Scholar Green Primary School
Science (Biology) Progression Model

	Knowledge	Skills (Working Scientifically)	Vocabulary
Plants			
Year 1	• To know and name a variety of common wild and garden plants, including deciduous and evergreen trees • To know and describe the basic structure of a variety of common flowering plants, including trees. • To know and name: leaves, flowers and blossom	• Explore and ask questions about plants growing in their habitat • Use their observations to answers their questions • Observe the growth of flowers and vegetables that they have planted • Observe plants closely using magnifying glasses • Compare and contract familiar plants • Record how plants have changed over time (for example the leaves falling off trees and buds opening) • Observe changes across the four seasons	Plant Tree Leaves Flowers Blossom Petal Fruit Root Bulb Seed Trunk Branches stem Flowering Deciduous Evergreen
Year 2	• To know how seeds and bulbs grow into mature plants • To know that plants need water, light and a suitable temperature to grow and stay healthy.	• Observe and describe how seeds and bulbs grow into mature plants • Record with some accuracy how the height of a plant changes over time • Perform a simple comparative test to show that plants need light and water to stay healthy	Mature plant Needs Water Light Suitable temperature Healthy Germination Growth Survival
Year 3	• To know the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • To know the requirements of plants for life and growth (air, light, water, nutrients from	• Identify and describe the functions of different parts of flowering plants: roots, tem/trunk, leaves and flowers • Investigate the way in which water is transported within plants • Observe how water is transported in plants • Record findings using labelled diagrams (to show the parts and functions of a plant)	Function Requirement Air Nutrients Vary Transported

	soil, and room to grow) and how they vary from plant to plant • To know the way in which water is transported within plants • To know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	• Observe the different stages of plant life cycles over a period of time	Life cycle Pollination Seed formation Seed dispersal

	Knowledge	**Skills (Working Scientifically)**	**Vocabulary**
		Animals Including Humans	
Year 1	• To know and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • To know and name a variety of common animals that are carnivores, herbivores and Omnivores • To know and describe the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • To know and name the basic parts of the human body and say which part of the body is associated with each sense.	• Identify and classify a variety of common animals including fish, amphibians, reptiles, birds and mammals • Identify and classify whether a common animal is a carnivore, herbivores or Omnivores • Compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • Identify, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Animals Fish Amphibians reptiles Birds Mammals Carnivores Herbivores Omnivores Structure Pets Label Human body Eyes Ears Mouth Nose Neck arms Hands Feet leg Sense See Hear Smell

			Touch Taste
Year 2	• To know that animals, including humans, have offspring which grow into adults • To know and describe the basic needs of animals, including humans, for survival (water, food and air) • To know and describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	• Find out about the basic needs of animals, including humans, for survival (water, food and air) • Ask questions about different life cycles (e.g. egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep) • Observe (in real life or through video clips) changes in different life cycles (e.g. egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep) • Ask questions about what things animals need for survival and what humans need to stay healthy • Use their observations to suggest answers to questions • Suggest ways of finding out the answers to their questions	Off spring Reproduction Adults Basic needs Survival Water Food Air Exercise Hygiene
Year 3	• To know that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • To know that humans and some other animals have skeletons and muscles for support, protection and movement.	• Identify and classify animals with and without skeletons • Compare and contrast the diets of different animals and decide ways of grouping them according to what they eat • Research different food groups and how they keep us healthy	Nutrients Skeleton Muscles Support Protection Movement
Year 4	• To know the simple functions of the basic parts of the digestive system in humans • To know the different types of teeth in humans and their simple functions • To know and understand a variety of food chains, identifying producers, predators and prey.	• Describe the simple functions of the basic parts of the digestive system in humans • Identify the different types of teeth in humans and their simple functions • Create a labelled diagram to show the different types of teeth • Make systematic and careful observations about the damage different substances can do to teeth • Use the results of their observations to draw simple conclusions about how to look after and protect our teeth • Construct and interpret a variety of food chains, identifying producers, predators and prey.	Digestive system Swallow chew Physical / mechanical break down Mouth Salivary gland Saliva Oesophagus Stomach Large intestine Small intestine Colon Pancreas

			Teeth Canine Incisor Molar Food chain Producer Predator Prey
Year 5	• To know the changes as humans develop to old age.	• Recording data for the length and mass of babies as they grow on a line graph • Research the gestation period of different animals and compare them with humans	Develop Old age Foetus Childhood Adolescence Gestation period Fertilisation
Year 6	• To know and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • To know and recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • To know the ways in which nutrients and water are transported within animals, including humans.	• Identify the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • Planning a scientific enquiry to identify the impact of exercise on the human body, including recognising and controlling variables • Taking measurements with increasing accuracy and precision and repeating readings where appropriate to record heart-rate during exercise • Identify scientific evidence by exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.	Circulatory system Heart Blood Blood vessels

	Knowledge	**Skills (Working Scientifically)**	**Vocabulary**
		Living Things and their habitats	
Year 2	• To know the differences between things that are living, dead, and things that have never been alive • To know how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other	• Observe, explore and compare the differences between things that are living, dead, and things that have never been alive • Sort and classify things according to whether they are living, dead, or have never been alive • Ask questions to help them sort and classify things according to whether they are living, dead, or have never been alive •	Living Dead Never been alive Habitat Basic needs Food chain Sources of food

	• 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.	• Identify that most living things live in habitats to which they are suited and describe • Observe, identify and name a variety of plants and animals in their habitats, including microhabitats •	Observe Classify Sort
Year 4	• To know and recognise that living things can be grouped in a variety of ways • To Know that environments can change and that this can sometimes pose dangers to living things.	• Classify and group living things in a variety of ways • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Make systematic and careful observations of how habitats in the local environment change throughout the year in particular using a thermometer to accurately measure the temperature at different points throughout the year.	Environment Classification key Thermometer
Year 5	• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • To know the life process of reproduction in some plants and animals.	• Describe the life process of reproduction in some plants and animals. • Observe and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times) • Asking questions and suggesting reasons for similarities and differences • Observe changes over time in animals (e.g. chicks hatching) either in real life or through video footage	Mammal Amphibian Insect Bird Reproduction
Year 6	• To know how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals • To know reasons for classifying plants and animals based on specific characteristics.	• Through observations classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). • Identify scientific evidence to support classification	Characteristics Microorganism Bacteria Virus Fungus

	Knowledge	Skills (Working Scientifically)	Vocabulary
Evolution and Inheritance			
Year 6	• To know and recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • To know and recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • To know how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution	• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution • Identify and research scientific evidence that supports the theory of evolution	Fossils Inheritance Evolution Offspring Adapted Adaption Theory of evolution Survival of the fittest Scientist Theorist Charles Darwin