

Science Key Stage 1

Curriculum map



Intent

Six underlying attributes at the heart of Bell Lane's curriculum and lessons.

1. Lessons and units are knowledge and vocabulary rich so that pupils build on what they already know to develop powerful knowledge.
2. Knowledge is sequenced and mapped in a coherent format so that pupils make meaningful connections.
3. The Bell Lane science curriculum is designed so that disciplinary knowledge is embedded within the substantive content.
4. Our curriculum is evidence informed through rigorous application of best practice and the science of learning.
5. We prioritise creating a diverse curriculum by committing to diversity in teaching and teachers, and the language, texts and media we use, so all pupils feel positively represented.
6. Creating an accessible curriculum that addresses the needs of all pupils is achieved to accessibility guidelines and requirements.

Units

KS1 Science is formed of 8 units and this is the recommended sequence:

Unit Title	Recommended year group	Number of lessons
1. Animals including humans - the human body	Year 1	9
2. Animals including humans- animals	Year 1	11
3. Plants	Year 1	12
4. Everyday Materials	Year 1	11
5. Seasonal Changes	Year 1	Ongoing through the Year
6. Living Things and their habitats	Year 2	16
7. Plants	Year 2	18
8. Animals including humans	Year 2	17
9. Uses of everyday materials	Year 2	18

BELL LANE **YEAR 1** SCIENCE CURRICULUM MAP

	AUTUMN 1	AUTUMN 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit of Work National Curriculum	Animals including humans The human body	Animals including humans Animals	Plants	Plants	Everyday materials	Completing the Unit on seasons

Year 1 Animals including humans - The human body

Lesson number	Lesson question	Pupils will learn	Key vocabulary	Disciplinary knowledge
1	Rising stars assessment Front cover (KWL) Knowledge organiser	Teacher assessment		
2	Can I name all human body parts?	To identify, name, draw and label the basic parts of the human body.	head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth,	asking simple questions identifying
3	Can I say which body part is associated with which senses?	To say which part of the body is associated with each sense.	senses, smell, taste, hearing, sight, touch	observing closely, using simple equipment using their observations and ideas to suggest answers to questions

4	Can I say which body part is associated with which senses?	To say which part of the body is associated with each sense.	senses, smell, taste, hearing, sight, touch	observing closely, using simple equipment using their observations and ideas to suggest answers to questions
5	Do taller people have longer hand spans?	Carry out comparative tests and measure using non standard units.	Longer, shorter, compare, results, measure	performing simple tests gathering and recording data to help in answering questions
6	Do taller people have longer feet?	Carry out comparative tests and measure using non standard units.	Longer, shorter, compare, results, measure	performing simple tests gathering and recording data to help in answering questions
7	Scientist Linda Buck – biologist who researched how we smell things	To find out about ...		
8 and 9	Rising Stars end of unit assessment Update seasons diary	Teacher to identify any gaps and plan recap To observe changes across the four seasons To observe and describe weather		

		associated with the seasons and how day length varies		
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Year 1 Animals including humans - Animals

Lesson number	Lesson question	Pupils will learn	Key Vocabulary	Disciplinary knowledge
1	Rising stars assessment Front cover (KWL) Knowledge organiser	Teacher assessment		
2	Which groups do different animals belong to?	To describe characteristics of mammals and amphibians.	Mammals, Amphibians, animals, fish, reptiles, birds.	using their observations and ideas to suggest answers to questions
3	Which groups do different animals belong to?	To describe the characteristics of birds, reptiles and fish..	Gills, lungs, live young, eggs, feathers, wings, land, cold blooded, warm blooded, fins, bird, reptile, fish	using their observations and ideas to suggest answers to questions

4	Which animals are carnivores, herbivores and omnivores?	To identify and name a variety of common animals that are carnivores, herbivores and omnivores	Carnivore, herbivore, omnivore, food chain, classify, hunting, prey.	identifying and classifying
5	Can I sort a variety of common animals?	To describe and compare the structure of a variety of common animals fish, amphibians, reptiles, birds, mammals,	Classify, animals, identify, mammal, reptile, insect, amphibian, fish, birds, fur, scales, fins, lays eggs, gives birth, warm-blooded, cold-blooded	identifying and classifying using their observations and ideas to suggest answers to questions
6	Can I sort a variety of common animals?	To describe and compare the structure of a variety of common animals fish, amphibians, reptiles, birds, mammals,	Classify, animals, identify, mammal, reptile, insect, amphibian, fish, birds, fur, scales, fins, lays eggs, gives birth, warm-blooded, cold-blooded	identifying and classifying using their observations and ideas to suggest answers to questions
7	What do different animals eat?	To identify the diet of different common animals.	Oxygen, carnivores, herbivores, omnivores, humans, hibernating, seasons- summer, winter, autumn.	identifying and classifying using their observations and ideas to suggest answers to questions
8	Which animals are kept	To identify animals kept	pets, dogs, cats, fish,	asking simple questions

	as pets?	as pets. To explain how to look after a pet safely.	birds, hamsters, safe, dangerous	and recognising that they can be answered in different ways
9	Scientists David Attenborough - naturalist	To find out about ...		
10 and 11	Rising Stars end of unit assessment Update seasons diary	Teacher to identify any gaps and plan recap To observe changes across the four seasons To observe and describe weather associated with the seasons and how day length varies		

Year 1 Plants

Lesson number	Lesson question	Pupils will learn	Key vocabulary	Disciplinary knowledge
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1	Rising stars assessment Front cover (KWL) Knowledge organiser	Teacher assessment		
2	How is our flower growing?	Children plant a flower seed and set up observation experiment.	Flower, seed, experiment, observation	observing closely, using simple equipment performing simple tests
3	How is our vegetable growing?	Children plant a vegetable seed or bulb and set up observation experiment.	Flower, seed, experiment, observation, vegetables	observing closely, using simple equipment performing simple tests
4	What types of plants grow in the wild? What types of plants grow in the garden?	To identify and name a variety of common wild and garden plants	Grow, wild, garden, plants,	identifying and classifying using their observations and ideas to suggest answers to questions

5	What are the parts of trees called?	To identify parts of a tree	roots, trunk, branches, tree, fruits	
6	What is the difference between deciduous and evergreen trees?	To compare and contrast the differences and similarities between deciduous and evergreen trees Identifying common trees from their leaves.		gathering and recording data to help in answering questions.
7	What are the common names of flowers?	To identify common flowers		identifying and classifying
8	What is the basic structure of a flowering plant?	To identify parts of a flower	leaves, flowers, blossom, petals, stem, roots, seed,	Identifying Observe closely
9	What is the same and what is different about the flower we planted and the vegetable?	To compare and contrast familiar plants	compare, contrast, flower, vegetable, similarities, differences	using their observations and ideas to suggest answers to questions

				gathering and recording data to help in answering questions
10	Scientist David Bellamy - botanist, environmental campaigner	To find out about ...		
11 and 12	Rising Stars end of unit assessment Update seasons diary	Teacher to identify any gaps and plan recap To observe changes across the four seasons To observe and describe weather associated with the seasons and how day length varies		

Year 1 Everyday materials

Lesson number	Lesson question	Pupils will learn	Key vocabulary	Disciplinary knowledge
1	Rising stars assessment Front cover (KWL) Knowledge organise	Teacher assessment		
2	What is a material?	To identify and name a variety of everyday materials	material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay,	identifying and classifying
3	Which material is best for different objects?	To distinguish between an object and the material from which it is made	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay,	performing simple tests
4	How can I describe	To describe the	hard, soft, stretch, stiff,	asking simple

	an object?	physical properties of a variety of everyday materials	shiny, dull, rough, smooth, bendy, not bendy, waterproof, not waterproof, absorbent, not absorbent, opaque, transparent	questions and recognising that they can be answered in different ways
5	How can we compare materials?	To compare and group together a variety of everyday materials		using their observations and ideas to suggest answers to questions
6	What is the best material for an umbrella?	To perform a simple test to find out which material is best for an umbrella		Perform a simple test
7	What is the best material for curtains?	To perform a simple test to find out which material is best for curtains		Perform a simple test
8	What is the best material for a bookshelf?	To perform a simple test to find out which material is best for a bookshelf		Perform a simple test gathering and recording data to

				help in answering questions.
9	<p>Scientist Ole Kirk Christiansen – inventor of Lego</p>			
10 and 11	<p>Rising Stars end of unit assessment</p> <p>Update seasons diary</p>	<p>To observe changes across the four seasons</p> <p>To observe and describe weather associated with the seasons and how day length varies</p>		

BELL LANE **YEAR 2** SCIENCE CURRICULUM MAP

	AUTUMN 1	AUTUMN 2	SPRING 1	Spring 2	SUMMER 1	SUMMER 2
Unit of Work National Curriculum	Uses of everyday materials	Living things and their habitats	Animals including humans	Animals including humans	Plants (Might need to plant some seeds in Spring 2)	Plants

Year 2 - Living Things and their Habitat

Lesson number	Lesson question	Pupils will learn (Substantive knowledge)	Key Vocabulary	Working Scientifically Skills (Disciplinary knowledge)
1	Rising stars assessment Front cover (KWL-whole class) Knowledge organiser	Teacher assessment		
2	Recap learning from year 1	<ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common 	Revisit prior knowledge and vocabulary. fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, structure.	Recap lesson

		animals (fish, amphibians, reptiles, birds and mammals, including pets).		
3 4	<p>What are the characteristics of living things?</p> <p>How could you prove to someone that you were alive? Is a snail alive or dead? How do you know? How do we know that dinosaurs were once alive?</p>	<ul style="list-style-type: none"> Identifying living and non-living things Indicators of living things What organisms need to survive Explore and compare the differences between things that are living, dead, and things that have never been alive <p>4.1 Living things: Activities 1,2,3,4</p>	<p>Dead</p> <p>Living</p> <p>Alive</p> <p>Movement</p> <p>Growing</p> <p>Breathing</p> <p>feeding</p> <p>Reproducing</p> <p>Excretion</p>	<p>Identifying and classifying</p> <p>Ask simple questions and recognise that they can be answered in different ways.</p> <p>Observe closely, using simple equipment.</p>
5 6	<p>What is a habitat?</p> <p>What is your habitat like? If you could choose a different habitat to live in, where would you like to live? Why? Why do you think people should look after different habitats and not destroy them?</p>	<ul style="list-style-type: none"> Defining a habitat Simple food chains Identify that most living things live in habitats to which they are suited describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other <p>4.2 Habitats: Activities 1,2,3,4</p>	<p>Habitat</p> <p>Shelter</p> <p>Food</p> <p>Conditions</p> <p>Micro-habitat</p> <p>Life processes</p> <p>Survive</p> <p>Support</p>	<p>Observing closely, using simple equipment, using their observations and ideas to suggest answers to questions.</p>
7	<p>What is a microhabitat?</p>	<ul style="list-style-type: none"> Features of woodland habitats Microhabitats in woodlands 	<p>Microhabitat</p> <p>Minibeasts</p>	<p>Observing closely, using simple equipment.</p>

	Who lives in a microhabitat?			
8 9 10	How do animals obtain their food from plants and other animals? What is a food chain?	<ul style="list-style-type: none"> • Understand and use a simple food chain. • Understand what a producer, prey and predator is. • Understand the different sources of food <p>4.3 Food chains: Activities 1,2,3,4</p>	Producer, prey, predator, food chain, identifying, classifying, obtain	Observing closely, using their observations and ideas to suggest answers to questions, Identifying and classifying.
11	Cultural Capital Visitor, visit, scientist	London Zoo trip activities		Take pictures to be used for writing recount activity
12 13	Cultural Capital Visitor, visit, scientist	London Zoo writing recount	What is a recount? Adapt for EAL/SEN	
14 15	Plant Diary			
16	Rising Stars end of unit assessment	Teacher to identify any gaps and plan recap		

Year 2- Plants

Lesson number	Lesson question	Pupils will learn (Substantive knowledge)	Key Vocabulary	Working Scientifically Skills (Disciplinary knowledge)
1	Rising stars assessment Front cover (KWL-whole class) Knowledge organiser	Teacher assessment		
2	Recap learning from year 1	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify Describe the basic structure of a variety of common flowering plants, including trees.	Petals, roots, leaves, stem, anther, soil, absorb Transports Pollen attract	Revision lesson
3	What is growing in our school grounds? What shall we grow?	To identify different plants growing in our school garden, including flowering plants. What type of vegetables and fruit are grown in our garden? 5.1 Young gardeners: Activities 1, 2	Bulb, corms, germinate, properties, root, stem, tuber, annual / compost / flower / fruit / germinate / germination / fruit / health / healthy / leaf / plant / root / seed / seedling / soil / stem / vegetable / properties / materials / bulb / leavest	Identifying and classifying Asking and answering questions
4	What do seeds need for germination?	<ul style="list-style-type: none"> To understand germination To explain what seeds need for germination Activity: 3	germinate, germination	Perform simple test Observe closely

5	What do plants need to grow?	<ul style="list-style-type: none"> Plants need sun, water and the right conditions to grow. <p>Note: Seeds and bulbs need water to grow but most do not need light; seeds and bulbs have a store of food inside them.</p>	Grow Healthy Sunlight/shade Water Right conditions Temperature moves	Perform simple test Observe closely Using their observations and ideas to suggest answers to questions.
6 7	How do different variables affect plant growth?	<ul style="list-style-type: none"> How to plant a seed. Conditions for plant growth. Importance of using a fertiliser is. <p>Activity 4</p>	Fertiliser Measurement Amount Variables	Perform comparative test Using their observations and ideas to suggest answers to questions. Observing closely Gather and record data to help answer questions bar graph - use class recording sheet
8	What are the stages in a bean life cycle?	<ul style="list-style-type: none"> To know the requirements of plants for germination, growth and survival. To know the processes of reproduction and growth in plants. 	Roots Flowering Germination Photosynthesis Seed Root Conditions Survival	Using their observations and ideas to suggest answers to questions. Identifying and classifying
9 10	What is the difference between seeds and bulbs?	<ul style="list-style-type: none"> The difference between seeds and bulbs. 	Same Different	Identifying and classifying

		<ul style="list-style-type: none"> Define a seed and a bulb. <p>Activity 7</p>	Seeds Bulbs Store	
11	What are the different types of vegetables?	<ul style="list-style-type: none"> Different vegetable types Food crops 	Food crops Root vegetable Leaf vegetable Stem vegetable Flower vegetable Conditions	Identifying and classifying Using their observations and ideas to suggest answers to questions.
12	What conditions do different fruits need to grow?	<ul style="list-style-type: none"> What is a fruit What affects the growth of fruits? Why do some fruits grow in different climates? Why do some plants only grow in certain countries? 	Fruits Seed Climate Growth	Identifying and classifying Use observations and ideas to answer and ask questions
14 15	<p>Cultural capital</p> Scientist, visit, visitor	Visit to Kew Gardens Write a recount	Year 2 Kew Gardens - Staff Drive - Google Drive	Asking and answering questions Observing closely
16 17	Plant Diary			
18	Rising Stars end of unit assessment	Teacher to identify any gaps and plan recap		

Year 2- Animals Including Humans

Lesson number	Lesson question	Pupils will learn (Substantive knowledge)	Key Vocabulary	Working Scientifically Skills (Disciplinary knowledge)
1	Rising stars assessment Front cover (KWL-whole class) Knowledge organiser	Teacher assessment		
2	Review learning from year 1	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves	Recap lesson
3	How do animals change as they grow?	<ul style="list-style-type: none"> Names of animal babies 	Grow, change, compare, chick, bird, caterpillar, insect, bear, mammal, duckling, calf, tadpole, amphibian, kid, owlet, piglet, pup.	Sorting and classifying
4	How does an animal change during its life cycle?	<ul style="list-style-type: none"> Understand the growth of animals through life cycles. 	Pregnant, spawn, froglet, tadpole, frog, kitten, cat.	Using their observations and ideas to suggest answers to questions.
5	What is the human life cycle?	<ul style="list-style-type: none"> Understand the growth of humans through life cycles. 	growth, baby, toddler, childhood, adolescence, adulthood, and old age.	Using their observations and ideas to suggest answers to questions.

6	<p>What are the basic needs of a human?</p> <p>Why do we need food?</p>	<ul style="list-style-type: none"> Understand the basic needs of a human to survive. Understand there is a difference between wants and needs. <p>1.2 Healthy choices: Activity 1</p>	<p>Air, food, water, survive, basic needs, healthy.</p>	<p>To classify different life needs.</p>
5	<p>What are the different food groups?</p>	<ul style="list-style-type: none"> Know there are different food groups. Be able to identify some foods in the different food groups <p>Activity 2, 3, 4</p>	<p>Protein, carbohydrates, fats, sweets, fruit and vegetables, dairy.</p>	<p>Classifying</p>
6	<p>What is a balanced diet? (chn to begin bread experiment)</p>	<ul style="list-style-type: none"> The importance of a balanced diet. How to create a balanced diet meal 	<p>Balanced, diet, amount, protein, carbohydrates, fats, sweets, fruit and vegetables,</p>	<p>Classifying</p>
7 8	<p>How does exercise affect your body?</p> <p>What makes you happy?</p>	<ul style="list-style-type: none"> Explore the effects of exercise on heart rate, breathing and temperature. <p>1.1 Body and mind: Activities 1,2,3,4</p>	<p>Heart rate, breathing rate, temperature, exercise, rest, beats per minute.</p>	<p>Performing simple tests, observing closely using simple equipment, gathering and recording data, Using their observations and ideas to suggest answers to questions.</p>
9 10	<p>Why is it important to be hygienic? (mouldy bread experiment)</p>	<ul style="list-style-type: none"> The importance of hygiene. Why it is especially important to wash hands when cooking and eating. How not washing our hands makes us sick. 	<p>Mould, bread, most, least, germs, grow, unwashed, control, sanitised.</p>	<p>Perform a comparative test Observing through first hand observation and measurement, recording data.</p>

11 12	How do we get sick???	<ul style="list-style-type: none"> Observe how germs spread through contact. How germs make us sick. <p>1.3 Coughs and sneezes Activities 1,2</p>	Contact, spread, germs, bacteria, covid	Performing simple tests, observing closely using simple equipment, gathering and recording data.
13 14	Cultural Capital Visit, visitor, scientist	Science Museum - The human body Write a recount	Year 2 Science Museum - Staff Drive - Google Drive	Ask and answer questions Observe closely
15 16	Plant Diary			
17	Rising stars end of unit assessment	Teacher to identify any gaps and plan recap		

Year 2- Uses of Everyday Materials

Lesson number	Lesson question	Pupils will learn (Substantive knowledge)	Key Vocabulary	Working Scientifically Skills (Disciplinary knowledge)
1	Rising stars assessment Front cover (KWL-whole class) Knowledge organiser	Teacher assessment		
2	Recap year 1 learning	<ul style="list-style-type: none"> Distinguish between an object and the material from which it is made. Identify and name a variety of 	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard,	Recap lesson

		<p>everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <ul style="list-style-type: none"> • Describe the simple physical properties of a variety of everyday materials. • Compare and group together a variety of everyday materials on the basis of their simple physical properties. 	<p>rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through</p>	
3 4	Can you identify a material based on its properties?	<ul style="list-style-type: none"> • Sorting materials based on their properties <p>2.1 Meet the materials monster: Activities 1, 2, 3</p>	<ul style="list-style-type: none"> - Fabric, metal, plastic. Glass, shiny, shiny, fragile, strong 	Identifying and classifying
5 6	Why do we change materials? (add examples of why the objects are suitable on slides)	<ul style="list-style-type: none"> • Why certain materials are used for different objects. <p>2.2 Working with materials: Activities: 1, 2, 3</p>	<ul style="list-style-type: none"> - Transparent, translucent, opaque, reflective, non-reflective, rigid, flexible, strong, waterproof. 	Using their observations and ideas to suggest answers to questions.
7 8	Which materials are waterproof?	<ul style="list-style-type: none"> • Testing whether a variety of materials used are absorbent 	<ul style="list-style-type: none"> - Waterproof, absorbent - absorb 	Performing simple tests, using observations and ideas to answer questions, gathering and recording data.,
9 10 11	How can the shape of solid objects be changed?	<ul style="list-style-type: none"> • Examples of solid objects • Squashing, bending, twisting, stretching 	<ul style="list-style-type: none"> - Squash, bend, twist, stretch. 	-Gathering and recording data to answer questions. -Identifying and classifying

12 13		<ul style="list-style-type: none"> Testing different materials 3.1 Squash, squeeze, bend and twist: Activities 1-7		materials.
14	How has the use of materials changed over time?	<ul style="list-style-type: none"> Examples of material scientists Garrett morgan 	<ul style="list-style-type: none"> Gas mask, heavy, non-flammable, waterproof, translucent, rigid, reflective, transparent, stretchy. 	<ul style="list-style-type: none"> Using observations and ideas to answer questions.
15	Cultural Capital Vist, visitor, scientist			
16 17	Plant Diary			
18	Rising Stars end of unit assessment	Teacher to identify any gaps and plan recap		

End of Year Revision Lessons

What have you learned in science in year 2?	Recap whole year learning
4 lessons	Revisit each topic and plan activities: Living things and their habitats: collage Animals including humans: information leaflet online purple mash

	Materials: poster
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	Plants: non-chronological report
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