Science Skills Progression Map ROBERT BLAIR PRIMARY SCHOOL



EYFS / National Curriculum Strands	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	EYFS					
 Ask questions to find out more information Use observation to look closely – observing change and pattern Identify and classify Work together to carry out a simple investigation 	Who Helps You? (People around us & in the community) (explore different forces; talk about different materials & changes they notice; explore the natural world; the effect of changing seasons on the natural world)	Once Upon A Story! (Celebrations, festivals, seasons, light & dark) (the effect of changing seasons on the natural world; describe what they see/ hear/feel outside; the effect of changing seasons on the natural world)	How Does Your Garden Grow? (Growth & life cycles) (plant seeds & care for growing plants; key features of life cycles; explore the natural world; describe what they see/ hear/feel outside; the effect of changing seasons on the natural world)	Minibeasts & Megabeasts (Insects to dinosaurs) (respect and care for the natural environment & living things; key features of life cycles; explore the natural world; describe what they see/ hear/feel outside)	Far! (Space, solar system/ ocean adventures) (explore the natural world; describe what they see/ hear/feel outside; explore different forces; talk about different materials & changes they notice)	All Around the World (Different cultures, communities & foods) (explore different forces; talk about different materials & changes they notice; explore the natural world; the effect of changing seasons on the natural world)
KS 1 Working Scientifically	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				• .		-
	Seasonal change & plants Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies		Seasonal change & plants • Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies		Seasonal change & plants • Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies	



Scientists and

Inventors

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Animals including humans (Healthy Me)

- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene
- Notice that animals, including humans, have offspring which grow into adults
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)

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Uses of Everyday materials

(Material Monsters)

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Plants (and Materials) (Young Gardeners)

- Observe and describe how seeds grow into mature plants
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy
- Identify and name a variety of plants
- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

Living things and their habitats

(Mini Worlds)

- Explore and compare differences between things that are living, dead, and things that have never been alive
- Identify that most living thigs 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
- Identify and name a variety of plants and animals in their habitats, including microhabitats
- Describe how animals obtain their food from plants and other animals, using the idea of a a simple food chain, and identify the different sources of food
- To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
- To explore and compare the differences between things that are living, dead or that have never been alive.
- To identify that most living things live in habitats and micro-habitats to which they are suited.
- To describe how different habitats provide for the basic needs of different kinds of animals and plants.
- To describe how animals obtain their food from plants and other animals.
- To use the idea of a simple food chain.
 To identify and name different

sources of food.

Plants

- Observe and describe how seeds and bulbs grow into mature plants
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

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LKS 2 Working Scientifically

- 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 conclusions, 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

Year 3

Animals including humans (nutrition

(Food)

- 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
- Identify that humans and some other animals haver skeletons and muscles for support, protection and movement
- Find out about healthy and balanced diets.
- Gather, record and present data in different ways.

Animals including humans (movement)

(& Bodies)

- 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
- Identify that humans and some other animals haver skeletons and muscles for support, protection and movement
- Describe the basic parts of the skeletal system.
- Observe and compare animals with and without skeletons.
- Look at joints, and how bones and muscles help us move.
- Make systematic and careful observations

Light (Mirror Mirror)

Recognise that they need light in order to see things and that

- dark is the absence of lightNotice that light is reflected from surfaces
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- Recognise that shadows are formed when the light source is blocked by an opaque object
- Find patterns in the way that the size of shadows change
- Describe the reflections when light is reflected from surfaces.
- Record observations and make sense of them.
- Describe how shadows are formed.
- Design and carry out a fair test.
- Research and gather some key facts about how mirrors have been made over the centuries.
- Make a simple mirror and create a list of the key uses.

Rocks (Earth 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 soils are made from rocks and organic matter
- Explore different kinds of rocks and their properties.
- Collect and record data from observations and tests
 Explore different types of rock
- families.
 Recognise that soil comes from
- rock.
 Set up and carry out simple,
- practical activities and fair tests.Find out how fossils are formed
- Use results to draw conclusions and suggest improvements or new questions.

Plants (throughout the year) (How Does Your

 Identify and describe functions of different parts of flowering plants; roots, stem/trunk, leaves and flowers

Garden Grow?)

- Explore the requirements of plants for life and growth (air, light, water, nutrients from the soil and room to grow) and how they vary from plant to plant
- Investigate the way in which water is transported within plants
- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal
- Set up simple practical enquiries.
- Explore exactly what plants need to live and grow, and how these requirements vary from plant to plant.
- Ask relevant questions and use different types of scientific enquiry to answer them.
- Record the findings using drawings and labelled diagrams.

Forces and magnets (Opposites Attract)

- Compare how things move on different surfaces
- Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance
- Observe how magnets attract or repel each other and attract some materials but not others
- 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 2 poles
- Predict whether 2 magnets will attract or repel each other, depending on which poles are facing
- To observe the forces that magnets produce. To report and present fndings from enquiries.
- To name some materials that magnets can attract and some they cannot. To list at least ten uses of magnets in everyday life.
- To explain what a magnetic pole is and what it can do. To predict whether two magnets will attract or repel each other.

Year 4

Living things and their habitats (throughout the year)

(Living Things)
• Recognise that living things can

be grouped in a variety of ways

- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- Recognise that environments can change and that this can sometimes pose dangers to living thing

Animals including humans

(Teeth and Eating)

- Describe the simple functions of the basic parts of the digestive system in humans
- Identify the different types of teeth in humans and their simple functions
- Construct and interpret a variety of food chains, identifying producers, predators and prey

Electricity (Power It Up!)

- Identify common appliances that run on electricity
- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- 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
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit

States of matter (Looking at States)

- Compare and group materials together, according to whether they are solids, liquids or gasses
- 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
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

Sound (What's That Sound?)

- Identify how sounds are made, associating some of them with something vibrating
- Recognise that vibrations from sounds travel through a medium to the ear
- 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

What Do Scientists Do?

Science Skills Progression Map ROBERT BLAIR PRIMARY SCHOOL

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	humans (Staying Alive) Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Describe the ways in which nutrients and water are	 (Electrifying) Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit 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 	Inheritance (We're Evolving) 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	their habitats (Clarifying Critters) • 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	(Let It Shine) SATs Recognise that light appears to travel in straight lines 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 Explain that we see things because light travels from light	consolidation of topics
	Animals including	Electricity	Evolution and	Living things and	Light	Recap and
	Year 6		l			
• 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.	(Material World) • 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 • Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • Use knowledge of solids, liquids, gases to decide how mixtures might be separated • Give reasons, based on evidence from comparative and fair testis, for the particular uses of everyday materials including metals, wood and plastic • Demonstrate that dissolving, mixing and changes of state are reversible changes • 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	Properties and changes of materials (changes of materials.) (Material World) • 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 • Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • Use knowledge of solids, liquids, gases to decide how mixtures might be separated • Give reasons, based on evidence from comparative and fair testis, for the particular uses of everyday materials including metals, wood and plastic • Demonstrate that dissolving, mixing and changes of state are reversible changes • 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	Forces (Let's Get Moving) • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • Identify the effects of air resistance, water resistance and friction, that act between moving surfaces • Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	Earth and Space (Out of This World) 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	Living things and their habitats (Circle of Life) Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals	Animals including humans (Growing Up and Growing Old) Describe the changes as humans develop to old age
			Recognise some common conductors and insulators, and associate metals with being			
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	transported within animals,	 Use recognised symbols when 	and are not identical to their	Give reasons for classifying plants	sources to our eyes or from light	1
	including humans	representing a simple circuit in a	parents	and animals based on specific	sources to objects and then to	1
		diagram	 Identify how animals and plants 	characteristics	our eyes	ſ
			are adapted to suit their		 Use the idea that light travels in 	ſ
			environment in different ways		straight lines to explain why	ſ
			and that adaptation may lead to		shadows have the same shape as	ſ
			evolution		the objects that cast them	1