

Science – progression across the age groups

Working Scientifically					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
I can ask questions and know they can be answered in different ways	I can ask questions and know they can be answered in different ways	I can ask questions and use different types of scientific enquiries to answer them	I can ask relevant questions and use different types of scientific enquiries to answer them	I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
I can look closely, using equipment	I can watch closely using equipment	I can set up simple practical enquiries, comparative and fair tests	I can set up practical enquiries, comparative and fair tests	I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	I can take accurate measurements, using a range of scientific equipment taking repeat readings when appropriate
	I can communicate my ideas, what I do, and what I find out in a variety of ways	I can make observations and take measurements using standard units, using a range of equipment, including thermometers and data loggers	I can make systematic and careful observations and take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	I can record complex data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
I can do tests	I can do tests	I can gather, record, classify and present data in a variety of ways to help in answering questions	I can gather, record, classify and present data in a variety of ways to help in answering questions	I can use test results to make predictions to set up further comparative and fair tests	I can use test results to make predictions to set up further comparative and fair tests
I can name and group	I can name and group	I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables	I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables	I can talk about and present findings from enquiries, including conclusions, causal relationships and explanations of how reliable the information is	I can report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms

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					such as displays and other presentations
I can use my observations and ideas to suggest answers to questions	I can use my observations and ideas to suggest answers to questions	I can report on findings from enquiries, including spoken and written explanations, displays or presentations of results and conclusions	I can report on findings from enquiries, including spoken and written explanations, displays or presentations of results and conclusions	I can identify scientific evidence that has been used to support or refute ideas or arguments	I can describe and evaluate my own and other people's scientific ideas using evidence from a range of sources
I can collect and record data to help answer questions	I can collect and record data to help answer questions	I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions		I can group and classify things and recognise patterns
		I can explain differences, similarities or changes related to simple scientific ideas and processes	I can identify differences, similarities or changes related to scientific ideas and processes		I can find things out using a wide range of secondary sources of information
		I can use straightforward scientific evidence to answer questions or to support my findings	I can use scientific evidence to answer questions or to support my findings		I can use scientific language and ideas to explain, evaluate and communicate my methods and findings

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Animals including Humans					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
I can spot and name a variety of common animals	I can explain that animals, including humans, have babies which grow into adults	I can identify that animals, including humans, need the right types and amount of nutrition, and that they get nutrition from what they eat	I can explain some parts of the digestive system in humans	I can describe the changes as humans develop to old age	I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
I can group animals according to what they eat	I can explain the needs of animals, including humans, for survival	I can explain why humans and some other animals have skeletons and muscles	I can explain the different types of teeth in humans and what they do		I can recognise the impact of diet, exercise, drugs and lifestyle on the way the body functions
I can spot and name a variety of common animals that are carnivores, herbivores and omnivores	I can explain the importance of exercise, eating healthily and keeping clean		I can describe and explain a variety of food chains, naming producers, predators and prey		I can describe the ways in which nutrients and water are transported within animals, including humans
I can describe and compare the structure of a variety of common animals					
I can name, draw and label the basic parts of the human body and say which part of the body is to do with each sense					

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Plants					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
I can name some common wild and garden plants, including deciduous and evergreen trees	I can explain how seeds and bulbs grow into plants	I can explain what different parts of flowering plants do			
I can name and describe the basic structure of a variety of common flowering plants, including trees	I can describe how plants need water, light and a suitable temperature to grow and stay healthy	I can explore the requirements of plants for life and growth and how they vary from plant to plant			
		I can investigate the way in which water is transported within plants			
		I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal			

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Living things and their habitats					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	I can explain the differences between things that are living, dead and things that have never been alive		I can show that living things can be grouped together in various ways	I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	I can describe how plants, animals and micro-organisms are classified into broad groups according to common observable characteristics and based on similarities and differences
	I can explain that most living things live in habitats which suit them and depend on each other		I can explore and use classification keys to help group, identify and name a variety of living things	I can describe how some animals and plants reproduce	I can give reasons for classifying plants and animals based on specific characteristics
	I can name some plants and animals in their habitats including micro-habitats		I can explain that environments can change and that this sometimes means that living things are put in danger		
	I can explain how animals get their food from plants and other animals using a simple food chain				

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Materials					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Uses of everyday...			Properties & changing of...	
I can tell the difference between an object and the material from which it is made	I can say why I would choose a material for a particular job			I can explain that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution	
I can name a variety of everyday materials, including wood, plastic, glass, metal, water and rock	I can explain how objects made from some materials can be changed			I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	
I can describe some everyday materials				I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	
I can make groups of materials based on what they are like				I can demonstrate that dissolving, mixing and changes of state are reversible changes	
				I can 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.	

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Light					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		I can explain that I need light in order to see things and that dark is the absence of light			I can show that light appears to travel in straight lines
		I can show that light is reflected from surfaces			I can explain that light travels in straight lines and that objects are seen because they give out or reflect light into the eye
		I can explain that light from the sun can be dangerous and that there are ways to protect eyes			I can demonstrate and 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
		I can show how shadows are formed when the light from a light source is blocked by a solid object			I can demonstrate that light travels in straight lines to show why shadows have the same shapes as the objects that cast them
		I can show that there are patterns in the way that the size of shadows change			

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Forces					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		... and magnets			
		I can compare how things move on different surfaces		I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	
		I can see that some forces need contact between two objects, but magnetic forces can act at a distance		I can demonstrate the effects of air resistance, water resistance and friction, that act between moving surfaces	
		I can observe and group some materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials		I can show that some mechanism, including levers, pulleys and gears, allow a smaller force to have a greater effect	
		I can describe magnets as having two poles			
		I can predict whether two magnets will attract or repel each other, depending on which poles are facing			

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Electricity					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			I can talk about common appliances that run on electricity		I can show that the brightness of a lamp or the volume of a buzzer depends on the number and voltage of cells used in the circuit
			I can construct and draw with labels a simple series electrical circuit which includes cells, wires, bulbs, switches and buzzers		I can 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
			I can predict if a lamp will light or not in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery		I can draw a diagram using recognised symbols to represent a simple circuit
			I can explain that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit		
			I can show that some materials are conductors and some are insulators, and can explain that metals are good conductors		

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Seasonal changes

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
I can explain changes through the seasons					
I can describe the weather in autumn, winter, spring, summer and that the days get longer and shorter					

Rocks

	Year 2	Year 3	Year 4	Year 5	Year 6
		I can examine and do practical experiments on various types of rocks in order to group them on the basis of their appearance and simple physical properties			
		I can simply describe how fossils are formed when things that have lived are trapped within rock			
		I can explain that soils are made from rocks and organic matter			

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Sound					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			I can explain how sounds are made, and show that some of them are linked to vibrations		
			I can explain that vibrations from sounds travel through a medium to the ear		
			I can find patterns between the pitch of a sound and features of the object that produced it		
			I can show that there is a pattern between the volume of a sound and the strength of the vibrations that produced it		
			I can show that sounds get fainter as the distance from the sound source increases		
States of matter					
			I can group materials together, according to whether they are solids, liquids or gases including tricky ones like gels, mists and pastes		
			I can demonstrate and explain that some materials change state when they are heated or cooled, and measure or		

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			research the temperature at which it happens in degree Celsius (°C)		
			I can correctly talk about the part played by evaporation and condensation in the water cycle and can show a link between the rate of evaporation and temperature		
Earth and Space Yr 5 /Evolution and Inheritance Yr 6					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system	I can explain that the kinds of living things that live on the earth now are different from those that inhabited the Earth millions of years ago and that fossils provide this information
				I can explain day and night and the apparent movement of the sun across the sky using the idea of the Earth's rotation	I can explain that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
				I can describe the Sun, Earth and Moon as approximately spherical bodies	I can give examples of how animals and plants are adapted to suit their environment in different ways and can explain that adaptation may lead to evolution
				I can describe the movement of the Moon relative to the Earth	

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Evolution and inheritance					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6