

Crich Carr CofE Primary School

Subject Specific Curriculum Intent – Science

What is Science?: Making sense of, and being curious about, the world around us – including living and non-living things.				
Science relates to our ‘questioning and curiosity’ and ‘critical thinking and open-mindedness’ ore abilities.				
What is the curriculum INTENT for this area of the curriculum?			Rationale – Why is this what you want our children to know?	
<ul style="list-style-type: none"> • Ask scientific questions and gain curiosity about the world. • To work scientifically – making predictions, planning and carrying out fair tests, presenting results and drawing conclusions. • To have a growing knowledge about the work of key scientist and the work they do. • To gain and apply statistical knowledge when presenting data. • To have a secure knowledge of the primary curriculum (including biology, chemistry and physics). 			<ol style="list-style-type: none"> 1. To build on children’s natural curiosity and for them to acquire a growing understanding of the world around them. 2. To promote critical thinking and draw accurate conclusions. 3. To promote future jobs and ambitions in the field of STEM. 4. To use and apply maths skills to real-life situations . 5. To prepare our children with the required knowledge for life in an increasingly scientific and technological world – today and in the future. 	
	EYFS	KS1	LKS2	UKS2
Working Scientifically	<ul style="list-style-type: none"> • Children know about similarities and differences in relation to places, objects, materials and living things. • They talk about the features of their own immediate environment and how environments might vary from one another. • They make observations of animals and plants and explain why some things occur and, talk about changes. • They make simple predictions about what might happen. 	<ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways. • Observe closely using simple equipment. • Perform simple tests. • Identify and classify. • Use observations and ideas to suggest answers to questions. • Gather and record data to help in answering questions. 	<ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquiries to answer them. • Set up simple practical enquiries, comparative and fair tests. • Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Record findings using simple scientific language, drawings, labelled 	<ul style="list-style-type: none"> • Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. • Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. • Use test results to make predictions to set up further comparative and fair tests.

			<p>diagrams, keys, bar charts, and tables.</p> <ul style="list-style-type: none"> • Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. • Identify differences, similarities or changes related to simple scientific ideas and processes. • Use straightforward scientific evidence to answer questions or to support their findings. 	<ul style="list-style-type: none"> • Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. • Identify scientific evidence that has been used to support or refute ideas or arguments.
Knowledge of Scientists	What is a scientist and what do they do?	What is a scientist and what do they do?	<p>John Dunlop Charles Macintosh John McAdam Michael Faraday Thomas Edison Alexander Graham Bell Neil Armstrong Helen Sharman Tim Peake</p>	<p>Galileo Isaac Newton Ruth Benerito David Attenborough Jane Goodall Charles Darwin Carl Linnaeus Mary Anning</p>
Statistics Taken from NC Maths and Foundation stage objectives	<p>Experiment with their own symbols and marks, as well as numerals.</p> <p>Tally charts and pictograms (whole numbers).</p>	<p>Tally charts, simple tables, pictograms (whole numbers).</p> <p>Sort items using simple Venn diagrams.</p>	<p>Tally charts, bar charts, pictograms and tables.</p> <p>Introduce simple line graphs for continuous data.</p> <p>Sort items using Venn diagrams and Carroll Diagrams</p>	<p>Complex tables, line graphs, pie charts and mean average.</p> <p>Select ways of sorting items.</p>

	Carry out simple sorting activities.			
Breadth of Study	<p>See Foundation stage objectives – specifically Understanding the World: <u>3/4yr old</u></p> <ul style="list-style-type: none"> - Use all their senses in hands-on exploration of natural materials. - Explore collections of materials with similar and/or different properties. - Talk about what they see, using a wide vocabulary. - Explore how things work. - Plant seeds and care for growing plants. - Understand the key features of the life cycle of a plant and an animal. - Begin to understand the need to respect and care for the natural environment and all living things. - Explore and talk about different forces they can feel. - Talk about the differences between materials and changes they notice. <p>Rec</p> <ul style="list-style-type: none"> - Explore the natural world around them. - Describe what they see, hear and feel while they are outside. - Recognise some environments that are different to the one in which they live. 	<p><u>Year 1 Programme of Study:</u> Plants Animals, including humans Everyday materials Seasonal changes</p> <p><u>Year 2 Programme of Study:</u> Living things and their habitats Plants Animals, including humans Uses of everyday materials</p>	<p><u>Year 3 Programme of Study:</u> Plants Animals, including humans Rocks Light Forces and magnets</p> <p><u>Year 4 Programme of Study:</u> Living things and their habitats Animals, including humans States of matter Sound Electricity</p>	<p><u>Year 5 Programme of Study:</u> Living things and their habitats Animals, including humans Properties and changes of materials Earth and space Forces</p> <p><u>Year 6 Programme of Study:</u> Living things and their habitats Animals, including humans Evolution and inheritance Light Electricity</p>

	<p>- Understand the effect of changing seasons on the natural world around them.</p> <p>ELG's</p> <p>- 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 around them, including the seasons and changing states of matter.</p>			
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Implementation

- Science will be taught as a discrete subject.
- It will be planned on a rolling programme; Class 1 two year programme, KS2 on a 4 year programme.
- It will be delivered once per week.
- There will be separate Science books.
- Units will be structured using: title page, pre learning activity (such as a mind map or quiz) and vocabulary builder.
- 'Working scientifically' should not be taught as a separate unit but embedded within each unit (the National Curriculum for Science give examples at the beginning of each key stage).
- Units will include learning about key scientists where appropriate.
- Flashbacks will be included frequently to encourage children to recall prior key knowledge.
- Knowledge organisers to be considered by the subject leader as a teaching aid – particularly when planning flashbacks. Knowledge builders to be used to aid children's reading, spelling and pronunciation of scientific vocabulary, consistent with their reading and spelling knowledge.
- Teachers will build on prior knowledge. Due to mixed age classes we will be flexible when we introduce content (as long as all National curriculum content is covered).
- Schools are required to set out their school curriculum for science on a year-by-year basis and make this information available online