environment is important and what they can do to make a difference on a local scale. This unit is placed after the science 'Habitats' unit so that links can be made.