Year I (A) Science

	<u>Head</u>	<u>Hands</u>
Plants Classification	• Identify and name a variety of common animals, such as fish, amphibians, reptiles, birds and mammals. (4, 5, 8, 10)	 Ask simple questions and recognise they can be answered in different ways.
	 Identify and name common animals that are carnivore, herbivore and omnivore. (3, 7, 10) 	2. Suggest ways of answering questions.3. Make relevant observations.
	Describe and compare the structure of a variety of common animals. (10)	4. Recognise findings.
	Identify, name and label the basic parts of the human body. (9)	5. Observe closely using simple equipment.
	Know which part of the body is related to each sense. (3)	6. Perform simple tests.
Offspring & Survival	 Notice that animals, including humans, have offspring which grow into adults. (2, 3, 7, 10) 	7. Use their observations and ideas to suggest answers to questions.
	• Find out about and describe the basic needs of animals, including humans, for survival (water, food, air). (3, 7)	8. Gathering and recording data to help in answering questions.
Food chains	• Describe how animals obtain their food from plants and other animals (food chains). (4, 7)	9. Label parts of the human body and other animals.
	Describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.	10. Group objects/animals in different ways, explaining their reasons.
	Observe how seeds and bulbs grow into mature plants. (1, 3, 4, 6, 7)	
Plants = growing	• Find out and describe how plants need light, water and a suitable temperature to grow and stay healthy. (1, 2, 3, 5, 6)	
Animal	• Identify and name a variety of common animals, such as fish, amphibians, reptiles, birds and mammals. (7, 10)	
Classification	 Identify and name common animals that are carnivore, herbivore and omnivore. (7, 10) 	
	Describe and compare the structure of a variety of common animals. (7, 10)	
	Identify, name and label the basic parts of the human body. (9)	

	Know which part of the body is related to each sense. (3, 9)
Healthy	Can recall the importance of keeping clean. (7)
Lifestyles	Understand and explain the importance of exercise and a healthy lifestyle. (1, 3)
	Describe how humans can keep healthy. (1, 3)

- The learner demonstrates the ability to <u>work with other</u> children <u>(collaborate)</u> to learn about and share information and questions about science and their investigations.
- The learner shows enthusiasm to Science and a desire to find out more.
- The learner looks for opportunities to apply their science skills, knowledge and understanding in other contexts.
- The learner uses their literacy and maths skills during science, understanding how these elements are cross curricular.
- Learner understands the importance of having a healthy lifestyle.
- Know how to be calm, confident and collected in a crisis.

Year 3 (A) Science

	Head	Hands
Matter	Compare materials and discuss, according to whether they are solids, liquids or gases.	1. Set up simple practical enquiries,
	(1, 6, 10)	comparative and fair tests.
	Describe and understand the different states of matter. (1, 2, 6)	2. Make systematic and fair observations.
	• Observe that some materials change matter when they are heated or cooled. (1, 2, 3, 4,	3. Take accurate and fair measurements.
	5, 6)	4. Gather, record and present data in a variety
	Understand the water cycle. (2)	of different ways.
	Interpret and discuss a variety of food chains. (8)	5. Record findings using simple scientific
Food chains	Identify producers, predators and prey. (7, 9)	language and report on findings.
	Describe how animals get nutrition from what they eat. (2, 7, 9)	6. Identify differences, similarities or changes
	Identify the different types of teeth in humans and their simple functions. (9)	related to simple scientific ideas and
The	Explain the difference between the teeth of a herbivore and a carnivore. (9)	processes.
Human Body	Explain what damages teeth and how to look after them. (1, 2, 3, 4, 5)	7. Explore and use classification keys to help
	Understand the importance of nutrition. (2)	group, identify and name a variety of living
	• Identify that animals, including humans, need the right kind of nutrition, and that they cannot make their own food. (8)	things in their local and wider environment. 8. Construct a variety of food chains.
	Explain how humans and animals get nutrition from what they eat. (2)	9. Compare, observe and sort the differences
	Describe the simple functions of the basic parts of the digestive system in humans. (6)	between herbivores and carnivores.
	Compare different types of rock on the basis of their appearance and simple physical	- 10. Sort materials into groups according to
Rocks	properties. (1, 2, 3, 6)	whether they are a solid, liquid or a gas.
	Describe in simple terms how fossils are formed when things that have lived are	
	trapped within rocks. (2)	
	Recognise that soils are made from rocks and organic matters. (2)	
	Identify common appliances that run on electricity. (6)	
Electricity	Recognise some common conductors and insulators, and associate metals with being	
	good conductors, (1, 2, 3, 4, 5)	

- Recognises that a switch open and closes a circuit and relate this to whether or not a lamp lights in a simple series circuit. (1)
- Identify and name the basic parts of a circuit. (5,6)
- Construct a simple series circuit. (1,2,3,4,5)

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Year 5 (A) Science

	<u>Head</u>	<u>Hands</u>
Forces	• Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object (5, 6,7)	I. Plan different types of scientific enquiries to answer questions, including recognising and
	• Identify the effects of air resistance, water resistance and friction, that act between moving surfaces (1, 2, 3, 4, 5, 6)	controlling variables where necessary 2. Take measurements, using a range of scientific equipment, with increasing accuracy and
	• Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. (1, 2, 3, 4, 5, 6)	precision, taking repeat readings when appropriate
Living things - circulation	 Identify the effect of forces that act between moving surfaces. (7) Identity and name the main parts of the circulatory system. (10) Describe the functions of the heart, blood vessels and blood. (10) 	3. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar
Electricity	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit (2, 8)	and line graphs 4. Use test results to make predictions to set up
	• 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 (1, 2, 3, 4, 5, 6, 8)	further comparative and fair tests 5. Report and present findings from enquiries, including conclusions, causal relationships and
Liwing things-	 Use recognised symbols when representing a simple circuit in a diagram. (11) Describe the life process of reproduction in some plants 	explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
life cycles	 Give reasons for classifying plants based on specific characteristics. Discuss the timeline of growth for humans compared to other animals. (9) 	6. Identify scientific evidence that has been used to support or refute ideas or arguments.
	 Describe the life process of reproduction in some animals. (9, 10) Recognise that light appears to travel in straight lines (1, 2, 3, 4, 5, 6, 8) 	7. Explore falling objects and raise questions about the nature of air resistance.
Light	 Necognise that light appears to travel in straight lines (1, 2, 3, 4, 3, 6, 8) 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. (8) 	8. Investigate the relationship between light sources, objects and shadows. 9. Draw a timeline to indicate stages in the growth
	• 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 (8)	and development of humans.

	• Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. (1, 2, 3, 4, 5, 6, 8)	including internal parts.
	Learn about the changes experienced during puberty. (10)	11. Draw simple circuits and label them.
Sex Education	 Understand that body changes during puberty are preparation for sexual maturity. (10) Be able to identify male and female parts. (10) 	

- The learner demonstrates the ability to work with other children (collaborate) to learn about and share information about scientific experiments or reasoning.
- The learner demonstrates the ability to <u>work with other</u> children <u>(collaborate)</u> to discuss scientific problems and enquiries.
- The learner shows <u>enthusiasm</u> to Science and a desire to find out more.
- The learner looks for opportunities to apply their scientific skills, knowledge and understanding in other contexts.
- The learner uses their literacy and maths skills during science with confidence, understanding how these elements are cross curricular.
- Be able to understand and relate to changes during puberty, knowing that they are not going through these things alone,

Year 2 (B) Science

	Head	Hands
Seasonal	Describe weather associated with the seasons and how day length varies. (9)	I. Ask simple questions and recognise they can
changes	Observe and describe the seasons. (9)	be answered in different ways.
	Observe changes across the four seasons. (9)	2. Suggest ways of answering questions.
	Distinguish between an object and the material from which it is made. (7)	3. Make relevant observations.
Materials	Identify and name a variety of everyday materials, including wood, plastic, glass,	4. Recognise findings.
	metal, water and rock. (3, 7)	5. Observe closely using simple equipment.
	Describe the simple physical properties of a variety of everyday materials. (3)	6. Perform simple tests.
	Compare everyday materials on the basis of their simple physical properties. (12)	7. Use their observations and ideas to suggest
	• Identify and compare the suitability of materials for everyday uses. (1, 2, 3, 4, 5, 6, 12)	answers to questions.
	Find out how the shapes of solid objects from some materials can be changed.	8. Gathering and recording data to help in
	(1, 2, 3, 4, 5, 6, 12)	answering questions.
Seasonal	Describe weather associated with the seasons and how day length varies. (9)	9. Observe, draw and label changes across the
changes	Observe and describe the seasons. (9)	four seasons.
	Observe changes across the four seasons. (9)	10. Say which part of the human body is
	Identify, name, draw and label the basic parts of the human body. (10)	associated with each sense.
Parts of the	Sort the senses and their attributes into groups. (10)	11. Draw a simple food chain, identifying and
body	Show ways of keeping healthy. (3, 6)	naming the different sources of food.
	Use the local environment to explore and answer questions about animals in their	12. Group everyday materials on the basis of
Habitats	habitatı (3, 4, 5, 7)	their physical properties.
	Understand how to take care of animals from their local environment and the need to	
	return them safely after study. (3, 4, 5, 7)	
	Explore and compare the differences between things that are living, dead and things	
	that have never been alive. (3, 4, 5, 7)	
	• Identify that most living things live in habitats to which they are suited. (3, 4, 5, 7)	

	• Describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. (1, 2, 3, 4, 5, 7)
	Identify and name a variety of plants and animals in their habitats, including micro-
	 habitats. (4, 5, 9) Describe how animals obtain their food from plants and other animals (food chains).
Seasonal	 (11) Describe weather associated with the seasons and how day length varies. (9)
changes	Observe and describe the seasons. (9)
	Observe changes across the four seasons. (9)

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Year 4 (B) Science

	<u>Head</u>	<u>Hands</u>
Forces and	• Compare how things move on different surfaces. (1, 2, 3, 4, 5)	1. Set up simple practical enquiries, comparative
magnets	Notice that some forces need contact between two objects, but magnetic forces can act	and fair tests.
	at a difference. (1,2,11,12)	2. Make systematic and fair observations.
	Observe how magnets attract or repel each other and attract some materials but not	3. Take accurate and fair measurements.
	others, (1,2,6,11,12)	4. Gather, record and present data in a variety
	Compare a variety of everyday materials on the basic of whether they are attracted to	of different ways.
	a magnet. (11)	5. Record findings using simple scientific
	Understand and describe magnets as having two poles. (2, 11, 12)	language and report on findings.
	Predict whether two magnets will attract or repel each other depending on which poles	6. Identify differences, similarities or changes
	are facing. (2, 11, 12)	related to simple scientific ideas and
	Identify that humans and some animals have skeletons and muscles for support,	processes.
Classifying	protection and movement. (2)	7. Investigate the way in which water is
animals	Understand characteristics of different animal groups and be able to explain and	transported within plants.
	define. (13, 14)	8. Group different types of rock on the basis of
	Recognise that living things can be grouped in a variety of ways. (13, 14)	their appearance and simple physical
	Recognise that they need light in order to see things and that dark is the absence of	properties.
Light	light. (2, 9)	9. Investigate how shadows are formed when
	Notice that light is reflected from surfaces. (1, 2, 3, 4, 5)	the light from a light source is blocked by an
	Recognise that light from the sun can be dangerous, and that there are ways to protect	opaque object.
	their eyes. (2)	10. Find and investigate patterns in the way that
	Recognise that shadows are formed when the light from a light source is blocked by	the size of shadows change.
	an opaque object. (1, 2, 3, 4, 5)	11. Group a variety of everyday materials on the
		basic of whether they are attracted to a
		magnet and identify some magnetic materials.

	Recognise that living things can be grouped in a variety of ways. (13, 14)	12. Investigate magnets repelling and attracting
Habitats	Explore classification keys. (13, 14)	each other.
	Recognise that environments can change and that this can sometimes pose dangers to	13. Group living things in a variety of ways.
	living things. (2, 13, 14)	14. Use classification keys to help group, identify
	Identify and describe the different functions of parts of flowering plants, roots,	and name a variety of living things in their
Plants	stem/trunk, leaves and flowers. (13, 14)	local and wider environment.
	• Explore the requirements of plants for life and growth (air, light, water, nutrients from	15. Explore and investigate patterns in pitch and
	the soil, and room to grow) and how they vary from plant to plant. (1, 2, 3, 4, 13, 14)	volumes of sounds.
	Explore the part that flowers play in the life cycle of flowering plants, including	
	pollination, seed formation and seed dispersal. (2)	
	• Identify how sounds are made, associating some of them with something vibrating.	
Sound	(15)	
	Recognize that vibrations from sounds travel through a medium to the ear. (2, 15)	
	Find patterns between the volume of a sound and the strength of the vibrations that	
	produced it. (15)	
	Recognise that sounds get fainter as the distance from the sound source increases. (15)	

<u>Heart</u>

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Year 6 (B) Science

	<u>Head</u>	Hands
Earth & space	Describe the movement of the Earth and other planets, relative to the Sun in the solar system. (6, 10)	I. Plan different types of scientific enquiries to answer questions, including recognising and
	Describe the movement of the Moon relative to the Earth. (6, 10)	controlling variables where necessary
	 Describe the Sun, Earth and Moon as approximately spherical bodies. (6, 10) 	2. Take measurements, using a range of
	 Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky (6, 10) 	scientific equipment, with increasing accuracy and precision, taking repeat readings when
	Understand the effects of the Earth's rotation. (6, 10)	appropriate
	Explain effects of gravity on Earth. (6, 10)	3. Record data and results of increasing complexity using scientific diagrams and
Properties &	• Compare everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity and response to magnets (8, 9)	labels, classification keys, tables, scatter graphs, bar and line graphs
changes of materials	• Know that some materials will dissolve in liquids to form a solution, and describe how to recover a substance from a solution (1, 2, 3, 4, 5, 6, 9)	4. Use test results to make predictions to set up further comparative and fair tests
	• Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. (1, 2, 3, 4, 5, 6)	,
	• Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. (1, 2, 3, 4, 5, 6, 8)	and explanations of and degree of trust in results, in oral and written forms such as
	• Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversable, including changes associated with burning and the action of acid on bicarbonate of soda. (1, 2, 3, 4, 5, 6, 9)	displays and other presentations 6. Identify scientific evidence that has been used to support or refute ideas or arguments.
	Understand how solutions are formed and separated. (1, 2, 3, 4, 5, 6, 9)	7. Draw a timeline to indicate stages in the
Animals inc	Describe how living things are classified into broad groups according to common	growth and development of humans.
humans - classifications	observable characteristics and based on similarities and differences, including micro- organisms, plants and animals. (11)	8. Group everyday materials on the basis of their properties, including their hardness,
	Give reasons for classifying plants and animals based on specific characteristics. (11)	

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