Christ Church CE Primary School – Science Skills Progression Chart

Achieving excellence, opening minds, inspiring dreams, creating futures

Pupils should be taught the following practical scientific methods, processes and skills through teaching of Science.

Year 1	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.
Animals, including humans	(2) I can compare a variety of common animals including fish, amphibians, reptiles, birds and mammals.	(6) I can compare humans.		(1) I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (3) I can identify and name a variety of common animals that are carnivores, omnivores and herbivores. (5) I can identify which	(2) I can compare a variety of common animals including fish, amphibians, reptiles, birds and mammals.	

				part of the body is associated with each sense.		
Plants	(5) I can sort a variety of plants.	(3) I can understand that plants grow. (4) I can name a variety of common wild plants. (5) I can sort of variety of plants.		(1) I can identify different plants. (2) I can identify and describe the basic structure of plants.	(7) I can identify, name and describe the basic structure of deciduous and evergreen trees.	
Materials	(4) I can compare and group together a variety of everyday materials on the basis of their simple physical properties.	(5) I can investigate the properties of different materials. (6) I can investigate the properties of different fabrics.	(4) I can compare and group together a variety of everyday materials on the basis of their simple physical properties. (5) I can investigate the properties of	(1) I can identify a variety of everyday materials. (2) I can describe the physical properties of a variety of everyday materials.	(5) I can investigate the properties of different materials. (6) I can investigate the properties of different fabrics.	(5) I can investigate the properties of different materials. (6) I can investigate the properties of different fabrics.

			different materials. (6) I can investigate the properties of different fabrics.	(3) I can distinguish between an object and the material from which it is made. (4) I can compare and group together a variety of everyday materials on the basis of their simple physical properties.		
Seasonal change		(5) I can observe how day length varies.	(5) I can observe how day length varies.	(1) I can observe and describe changes across the four seasons (Spring).		

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Year 2	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.
Animals, including humans		(4) I can gather and record data. (5) I can describe the importance for humans to exercise.	(4) I can gather and record data. (5) I can describe the importance for humans to exercise.	(1) I can find out about and describe the basic needs of animals, including humans, for survival. (2&3) I can notice that animals, including humans have offspring which grow into adults.	(4) I can gather and record data. (5) I can describe the importance for humans to exercise.	(4) I can gather and record data. (5) I can describe the importance for humans to exercise.
Plants		(1) I can identify that fruit, vegetables and herbs are a		(1) I can identify that fruit, vegetables and herbs are a	(4) I can understand what plants need to grow and stay	

		type of plant that we eat. (2) I can observe and describe how seeds grows into mature plants. (3) I can understand what plants need to grow and stay healthy (how?). (4) I can understand what plants need to grow and stay healthy (where?). (5) I can explain the life cycle of plants.		type of plant that we eat. (2) I can observe and describe how seeds grows into mature plants.	healthy (where?).	
Living things and their habitats	(4) I can observe closely and use my observations to	(2) I can identify and name a variety of plants and	(4) I can observe closely and use my observations to	(1) I can explore and compare the differences between things	(4) I can observe closely and use my observations to	(4) I can observe closely and use my observations to

	answer questions.	animals in their habitats, including microhabitats. (4) I can observe closely and use my observations to answer questions.	answer questions.	that are living, dead, and things that have never been alive. (2) I can identify and name a variety of plants and animals in their habitats, including microhabitats. (3) I can identify and name a variety of plants and animals in their habitats. (4) I can observe closely and use my observations to answer questions. (5) I can identify that most living	answer questions.	answer questions.

				things live in a habitat to which they are suited. (6) I can construct a simple food chain.		
Materials	(3) I can investigate the properties of different materials (structural). (4) I can investigate the properties of different materials (protection).	(3) I can investigate the properties of different materials (structural). (4) I can investigate the properties of different materials (protection). (5) I can investigate the properties of different materials.	(3) I can investigate the properties of different materials (structural). (4) I can investigate the properties of different materials (protection). (5) I can investigate the properties of different materials.	(1) I can identify a variety of everyday materials. (2) I can distinguish between an object and the material it is made from.	(3) I can investigate the properties of different materials (structural). (4) I can investigate the properties of different materials (protection). (5) I can investigate the properties of different materials.	(3) I can investigate the properties of different materials (structural). (4) I can investigate the properties of different materials (protection).

Christ Church CE Primary School – Science Skills Progression Chart

Achieving excellence, opening minds, inspiring dreams, creating futures

Year 3	Asking relevant questions and using different types of scientific enquiries to answer them	Setting up simple practical enquiries, comparative and fair tests.	Making systematic and careful observations and where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.	Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusion.	Using results to draw simple conclusion, make predictions for new values, suggest improvements and raise further questions.	Identifying differences, similarities or changes related to simple scientific ideas and processes.	Using straightforward scientific evidence to answer questions or to support their findings.
Animals, including humans	(2) I can set up a simple practical enquiry. I can communicate my results.	(2) I can set up a simple practical enquiry. I can communicate my results.	(2) I can set up a simple practical enquiry. I can communicate my results.		(2) I can set up a simple practical enquiry. I can communicate my results.	(2) I can set up a simple practical enquiry. I can communicate my results.			
Plants	(4) I can explore the part that flowers play in the life cycle of flowering plants,	(1) I can explore the requirements of plants for life and growth. (4) I can explore the	(4) I can explore the part that flowers play in the life cycle of flowering plants,		(4) I can explore the part that flowers play in the life cycle of flowering plants,	(4) I can explore the part that flowers play in the life cycle of flowering plants,			

	including pollination.	part that flowers play in the life cycle of flowering plants, including pollination.	including pollination.		including pollination.	including pollination.			
Light	(5) I can find patterns in the way that the length of shadows change.	(5) I can find patterns in the way that the length of shadows change.	(5) I can find patterns in the way that the length of shadows change.	(5) I can find patterns in the way that the length of shadows change.	(4) I can recognise that shadows are formed when light from a light source is blocked by an opaque object. I can recognise that shadows take on the shape of the opaque object. I can predict where a shadow will form in relation to an opaque		(5) I can find patterns in the way that the length of shadows change.	(4) I can recognise that shadows are formed when light from a light source is blocked by an opaque object. I can recognise that shadows take on the shape of the opaque object. I can predict where a shadow will form in relation to an opaque	(4) I can recognise that shadows are formed when light from a light source is blocked by an opaque object. I can recognise that shadows take on the shape of the opaque object. I can predict where a shadow will form in relation to an opaque

					object and a light source.			object and a light source.	object and a light source. (5) I can find patterns in the way that the length of shadows change.
Rocks	(5) I can investigate different soils.	(2) I can compare and group together different kinds of rocks on the basis of their physical properties. (5) I can investigate different soils.	(1) I can compare and group together different kinds of rocks on the basis of their appearance. (2) I can compare and group together different kinds of rocks on the basis of their physical properties. (5) I can investigate different soils.		(2) I can compare and group together different kinds of rocks on the basis of their physical properties. (5) I can investigate different soils.	(2) I can compare and group together different kinds of rocks on the basis of their physical properties.	(5) I can investigate different soils.		

Forces and magnets		(2) I can plan and conduct a fair test to compare how objects move on different surfaces.	(4) I can compare and group various everyday materials based on whether they are attracted to a magnet. (5) I can predict whether two magnets will attract or repel each other, depending on which poles are facing.	(2) I can plan and conduct a fair test to compare how objects move on different surfaces.	(3) I can explore how magnetic forces act at a distance.	(2) I can plan and conduct a fair test to compare how objects move on different surfaces.	(2) I can plan and conduct a fair test to compare how objects move on different surfaces.	(2) I can plan and conduct a fair test to compare how objects move on different surfaces. (5) I can predict whether two magnets will attract or repel each other, depending on which poles are facing.	(2) I can plan and conduct a fair test to compare how objects move on different surfaces. (5) I can predict whether two magnets will attract or repel each other, depending on which poles are facing.

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Year 4	Asking relevant questions and using different types of scientific enquiries to answer them	Setting up simple practical enquiries, comparative and fair tests.	Making systematic and careful observations and where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.	Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusion.	Using results to draw simple conclusion, make predictions for new values, suggest improvements and raise further questions.	Identifying differences, similarities or changes related to simple scientific ideas and processes.	Using straightforward scientific evidence to answer questions or to support their findings.
Animals, including humans		(3) I can plan and carry out an investigation. I can communicate my results.	(3) I can plan and carry out an investigation. I can communicate my results.	(3) I can plan and carry out an investigation. I can communicate my results.	(3) I can plan and carry out an investigation. I can communicate my results.	(3) I can plan and carry out an investigation. I can communicate my results.	(3) I can plan and carry out an investigation. I can communicate my results.		
Living things and their habitats			(4) I can explore and name a variety of living things in my local environment.	(4) I can explore and name a variety of living things in my local environment.	(4) I can explore and name a variety of living things in my local environment.	(4) I can explore and name a variety of living things in my local environment.			

					(5) I can explore and use classification keys to help group, identify and name a variety of living things in my local environment.				
Electricity	(4) I can recognise common conductors and insulators.	(4) I can recognise common conductors and insulators.	(4) I can recognise common conductors and insulators.		(5) I can investigate switches.	(5) I can investigate switches.	(4) I can recognise common conductors and insulators.		(5) I can investigate switches.
Sound	(7) I can set up simple fair tests.	(4) I can investigate if the size of the pinna affects the volume of the sound. I can report my findings from enquiries. (7) I can set up simple fair tests.	(6) I can find patterns between the volume of a sound and the strength of the vibrations that produced it. (7) I can set up simple fair tests.	(7) I can set up simple fair tests.		(1) I can identify how sounds are made, associating some of them with something vibrating. (4) I can investigate if the size of the pinna affects the	(4) I can investigate if the size of the pinna affects the volume of the sound. I can report my findings from enquiries. (7) I can set up simple fair tests.	(4) I can investigate if the size of the pinna affects the volume of the sound. I can report my findings from enquiries.	(5) I can find patterns between the pitch of a sound and features of the object that produced it. (6) I can find patterns between the volume of a sound and the strength

						volume of the sound. I can report my findings from enquiries. (6) I can find patterns between the volume of a sound and the strength of the vibrations that produced it. (7) I can set up simple fair tests.			of the vibrations that produced it.
States of matter		(2) I can make careful observations. I can communicate my results. (4) I can observe that some materials change state when they are heated or cooled.	(2) I can make careful observations. I can communicate my results. (3) I can take accurate measurements using thermometers. (4) I can observe that some	(2) I can make careful observations. I can communicate my results. (3) I can take accurate measurements using thermometers. (4) I can observe that some	(4) I can observe that some materials change state when they are heated or cooled. (6) I can plan and carry out a fair test.	(2) I can make careful observations. I can communicate my results. (4) I can observe that some materials change state when they are heated or cooled.	(6) I can plan and carry out a fair test. (7) I can associate the rate of evaporation with temperature.	(6) I can plan and carry out a fair test. (7) I can associate the rate of evaporation with temperature.	(6) I can plan and carry out a fair test. (7) I can associate the rate of evaporation with temperature.

		(6) I can plan and carry out a fair test.	materials change state when they are heated or cooled. (6) I can plan and carry out a fair test. (7) I can associate the rate of evaporation with temperature.	materials change state when they are heated or cooled. (6) I can plan and carry out a fair test. (7) I can associate the rate of evaporation with temperature.		(6) I can plan and carry out a fair test. (7) I can associate the rate of evaporation with temperature.			

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Year 5	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	Using test results to make predictions to set up further comparative and fair tests.	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.	Identifying scientific evidence that has been used to support or refute ideas or arguments.
Animals, including humans						
Living things and their habitats			(2) I can explain how animals reproduce.		(2) I can explain how animals reproduce.	
Materials	(3) I can investigate the thermal insulation of different materials. (4) I can compare and group materials based on their	(3) I can investigate the thermal insulation of different materials. (4) I can compare and group materials based on their	(3) I can investigate the thermal insulation of different materials. (4) I can compare and group materials based on their	(3) I can investigate the thermal insulation of different materials.	(3) I can investigate the thermal insulation of different materials.	

	response to magnets.	response to magnets.	response to magnets.			
Forces and magnets	(1) I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and falling objects. (3) I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables. (4) I can identify the effect of air resistance.	(1) I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and falling objects. (3) I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables. (4) I can identify the effect of air resistance.	(1) I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and falling objects. (3) I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables.		(1) I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and falling objects. (5) I can identify the effect of water resistance.	(1) I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and falling objects.

		(5) I can identify the effect of water resistance.				
Earth and space	(5) I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	(5) I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	(5) I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.		(5) I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	(5) I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.

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Year 6	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	Using test results to make predictions to set up further comparative and fair tests.	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.	Identifying scientific evidence that has been used to support or refute ideas or arguments.
Animals, including humans	(3) I can investigate which activity increases my heart rate the most.	(3) I can investigate which activity increases my heart rate the most.	(3) I can investigate which activity increases my heart rate the most.		(3) I can investigate which activity increases my heart rate the most.	
Living things and their habitats			(4) I can understand that microorganisms are also living things.		(4) I can understand that microorganisms are also living things.	(4) I can understand that microorganisms are also living things.
Light	(4) I can use the idea that light travel sin straight lines to explain why shadows have	(4) I can use the idea that light travel sin straight lines to explain why shadows have	(4) I can use the idea that light travel sin straight lines to explain why shadows have	(2) I can use the idea that light travels in straight lines to explain that objects are seen	(4) I can use the idea that light travel sin straight lines to explain why shadows have	

	the same shape as the objects that cast them. I can explain how shadows change during the day.	the same shape as the objects that cast them. I can explain how shadows change during the day.	the same shape as the objects that cast them. I can explain how shadows change during the day.	because they give out or reflect light into the eye. I can predict which materials make good reflectors.	the same shape as the objects that cast them. I can explain how shadows change during the day.	
Electricity	(2) I can associate the brightness of a lap with the number and voltage of cells used in the circuit. (3) I can investigate variations in how components function.	(2) I can associate the brightness of a lap with the number and voltage of cells used in the circuit. (4) I can investigate variations in how components function and write a conclusion.	(4) I can investigate variations in how components function and write a conclusion.	(2) I can associate the brightness of a lap with the number and voltage of cells used in the circuit.	(2) I can associate the brightness of a lap with the number and voltage of cells used in the circuit. (4) I can investigate variations in how components function and write a conclusion.	(4) I can investigate variations in how components function and write a conclusion. (5) I can name renewable and non-renewable sources of energy.
Evolution	(4) I can explain natural selection and	(4) I can explain natural selection and			(4) I can explain natural selection and	(3) I can explain natural selection and

	how it may lead to evolution (adaptations).	how it may lead to evolution (adaptations).			how it may lead to evolution (adaptations).	how it may lead to evolution (natural selection). (4) I can explain natural selection and how it may lead to evolution (adaptations). (6) I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.