St. Joseph's Catholic Primary School
Science Progression: Biology

Year	Progression of knowledge.			
	Animals including humans	**Living things and their habitats**	**Plants**	**Evolution and Inheritance**
Nursery	• Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things. • Use all their senses in hands-on exploration of natural materials. • Begin to make sense of their own life-story and family's history. • Understand the key features of the life cycle of a plant and an animal.	• Explore the surrounding natural environment • Explore natural objects from the surrounding environment	• Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things.	
Reception	• Name and describe animals that live in different habitats • Describe different habitats. • Name and describe people who are familiar to them. • Learn about how to take care of themselves	• Explore the plants in the surrounding natural environment • Explore the animals in the surrounding natural environment • Explore plants and animals in a contrasting natural environment	• Explore the plants in the surrounding natural environment	

1	• 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		• 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	
2	• 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	• Identify the differences between things that are living, dead, and things that have never been alive, using some of the 7 life processes (movement, respiration, sensitivity, growth, reproduction, excretion, nutrition). • Identify that most living things live in habitats to which they are suited. • Explain in simple terms how an animal or plant is suited to its habitat.	• 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	• LINKS TO ANIMALS AND HUMANS UNIT 2

		• Name a variety of plants and animals in their habitats, including micro-habitats. • Explain that different conditions in a habitat and micro habitat can affect the number and type of plants/animals that live there. • Describe how plants and animals depend on each other for food and shelter. • 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. • Construct a simple food chain that includes humans (e.g. grass, cow, human) with arrows pointing in the correct direction.		
3	• identify 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 • identify that humans and some other animals have skeletons and muscles for support, protection and movement		• identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how	• LINKS TO MATERIALS 3

			they vary from plant to plant • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	
4	• 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 • construct and interpret a variety of food chains, identifying producers, predators and prey	• Know the 7 life processes of living organisms. • Use the 7 life processes to determine if an organism is living. • Describe similarities and differences between examples of plants and animals. • Know the features of mammals, amphibians, fish, birds, reptiles (vertebrates) and invertebrates. • Group living things in a variety of ways using key characteristics. • Know and explore the work of Carl Linnaeus. • Use classification keys to help group and identify a variety of living things in their local and wider environment. • Use classification keys to name a variety of living things.		

		• Recognise that environments can change, and this can sometimes pose dangers to living things. • Understand that human actions can impact on the environment and suggest some solutions to the issues.		
5	• describe the changes as humans develop to old age	• Know that reproduction is when an animal or plant produces on or more individuals similar to itself. • Explain that sexual reproduction requires both male and female DNA (sex cells) and will produce offspring that are similar, but not identical to the parents. • Explain that asexual reproduction will produce offspring that is identical to the parent and only requires on parent e.g., bulbs, tubers and runners. • Explain the life cycle of a mammal, amphibian, insect and a bird. • Explain the process of metamorphosis using frogs and butterflies as examples.		

		• Describe the differences in the life cycles of a mammal, amphibian, insect and a bird. • Use prior knowledge of parts of a flower to explain the stages involved in the reproduction process (pollination, fertilisation and germination).		
6	• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • describe the ways in which nutrients and water are transported within animals, including humans	• Know that living things can be grouped according to different criteria. • Know that a cell is made up of nucleus, cytoplasm and membrane. • Know that living things can be multicellular or unicellular (bacteria). • Explain in simple terms how the Linnaeus system is used to classify living things. • Explain why we need to group living things. • Explain possible difficulties with classification (penguins and whales). • Know that classification keys are used to group living things based on recognisable characteristics.		• State what is meant by the term evolution. • State the evolution occurs over a long period of time (for multi cellular organisms) • Recall how fossils are formed. • Identify why species show variation. • Explain how animals and plants are adapted to their environment. • Explain what a habitat is. • Identify work done by Charles Darwin, Alfred Wallace, Mary Anning and John Edmonstone. • State the environment humans evolved in. • Explain how geographical location

		• Construct a classification key. • Explain what microorganisms are and can name some. • Give examples of some situations where microorganisms can be helpful. • Give examples of some situations where microorganisms can be harmful.		has resulted in the evolution of a spectrum of skin colours.