Science
Year 2

Units	Animals Including Humans: Growth	Living Things and Their Habitats	Uses of Everyday Materials	Living Things and Their Habitats: Habitats Around the World	Animals Including Humans: Life Cycles	Plants	Science Fair

National Curriculum:

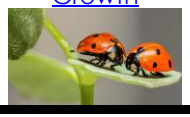
- Explore and compare the differences between things that are living, dead, and things that have never been alive.
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and 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.
- 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.
- 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 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.

Working scientifically

Statutory requirements

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.

Unit Link	Animals Including Humans: Growth	Living Things and Their Habitats	Uses of Everyday Materials	Living Things and Their Habitats: Habitats Around the World	Animals Including Humans: Life Cycles	Plants	Science Fair Entry Enquiry Focus
							

Scientist	Navaratnam Partheeban  Veterinary Surgeon	Maria Sibylla Merian 	**Dr. Geoffrey Neale**  Materials Engineer	Tim Lamont 	Chris Weston  Lobster Hatchery Technician	David Hickmott  Seed collection assistant	
Area Focus	Biology	Biology	Chemistry	Biology	Biology	Biology	
Enquiry Approach	Research Identifying, Grouping and Classifying Problem Solving Comparative/Fair Testing	Identifying, Grouping and Classifying Research	Identifying, Grouping and Classifying Comparative/Fair Testing	Identifying, Grouping and Classifying Research	Identifying, Grouping and Classifying Pattern Seeking Research	Comparative/Fair Testing Research Identifying, Grouping and Classifying	
Resources	Paper plates Craft materials for making food (tissue paper, pipe cleaner, playdough) Stopwatch Beanbags small, medium and large sized balls shallow bowls or plates pepper dish soap	Clipboards Bug hotel resources (natural resources) Internet Library Card paper Sticky tape	Books Weights Aluminium foil Card/Paper Wood cotton, wool, nylon Tape measures Marbles Yogurt cartons String Paper clips Plasticine foil Tissue Clingfilm/Plastic Beakers Elastic bands Trays Syringe/pipette	Internet Books Ipads Collage materials including: paint, paper, corrugated card, stick tape 30 cm rulers Show boxes	Chicks (if you can secure an incubator) Caterpillar Kit Refill Caterpillar Set for Butterfly Garden	Insect Lore Resources to create lifecycles: plasticine, card tissue, paints, coloured pens, pipe cleaners Tadpoles Aquarium	Planting equipment: Pots Seeds Soil Bulbs Magnifying glasses Cutting equipment Coloured chalk Tools for printing (optional)	

Key Concepts	Living and non-living things can be grouped in a variety of ways. Humans move through different stages of growth and development. Living things have characteristics and requirements for life, growth and health	Living things have characteristics and requirements for life, growth and health Living things depend on each other and on the environment; *humans can have both a positive and negative impact*	There is a relationship between structure and function. All matter on earth exists in one of three states: solid, liquid, gas and the state of matter can change.	Living things have characteristics and requirements for life, growth and health Living things depend on each other and on the environment; *humans can have both a positive and negative impact*	Living and non-living things can be grouped in a variety of ways. Humans move through different stages of growth and development. Living things have characteristics and requirements for life, growth and health	Living and non-living things can be grouped in a variety of ways. There is a relationship between structure and function.	
Knowledge	**Lesson 1: Describe the needs of animals for survival.** I can find out about and describe the basic needs of animals for survival. **Lesson 2: Describe the needs of humans, for survival** I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air). **Lesson 3: Explore the importance of eating the right food** I can learn the importance of eating the right amounts of different types of food for humans. **Lesson 4: Describe what a healthy, balanced diet looks like**	**Lesson 1: Compare the differences between things that are living, dead, and things which have never been alive** I can explore and compare the differences between things that are living, dead, and things that have never been alive **Lesson 2: Identify and name a variety of plants and animals in a microhabitat** I can identify and name a variety of plants and animals in their habitats, including microhabitats **Lesson 3:Design a suitable microhabitat where living things could survive**	**Lesson 1: Identify different materials and their uses** I can identify and compare the suitability of a variety of everyday materials **Lesson 2: Understand how to select the right materials to build a bridge** I can identify and compare the suitability of a variety of everyday materials for strength. **Lesson 3: Explore and test the stretchiness of materials** I can find out how the shapes of solid objects made from some materials can be stretched **Lesson 4: Understand materials can change their shape by twisting, bending, squashing or stretching** I can find out how the shapes of solid objects made from some materials can be	**Lesson 1: Learn about habitats** I can identify that most living things live in habitats to which they are suited. **Lesson 2: Appreciate that environments are constantly changing** I can identify that most living things live in habitats that depend on each other. **Lesson 3: Explore the rainforest and its problems** I can describe how the rainforest provides for the basic needs of different kinds of animals and plants and name a variety of plants and animals in that habitat. **Lesson 4: Describe life in the ocean** I can describe how the ocean provides for the basic needs of different kinds of	**Lesson 1: Learn how to order the stages of the human life cycle** I notice that animals, including humans have offspring which grow into adults **Lesson 2: Learn how to match offspring to their parent** I notice that animals have offspring which grow into adults. **Lesson 3: Explore the life cycle of a chicken** I can notice that chickens grow into adults **Lesson 4: Describe the life cycle of a butterfly** I notice that caterpillars change and grow into butterflies **Lesson 5: Explore the life cycle of a frog** I notice that tadpoles change and grow into frogs	**Lesson 1: Design an experiment to find out what plants need to grow** I can find out how plants need water, light and a suitable temperature to grow and stay healthy **Lesson 2: Know the difference between seeds and bulbs** I can observe how seeds and bulbs grow into mature plants **Lesson 3: Describe the life cycle of a plant** I can describe how seeds and bulbs grow into mature plants **Lesson 4: Describe what plants need to grow and stay healthy** I can describe how plants need water, light and a suitable temperature to grow and stay healthy. **Lesson 5: Observe and record the growth of plants over time** I can observe how seeds and bulbs grow into	

	I can describe the importance of eating the right amounts of different types of food for humans. **Lesson 5: Investigate the impact of exercise on our bodies** I can describe the importance of exercise for humans. **Lesson 6: Investigate the importance of hygiene** I can describe the importance of hygiene for humans.	I can design a microhabitat where living things could survive **Lesson 4: Find out what animals eat to survive in their habitats** I can describe how animals obtain their food from plants and other animals **Lesson 5: Understand food chains** I can describe how animals obtain their food using the idea of a simple food chain, and identify and name different sources of food.	changed by squashing, bending and twisting **Lesson 5: Learn about Charles Macintosh and explore how materials are suitable for different purposes** I can identify and compare the suitability of a variety of everyday materials for protection.	animals and plants and name a variety of plants and animals in that habitat. **Lesson 5: Discover the Arctic and Antarctic habitat** I can describe how the polar regions provide for the basic needs of different kinds of animals and plants and name a variety of plants and animals in that habitat.		mature plants and describe what they need to grow healthy.	
Skills	**Lesson 1:** Observing and Measuring **Lesson 2:** Recording data, results and findings **Lesson 3:** Recording data, results and findings **Lesson 4:** Interpreting and Communicating Results	**Lesson 1:** Recording data, results and findings **Lesson 2:** Observing and Measuring **Lesson 3:** Observing and Measuring **Lesson 4:** Recording data, results and findings	**Lesson 1:** Observing and Measuring **Lesson 2:** Setting up tests **Lesson 3:** Setting up tests **Lesson 4:** Recording data, results and findings **Lesson 5:**	**Lesson 1:** Recording data, results and findings **Lesson 2:** Interpreting and Communicating Results **Lesson 3:** Interpreting and Communicating Results **Lesson 4:** Recording data, results and findings	**Lesson 1:** Recording data, results and findings **Lesson 2:** Recording data, results and findings **Lesson 3:** Observing and Measuring **Lesson 4:** Recording data, results and findings **Lesson 5:**	**Lesson 1:** Asking Questions **Lesson 2:** Observing and Measuring **Lesson 3:** Recording data, results and findings **Lesson 4:** Recording data, results and findings **Lesson 5:**	

	Lesson 5:  Setting up tests **Lesson 6:**  Setting up tests	**Lesson 5:**  Recording data, results and findings	Interpreting and Communicating Results	**Lesson 5:**  Recording data, results and findings	 Recording data, results and findings	Interpreting and Communicating Results	
Vocabulary	oxygen nutrition survival/survive essential shelter vital grow healthy non-essential carbohydrate dairy vitamins protein calcium balanced diet fresh food pre-cooked food processed food nutrients exercise flexibility strength balance germs prevent virus bacteria hygiene	senses excrete respire nutrition reproduce survive shelter fungi microhabitat habitat colony condition suitable insect antennae omnivore carnivore herbivore consumer producer food chain life cycle nutrients caterpillar rot	property material suitable object brick bridge construction obstacle triangle structure limit floppy hinder elastic stretchy/stretch squash twist bend mackintosh waterproof protective fluorescent safety	environment microhabitat organism habitat rainforest moisture extinct climate endangered poaching pollution biodiversity deforestation plankton ocean ecosystem coral reef trench narwhal tundra Arctic Caribou Antarctic	independent grow life cycle survive adult resemble offspring inherit differences reproduction bar chart hatchling chick predict transformation larva caterpillar metamorphosis chrysalis tadpole froglet frog amphibian frogspawn	experiment method investigate predict compare seedling seed compare growth bulb life cycle pollen reproduce healthily conditions temperature energy nutrients results	

Career Links	Veterinary surgeon	Zoologist	Fashion designer	Polar scientist	Farmer	Soil scientist	