St Alfege with St Peter's
Church of England Primary School

Science
Learning Objectives
Years 1 - 6

All Living Things - Living Things and Habitats	**Year 1**	01 To name animals and species. (include humans as an animal species)
		02 To identify and name a variety of common animals that are carnivores, herbivores and omnivores.
		03 To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
	Year 2	01 To identify a variety of living things and habitats. **Practical**
		02 To know the basic needs of different kinds of animals and plants, identifying that most living things live in habitats to which they are suited.
		03 To know how different living things depend on each other.
		04 To identify and name a variety of animals in their habitats (including mini-beasts and micro- habitats) **Practical**
		05 To identify and name difference sources of food.
		06 To describe simple food chains.
		07 To notice animals, including humans, have offspring which grow into adults. (links to Jigsaw)
	Year 4	01 To identify producers, predators, consumers and prey.
		02 To interpret food chains.
		03 To construct food chains.
		04 To recognise that environments can change.
		05 To recognise that changing environments can sometimes pose dangers to living things.
		06 To recognise that living things can be grouped in different ways.
		07 To use classification keys to help group, identify and name a variety of living things in their local and wider environment.
	Year 5	01 To describe the life cycles of an amphibian.
		02 To describe the life cycles of a mammal.
		03 To describe the life cycles of a bird.
		04 To describe the life cycles of an insect.
		05 To describe the differences in the life cycles of different species.
		06 To describe the process of reproduction in some animals.
	Year 6	01*To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
		02 *To identify how animals adapted to suit their environment.
		03 *To identify that adaption may lead to evolution.
		04 To describe how living things, including micro-organisms, plants and animals, are classified into broad groups according to common observable characteristics, similarities and differences.
		05 To know how to use a dichotomous key.
		06 To give reasons for classifying plants and animals based on specific characteristics.
	NOTES: Objective from Animals including humans and Living things and habitats in NC. Grouped so the progression of learning flows through the year groups. *In NC under evolution and inheritance, moved to animals and habitats as they progress naturally from objectives in younger year groups.	

Living Things - Human bodies	Year 1	01 To Identify, name, draw and label human body parts.
		02 To know which part of the body is associated with each sense.
	Year 2	01 To describe the importance of personal hygiene. (Links with Jigsaw Spring term)
		02 To identify right amounts of different types of food.
		03 To describe the importance of exercise for humans.
	Year 3	01 To identify that humans need different types of nutrition and which foods to get what from.
		02 To identify that humans need the right amounts of nutrition and to make comparisons with other animals.
		03 To identify that humans (and some animals) have skeletons for support, protection and movement.
		04 To compare how different skeleton types support, protect and move.
		05 To identify that humans (and some animals) have muscles for support, protection and movement.
	Year 4	01 To know and name the basic parts of the digestive system.
		02 To describe the simple functions of the basic parts of the digestive system.
		03 To identify the different types of teeth and their different functions. (Includes practical enquiry that must be concluded throughout the week)
	Year 5	01 To describe changes to develop to old age.
	Year	01 To describe the functions of blood and blood vessels.
		02 To describe the functions of the heart.
		03 To identify and name the main parts of the human circulatory system.

Earth and Space	Year 5	01 To name the planets and moons in the solar system.	
		02 To describe the movement of the Earth and other planets, relative to the sun in the solar system.	
		03 To describe the movement of the moon relative to the Earth.	
		04 To describe the Sun, Earth, and Moon as approximately spherical bodies.	
		05 To use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	

Electricity	Year 2	01 To explore electricity.	Not from NC – currently open to interpretation, these objectives are guidance only.
	Year 4	01 To identify common appliances that run on electricity.	
		02 To construct a simple series of electrical circuits, identifying and naming its basic parts including cells, wires, bulbs, switches and buzzers. **PRACTICAL**	
		03 To investigate what a simple series circuit needs to light up a lamp. ***key language: complete loop/ battery*** **PRACTICAL**	
		04 To recognise some common insulators and conductors, identifying metal as a strong conductor.	
		05 To recognise and investigate the role of a switch.	
	Year 6	01 To use recognised symbols when representing a simple circuit in a diagram.	
		02 To associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells used in a circuit.	
		03 To compare and give reasons for variation in how components function, including the brightness of bulbs, the loudness of buzzers and the on/ off position of switches. **PRACTICAL**	

Forces and Magnets	Year 2	01 To explore different forces.	Not from NC – currently open to interpretation, these objectives are guidance only.
		02 To explore different magnets.	
	Year 3	01 To compare how things move on different surfaces.	
		02 To notice that some forces need contact between two objects, but magnetic forces can act at a distance. **Practical**	
		03 To observe how magnets attract or repel each other and attract some materials and not others.	
		04 To compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet.	
		05 To identify some magnetic materials.	
		06 To describe magnets as having two poles and predict whether magnets will attract or repel each other.	
	Year 5	01 To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.	
		02 To identify the effects of air resistance acting between moving surfaces.	
		03 To identify the effects of water resistance acting between moving surfaces.	
		04 To identify the effects of friction, acting between moving surfaces.	
		05 To recognise that some mechanisms, including leavers, pulleys, and gears, allow smaller forces to have a greater effect.	

Light	Year 1	To explore light sources.	Not from NC – currently open to interpretation, these objectives are guidance only.
		To sort and group light sources.	
		To explore light through the senses.	
		To use language associated with light. (*dark/ light/ bright/ dull)*	
	Year 3	01 To recognise light is needed to see and that darkness is the absence of light.	
		02 To notice light is reflected from surfaces.	
		03 To recognise that sunlight can be dangerous and to identify ways to protect eyes.	
		04 To recognise how shadows are formed.	
		05 To find patterns in changes of shadows sizes.	
	Year 6	01 To recognise that light appears to travel in straight lines.	
		02 To explain how we see, using my knowledge of how light travels.	
		03 To orally report and present how light travels.	
		04 To explain the shape of shadows, using my knowledge of how light travels.	

Materials (including properties, states of matter and changes of materials)	Year 1	01 To identify and name a variety of different materials. *(Including wood, plastic, glass, metal, water, and rock)*
		02 To distinguish between objects and materials.
		03 To describe the simple properties of every day materials.
		04 To compare and group materials on the basis of their simple physical properties.
	Year 2	01 To identify the suitability of a variety of everyday materials for a particular use. *(Metal can be used for coins, cans cars etc.)*
		02 To compare the suitability of a variety of everyday materials for a particular use. *(A spoon can be made out of plastic, metal or wood, but not glass)*
		03 To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
	Year 4	01 To compare and group materials together, according to whether they are solids, liquids or gasses.
		02 To observe that some materials change state when they are heated or cooled.
		03 To research and measure the temperature at which materials change state in degrees Celsius (◦C).
		04 To associate the rate of evaporation with temperature.
		05 To identify the part played by evaporation and condensation in the water cycle.
	Year 5	01 To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets.
		02 To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials. *(Including metals, wood, plastic)*
		03 To know that some materials will dissolve in liquid to form a solution.
		04 To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. (Describing how to recover a substance from a solution.)
		05 To demonstrate that dissolving, mixing and changes of state are reversible changes. **(Practical)**
		06 To explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associate with burning and the action of acid on bicarbonate of soda.

Rocks	Year 3	01 To name and recognise different kinds of rocks. *(Including sedimentary, igneous and metamorphic)*
		02 To compare and group rocks based of their appearance and simple physical properties.
		03 To recognise a fossil.
		04 To know how fossils are formed. *As simple as: When things that have lived are trapped within rock.*
		05 To know that soils are made from rocks and organic matter.
	Year 6	01 *To know that fossils are millions of years old and provide information about the past.
	*In NC under evolution and inheritance, moved to rocks so teachers can see how fossils have been taught in younger year groups.	

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Seasons	Year 1	To name the four seasons.
		To observe changes across the four seasons.
		To observe and describe weather associated with the seasons.
		To observe and describe how day length varies across the four seasons.
	NOTES: Every year group should make links to seasons where possible to embed learning – make links to maths *One plan in the folder, other folders are organised into Autumn, Winter, Spring and Summer.*	

Sound	Year 1	To explore different sound sources.	Not from NC – currently open to interpretation, these objectives are guidance only.
		To sort different sound sources.	
		To explore sound through the senses.	
		To use language associated with sound. (*quiet/ loud/ high/ low)*	
	Year 4	01 To identify how sounds are made, associating some of them with something vibrating.	
		02 To recognise that vibrations from sounds travel through a medium to the ear.	
		03 To find patterns between the pitch of a sound and features of the object that produced it.	
		04 To find patterns between the volume of a sound and the strength of the vibrations that produced it. **Practical**	
		05 To recognise that sounds get fainter as the distance from the sound source increases.	