

Eastfield Primary School PSHE Knowledge and Skills Progression

Science is planned with a key focus on the following six areas:

- Questioning and Enquiry Planning
- Practical Testing
- Observations
- Gather and Record Data
- Analyse/Evaluate
- Identify and Classify



Theme and Focus	<u>Reception</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<p>Autumn (Helping Hands / Eastfield Blocks!) Talk about the lives of people around them and their roles in society.</p> <p>Know similarities and differences among people who help us, in our community, local traditions, different religions and cultural communities in this country, drawing on their own experiences and what has been read in class.</p> <p>Spring</p>	<p>Autumn (Home Sweet Home) Seasonal Changes Autumn & Winter</p> <p>Everyday Materials Name materials and what it is made from. Group materials according to physical properties</p> <p>Forces Compare movement-slow, fast, ,turn push/pull type of movement – wind, water, spring</p> <p>Spring</p>	<p>Autumn (Travelling Around) Animals Inc Humans Basic needs for survival food, water, air. Exercise, food and hygiene</p> <p>Electricity Name appliances that require electricity/battery to give light/heat/sound/ movement</p> <p>Spring (London’s Burning) Living Things and Habitats living/dead</p>	<p>Autumn (Meet the Flintstones) Magnets & Forces Poles/attract/repel/ movement on surfaces</p> <p>Animals & Humans – nutrition and balanced diet. Water, nutrients and oxygen transported in humans and animals.</p> <p>Spring (Building an Empire) Light Shadow Plants</p>	<p>Autumn (Tomb Raiders) Animals Inc Humans- Basic Digestive system / teeth /food chains-predator, prey, producer.</p> <p>Spring (Let the Battle Commence!) Living Things & Habitats- classification</p> <p>States of Matter.</p>	<p>Autumn (Greece Lightning) -Properties and changes of materials- Conductivity (electrical and thermal) Reversible and irreversible changes, Dissolving., filtering and separating mixtures,</p> <p>Spring (Conquering Castles) -Earth and Space- night and day,</p>	<p>Autumn (Mexican Hats) Living Things and their Habitats Microorganism s, classification</p> <p>Animals, incl Humans Human circulatory and respiration system</p> <p>Spring (Nautical Know How) Light How we see – Waves, reflection into eyes Colour Electricity Voltage, components</p>

	<p>(Once upon a time The Land Before Time) - Dinosaur's habitat - Where they lived - How they survived - - similarities and differences between dinosaur habitat and our immediate environment. Know some similarities and differences between things in the past and now, drawing on their experiences and what has been read in class.</p> <p>Understand the past through: Settings, characters and events encountered in</p>	<p>(Out of This World) Seasonal Changes Winter & Spring</p> <p>Plants Name common wild and garden plants/ deciduous & evergreen trees. Basic structure of flowering plants and trees</p> <p>Light and Sound Link to senses - hear sound- distance see – light and dark</p> <p>Summer (Land Ahoy!) Seasonal Changes Spring & Summer</p> <p>Animals Inc Humans Name common animals/ group carnivores,</p>	<p>living things suited to their habitat dependent on each other for survival</p> <p>Plants Seeds and bulbs to mature plants Requirements to grow water, light and temp.</p> <p>(Wonder Woman) Use of everyday materials Suitability of everyday materials How shapes of solid objects can change.</p>	<p>Function of basic parts of flowering plant. Requirements for life & growth Water transport in plants Life cycle flowering plants</p> <p>Summer (Street Detectives) Rocks Types of rocks formation of soils Animals & Humans – Skeleton and Muscular System</p>	<p>Solid, liquid or gas heat/cool changes states Water cycle Summer (A Large and Dirty Town) Sound How we hear Vibrations pitch & sound Electricity Simple series circuits (not circuit diagrams)</p>	<p>phases of the moon, star constellations - -Forces- Gravity in relation to earth. friction, air & water resistance, machinery and movement, levers, pulleys and gears</p> <p>Summer (Black by day and red by night) All living things and their habitats Reproduction in plants and animals.</p>	<p>and circuit diagrams Summer (The War at Home) Evolution and Inheritance Animals and Humans Diet, exercise and Drugs</p>
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	<p>books read in class and storytelling.</p> <p>Summer (In our back garden What a Wonderful World!)</p> <p>Describe the immediate environment using knowledge from observations, discussions stories, NF texts and maps.</p> <p>Know some similarities and differences in this country and draw on their experiences of life in other countries.</p> <p>Draw on knowledge from</p>	<p>herbivores and omnivores</p> <p>.</p>				<p>life cycles, mammals, amphibian, birds, insects.</p> <p>Animals Inc humans</p> <p>Puberty & stages of growth.</p>	
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<p>stories, NF texts and when appropriate maps. Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</p> <p>Understand some important processes and changes in the natural world</p>						
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	<p>around them, including the seasons and changing states of matter.</p> <p>Kingswood - make observations of mini-beasts and plants begin to explain why some things occur and discuss changes Our environment - properties of materials through experimentation Technology used around school compare to home and talk about purpose.</p>						
Questioning and Enquiry Planning	<u>Reception</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	Explore what they see around them.	Ask simple questions about	Ask questions about the	Ask some relevant questions	Raise their own questions	Begin to plan scientific	Plan different types of scientific

<p>Answer simple questions given by the teacher about the world around them.</p> <p>Begin to have their own ideas that draw on their own experiences.</p> <p>Discover new experiences identifying similarities and differences.</p> <p>Experience diversity - Looking at and describing differences and similarities in the made, built and natural world</p> <p>Seek challenge within the outside environment/</p>	<p>the world around them.</p> <p>Talk about the world around them, making observations and comparisons</p>	<p>world around them.</p> <p>Describe their observations; begin to use simple scientific vocabulary given by an adult.</p> <p>Find things out from secondary sources</p>	<p>relating to Enquiry Questions given by the teacher.</p> <p>Record initial observations in written form pictorial or basic tables.</p> <p>Use simple texts to find information</p>	<p>about the world around them.</p> <p>Develop their ideas about the world around them.</p> <p>Record observations comparisons and measurements in a variety of ways including using tables, bar charts and simple line graphs.</p> <p>Use appropriate scientific vocabulary.</p>	<p>enquiries to answer their questions relating to the world around them.</p> <p>Begin to explore and talk about ideas, their own questions and use appropriate scientific vocabulary.</p> <p>Record observations systematically.</p> <p>Select a range of appropriate sources including</p>	<p>enquiries to answer their questions.</p> <p>Explore and talk about their ideas including more abstract ideas to understand how the world operates.</p> <p>Choose an appropriate format to record observations and measurements .</p> <p>Choose their own sources of information in order to find information relating to their scientific enquiry.</p>
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	equipment/resources				Select information from a range of texts to find information.	books, internet and CD-Rom to find information.	
Practical Testing	<u>Reception</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<p>Make choices and decisions how to approach tasks set by an adult.</p> <p>Say or Draw what they do or did.</p> <p>Explain what and how it happened.</p>	<p>Perform simple tests with adult support</p> <p>Begin to discuss ideas about how to find things out.</p> <p>Say what they think will happen, what is the same or different.</p>	<p>Use simple equipment to perform simple tests.</p> <p>Discuss ideas about how to find things out.</p> <p>Make a simple prediction.</p> <p>Discuss what happened in their</p>	<p>Set up simple, practical enquiries and fair tests.</p> <p>Begin to recognise when a simple fair test is necessary.</p> <p>Make a prediction.</p>	<p>Set up practical enquiries, comparative and fair tests.</p> <p>Recognise when a fair test is necessary and use this to help decide how to set up an</p>	<p>Use scientific knowledge and identify an approach for an investigation.</p> <p>Begin to identify which variables need to be controlled</p>	<p>Use previous knowledge and experience combined with experimental evidence to provide scientific explanations</p> <p>Recognise when and how to set up a comparative</p>

		Begin to describe what they observed.	investigation linked to their observations.	Begin to realise that scientific ideas are based on evidence.	investigation . Begin to think of more than one variable. Realise how scientific ideas are based on evidence.	Recognise the key factors to be considered in carrying out a fair test.	and fair test, explain which variables are to be controlled and why. Suggest improvements to their method and give reasons.
Observations	<u>Reception</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	Begin to develop and link concepts. With guidance talk about changes. Respond appropriately whilst engaged in the activity. Make observations	Begin to observe closely using simple equipment. To say what they are observing/measuring. To know how to use simple equipment safely.	Observe closely using simple equipment. Use observations and ideas to suggest answers to questions. Make observations	Begin to make systematic and careful observations and where appropriate take accurate measurements using standard units.	Make systematic and careful observations and where appropriate take accurate measurements using a range of standard units, using	Begin to take measurements using a range of scientific equipment with increasing accuracy and precision taking repeat	Take measurements using a range of scientific equipment, with increasing accuracy and precision taking repeat readings where appropriate.

	<p>verbal/pictures of animals and plants and explain why some things occur, and talk about changes.</p> <p>Use a range of technology to make observations with support,</p>	<p>Use simple measurements with support.</p>	<p>over a time with guidance.</p> <p>To say what they are looking for and what they are measuring.</p> <p>Use equipment safely.</p> <p>Use simple measurements and equipment with increased independence.</p>	<p>Begin to look for naturally occurring patterns and relationships, decide on what data to collect to identify them.</p> <p>Use a range of equipment safely.</p> <p>Begin to make decisions about what observations to make, how long to make them for and the type of simple equipment to use.</p>	<p>a range of equipment.</p> <p>Learn to use new equipment appropriately e.g. Data loggers.</p> <p>Make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used.</p> <p>Observe and measure accurately using standard units</p>	<p>readings where appropriate.</p> <p>Begin to identify patterns that might be found in the natural world.</p> <p>Begin to make their own decisions about what observations to make.</p> <p>What measurements to use and how long to make them for and where to repeat them.</p>	<p>Identify patterns that might be found in the natural world.</p> <p>Make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them.</p> <p>Choose the appropriate equipment and explain how to use them accurately.</p> <p>Interpret data and find patterns.</p>
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					including time in minutes and seconds.	Choose appropriate equipment and explain how to measure accurately. Begin to interpret data collected and find patterns. Take accurate and precise measurements represent data collected in a variety of ways.	Make a set of observations and say what the interval and range are. Take accurate and precise measurements (time, distance, mass) represent data in a variety of ways.
Gather and Record Data	<u>Reception</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	Draw simple pictures to say	Gather and record data with some	Gather and record data to	Gather, record and	Gather, record,	Begin to record data	Record data and results of

	<p>what they have found out.</p> <p>With support talk about what features they have observed.</p> <p>Explain in simple terms why some things happen or occur.</p>	<p>adult support, to help in answering questions.</p> <p>Begin to record simple data.</p> <p>Begin to communicate their findings in a range of ways. – Possibly a number line or pictorial representations.</p> <p>Show their results in a simple table using pictorial representations provided by the teacher.</p>	<p>help in answering questions.</p> <p>Record simple data.</p> <p>Communicate their findings.</p> <p>Show their results by way of data representations: pictogram, tally chart and block chart.</p>	<p>begin to classify and present data in a variety of ways(scaled bar charts/tables, pictograms with half/quarter representations) to answer questions.</p> <p>Begin to record findings using simple scientific vocabulary, drawings, labelled diagrams, pictograms with half pictograms, scaled (2, 5, or 10 units) bar charts and tables. .</p>	<p>classify and present data in a variety of ways (discrete and continuous data, bar charts, time graphs) to answer questions.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables with a greater range of scales.</p> <p>Comparison of data presented in</p>	<p>and results in an increasing complexity using scientific diagrams and labels, classification keys, tables and bar/line graphs.</p> <p>Present data in more than one way in order to make comparisons .</p> <p>Begin to report and present findings from enquiries.</p> <p>Begin to choose how best to</p>	<p>increasing complexity using scientific diagrams and labels, classification keys, tables. line graphs and pie charts.</p> <p>Record data using the mean as an average.</p> <p>Report and present findings from enquiries.</p> <p>Decide how to record their data.</p> <p>Choose how to present their collected data.</p>
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				Begin to use notes, simple tables and standard units and help to decide how to record observations	bar charts, pictograms and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results.	present their results.	
Analyse/ Evaluate	<u>Reception</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	With support talk about what they can see. Make simple comparisons, drawing on their own life experiences. Identify simple similarities and differences.	Begin to talk about what they have found out and how they found it out. Begin to say what happened in their investigation. What was similar, different.	Talk about what they have found out and how they found it out. Describe how they carried out their investigation and what happened.	Begin to use results to draw simple conclusions and state if their prediction was proved to be correct. Begin to use simple scientific	Use results to draw simple conclusions, relate back to their prediction and suggest improvements. Use notes, simple	Begin to report and present findings from enquiries, including conclusions, results in both oral and or written form.	Report and present findings from enquiries, including conclusions, results. Identify scientific evidence that has been used to support or

	<p>With support answer how and why – linked to their activity</p>	<p>Make comparisons.</p>	<p>Say whether or not they were surprised at the results or not.</p> <p>Begin to state if their prediction was right</p> <p>Begin to say what they would change about their investigation.</p>	<p>evidence to answer questions to support their findings.</p> <p>With help, look for changes, patterns, similarities and differences in data in order to draw simple conclusions.</p> <p>With support begin to identify new questions arising from the data.</p> <p>Say what they have found out, with support link it</p>	<p>tables and standard units to decide how to record and analyse their data.</p> <p>Begin to identify new questions arising from the data.</p> <p>Say what they have found out, show some links to cause and effect.</p> <p>Say how they could improve their investigation</p>	<p>Begin to identify scientific evidence that has been used to support or refute ideas or arguments. Begin to draw conclusions based on their data and <u>observation</u>s, use evidence to justify their ideas, use scientific knowledge to explain their findings.</p> <p>Begin to use test results</p>	<p>refute ideas or arguments.</p> <p>Draw conclusions based on their data and observations, use evidence to justify ideas, use scientific knowledge and understanding to explain their findings.</p> <p>Use their test results to make further predictions and suggest further fair tests.</p> <p>Look for evidence in their data that supports or</p>
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				<p>to cause and effect.</p> <p>Begin to say how they could improve their investigation.</p> <p>Begin to write simple conclusions.</p>	<p>Write simple conclusions based on what their results.</p>	<p>to make predictions to set up further comparisons for fair tests.</p> <p>Begin to look for evidence in their data that supports or refutes their ideas.</p> <p>Know that evidence proves a scientific point. Begin to answer scientific questions from what they have found out.</p>	<p>refutes their idea.</p> <p>Separate opinion from fact.</p> <p>Draw conclusions and identify scientific evidence.</p> <p>Use their results to answer original scientific enquiry/question.</p>
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Identify and Classify	<u>Reception</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
	<p>With support or independently group animals, plants, materials or objects.</p> <p>Talk about differences and similarities</p> <p>Talk about the features of their immediate environment</p> <p>Make simple comparisons, drawing on their own life experiences.</p> <p>Talk about what they see using past and present (ref to own or</p>	<p>Identify and classify with some support.</p> <p>Begin to observe, identify, compare and describe with support.</p> <p>Begin to use simple features to compare objects, materials and living things and with help sort and group them.</p> <p>Talk about what makes them the same or different</p>	<p>Identify and classify.</p> <p>Observe and identify.</p> <p>Compare and describe what they see and find out.</p> <p>Use simple features to compare objects, materials and living things, decide how to sort them into simple groups.</p>	<p>Begin to identify difference, similarities or changes related to simple scientific ideas and processes.</p> <p>Begin to talk about criteria for grouping, sorting and classifying and use simple keys.</p> <p>Begin to compare and group according to behaviour or properties,</p>	<p>Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Talk about the criteria for grouping, sorting and classifying and use simple keys.</p> <p>Compare group according to behaviour and properties based on their tests.</p>	<p>Begin to use and develop keys and other information records to identify, classify and describe living things and materials.</p>	<p>Use and develop keys and other information records to identify, classify and describe living things and materials.</p>

	family lives) as appropriate			based on testing.			
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