The Science Curriculum at Crowthorne – Key Stage 1

Working scientifically

During years 1 and 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

NC Programme of Study	Year 1	Year 1 Unit	Year 2	Year 2 Unit
Living things and their habitats			• Pupils should be taught to: • 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.	**Living things and their habitats (SPR 1)** • Visit several different habitats (and microhabitats) around the school and identify the living things found there. • Sort a collection of objects according to whether they are living things (plants and animals),things that once lived or things that have never been alive. • Know how animals in all habitats depend on plants and each other for food by creating simple food chains. • Consider how living things are suited to live in different habitats.
Plants	Pupils should be taught to: • 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	**Plants: Labelling and classifying (Plant Detectives) (SUM2)** • Look closely at garden plants around the school, including flowering plants, learn their names and make simple comparisons. • Look closely at wild plants growing locally, learn their names and make simple comparisons. • Make observations of a variety of familiar wild and garden flowering plants and group flowers according to given, or their own, criteria. • Observe the root systems of a variety of plants, comparing and contrasting their different structures. Recognise how the roots anchor the plant in the soil.	Pupils should be taught to: • 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	**Plants (SUM 1)** • Use their observations to describe and identify seeds. • Consider what they need to find out about seeds and growing plants. • Plant seeds that they will observe over the next few weeks • Plant some bulbs to observe as a class and begin a class book to record their investigations. • Investigating pea germination • Keep seed diaries to record their observations of the germinating seeds. • Summarise their learning about growing plants from seeds using their observation of the seeds • Plan a test to investigate how to keep mature plants healthy.

		• Learn that trees are plants, collect evidence about trees in their local environment and make comparisons.		
Animals Including Humans	Pupils should be taught to: • 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	**Animals: Classification (Looking at Animals) (AUT1)** • Explore a variety of animals living on the Earth and classify into fish, amphibian, reptile, bird or mammal based on similar features. • Examine the structures of reptile and amphibian bodies, use secondary sources to identify and name important body parts, and create a model of a lizard. • Observe and compare the features of fish, looking at real examples. • Discover what makes birds a distinct group of animals. Observe and compare different birds and their features using secondary sources. • Explore animals' diets and classify into carnivores, herbivores and omnivores. • Find out about different types of pets (cats, dogs, rabbits), describe their features and say whether they are carnivores, herbivores or omnivores. **Using our senses (AUT2)** • Identify and name the parts of their bodies, labelling a template of themselves. • Understand that we hear because sounds travel in waves into our ear, and our ear sends a message to our brain. Recognise that sounds are louder when they are closer to our ears. • Understand that our eyes need light in order to see. Look closely at our eyes, labelling main parts. • Understand that our pupil gets larger or smaller to let more or less light into our eye. • Understand that our nose is associated with smell and our tongue is associated with taste. • Understand that we use our skin to touch. Perform a simple test to investigate how many layers of material it will take to stop them feeling a pea through those layers.	Pupils should be taught to: • 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	**Animals Including Humans (AUT 1)** • Children first think about what they need to do to stay safe and healthy. • Chn sort food, choosing their own ways of grouping. • Children explore different types of food, sorting them into different categories and planning meals. • Explore how it feels to take part in a physical activity. Create an exercise plan for one week. • Children learn about keeping their bodies clean. • Children learn about the safe use of medicines and sort a range of items into groups – medicines, not medicines. **Animals Including Humans (SUM 2)** • observe how particular animals changes over time. (honey bee & butterfly) • compare a doll and a baby and identify the potential needs of a baby. • draw on a range of information sources to identify the changes that have occurred as they have grown from a baby into a child. • learn about stages in human life. • carry out a pattern-seeking investigation based on measuring the head sizes of children of different ages • find out more about babies by questioning an expert (a parent or health professional).

Everyday materials	Pupils should be taught to: • 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	**Materials: Identifying and classifying, comparing and grouping. (Everyday materials (SPR1 and 2)** • Identify wood, metal and plastic in different objects and describe and compare their simple physical properties. • Identify glass and brick in different contexts and describe and compare their simple physical properties. • Understand how glass and brick are made. • Explore different types of paper and perform a simple test to investigate their properties. • Perform a simple test to investigate the waterproof properties of different materials. • Compare the properties of ice with the properties of water. • Perform a simple test to investigate what makes a material float or sink.	Pupils should be taught to: • 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	**Materials: Changing Shapes (Aut 2)** • test different objects and sort them according to which actions can be used to change their shapes • link the actions from previous lessons to the properties of materials, and then test materials for those properties • test different types of elastic to see how well they stretch. **Materials: Uses and Suitability (SPR 2)** • look at objects made from different materials. • identify which materials are appropriate for certain objects and which are not • carry out a comparative test to find out which types of materials are appropriate or not appropriate to make a teabag. • consider what properties are important when making a Rocket Mouse.
Seasonal Changes:	Pupils should be taught to: • observe changes across the 4 seasons • observe and describe weather associated with the seasons and how day length varies	**Seasonal Changes (SUM1)** • Visit the school grounds or locality at different seasons of the year, making observations of the changing natural world as they carry out seasonal 'scavenger hunts'. (This lesson is carried out in Autumn, Spring and Summer terms) • Consider the evidence that they have collected during a seasonal scavenger hunt, including weather, plants, animals. • Collect daily records of the weather for a period of two weeks, and use their completed records to look for patterns and link these to seasonal change. • Experience and find out about day length and weather associated with each season, and explore the impact that different types of weather and day length has on them and the world around them.		