



Gaddesby Primary School Curriculum

Science



EYFS	Year 1 and 2	Year 3 and 4	Year 5 and 6
Working Scientifically	Working Scientifically	Working Scientifically	Working Scientifically
Ask simple questions about how things work (C&L)	Ask simple questions and recognise that they can be answered in different ways, including use of scientific language from the national curriculum	Ask relevant questions and use different types of scientific enquiries to answer them	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
Begin to compare and use (LW)	Use simple equipment to observe closely including changes over time	Set up simple practical enquiries, comparative and fair tests	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate
	Communicate his/her ideas, what he/she does and what he/she finds out in a variety of ways	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including instruments and data loggers	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
	Perform simple comparative tests	Further record, classify and present data in a variety of ways to help in answering questions	Use test results to make predictions to set up comparative and fair tests
	Identify, group and classify	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms (such as displays and other representations)
	Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	Identify scientific evidence that has been used to support or refute ideas or arguments
	Gather and record data to help in answering questions including from secondary sources of information	Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	Describe and evaluate their own and other people's scientific ideas related to topics in the national curriculum (including ideas that have changed over time), using evidence from a range of sources
		Identify differences, similarities or changes related to simple scientific ideas and processes	Group and classify things and recognise patterns
		Use straightforward scientific evidence to answer questions or to support his/her findings	Find things out using a wide range of secondary sources of information
			Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her methods and findings
Animals including humans	Animals including humans	Animals including humans	Animals including humans
Understand about the importance of healthy, highlighting the importance of different food groups (PSED)	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	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	Describe the changes as humans develop to old age
Talk about different factors that support health and well-being (brushing teeth, physical activity, sleep, talk) (PI)	Group animals according to what they eat	Describe the simple functions of the basic parts of the digestive system in humans	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
	Identify and name a variety of common animals that are invertebrates, herbivores and omnivores	Identify that humans and some other animals have skeletons and muscles for support, protection and movement	Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
	Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	Identify the different types of teeth in humans and their simple functions	Describe the ways in which nutrients and water are transported within animals, including humans
	Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	Construct and interpret a variety of food chains, identifying producers, predators and prey	
	Understand that animals, including humans, have offspring which grow into adults		
	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		
Living things and their habitats	Living things and their habitats	Living things and their habitats	Living things and their habitats
Explore human senses (C&L)	Explore and compare the differences between things that are living, dead, and things that have never been alive	Recognise that living things can be grouped in a variety of ways	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
Engage in non-fiction books (C&L)	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.	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment	Describe the life process of reproduction in some plants and animals
Explore the natural world around us (LW)	Identify and name a variety of plants and animals in their habitats, including micro-habitats	Recognise that environments can change and that this can sometimes pose dangers and have an impact on living things	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
	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		Give reasons for classifying plants and animals based on specific characteristics
Materials	Materials	Materials	Materials
Talk about changes in materials – for example dissolving, drying, evaporating (C&L)	Distinguish between an object and the material from which it is made		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
Describe what they see, hear and feel outside (LW)	Identify and name a variety of everyday materials, including wood, elastic, glass, metal, water, and rock		Recognise that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
Learn about changing states of matter (LW)	Describe the simple physical properties of a variety of everyday materials		Use knowledge of solids, liquids and gases to describe how mixtures might be separated, including through filtering, heating and evaporating
	Compare and group together a variety of everyday materials on the basis of their simple physical properties		Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses		Demonstrate that dissolving, mixing and changes of state are reversible changes
	Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching		Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda
Plants	Plants	Plants	Plants
Talk about trees and fauna in our school setting (LW)	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers	
	Identify and describe the basic structure of a variety of common flowering plants, including trees	Identify and describe the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant	
	Observe and describe how seeds and bulbs grow into mature plants	Investigate the way in which water is transported within plants	
	Describe how plants need water, light and a suitable temperature to grow and stay healthy, and describe the impact of changing these	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	
Seasonal Changes	Seasonal Changes		
Understand the effects of change in seasons (LW)	Observe changes across the four seasons		
	Observe and describe the weather associated with the seasons and how day length varies		
		Forces and magnets	Forces and magnets
		Compare how things move on different surfaces	Explain that unbalanced forces fall towards the Earth because of the force of gravity acting between the Earth and the falling object
		Notice that some forces need contact between two objects, but magnetic forces can act at a distance	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces
		Observe how magnets attract or repel each other and attract some materials and not others	Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect
		Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials	
		Describe magnets as having two poles	
		Predict whether two magnets will attract or repel each other, depending on which poles are facing	
		Electricity	Electricity
		Identify common appliances that run on electricity	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
		Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers	Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
		Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery	Use recognised symbols when representing a simple circuit in a diagram
		Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit	
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		Light	Light
		Recognise that he/she needs light in order to see things and that dark is the absence of light	Recognise that light appears to travel in straight lines
		Notice that light is reflected from surfaces	Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
		Recognise that light from the sun can be dangerous and that there are ways to protect eyes	Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
		Recognise that shadows are formed when the light from a light source is blocked by a solid object	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
		Find patterns in the way that the size of shadows change	
		Sound	Sound
		Identify how sounds are made, associating some of them with something vibrating	
		Recognise that vibrations from sounds travel through a medium in the air	
		Find patterns between the pitch of a sound and features of the object that produced it	
		Find patterns between the volume of a sound and the strength of the vibrations that produced it	
		Recognise that sounds get fainter as the distance from the sound source increases	
		States of matter	States of matter
		Compare and group materials together, according to whether they are solids, liquids or gases	
		Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)	
		Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	
		Rocks	Rocks
		Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	
		Describe in simple terms how fossils are formed when things that have lived are trapped within rock	
		Recognise that shells are made from rocks and organic matter	
		Evolution and Inheritance	Evolution and Inheritance
		Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago	
		Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents	
		Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution	
		Earth and Space	Earth and Space
		Describe the movement of the Earth, and other planets, relative to the Sun in the solar system	
		Describe the movement of the Moon relative to the Earth	
		Describe the Sun, Earth and Moon as approximately spherical bodies	
		Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	