Science

STRATEGY

Kings Meadow School
Believe and Achieve

VISION

The science curriculum gives pupils opportunities to understand the world around them and their place within it. Using a rolling program adapted to suit our pupils learning needs from the National Curriculum science programs of study ensuring a balanced portfolio of what pupils need to know, apply and understand in each topic. Science is made accessible for all our pupils using our pathway approach so all can access learning at their individual stages of development and through a focus on practical investigations throughout our thematic curriculum and is designed to engage our pupils through hands on experience.

Threaded throughout the thematic curriculum is the breadth of science specialisms with opportunities for consolidation to help pupils retention of knowledge and where appropriate there are close links to PSHE to help our pupils consider and to build on knowledge and skills within their schema of everyday life experiences, think deeply about the world around them and to see science in the wider context. Pupils progress through skills by working scientifically across all stages using the seven enquiry skills embedded in the teaching of the conceptual content and supported by Science Primary Teaching Trust routinely throughout every class.

CURRICULUM OVERVIEW

Year 1	Commotion in the Ocean		Visiting the Victorians		Rumble in the Jungle	
KS1	Humans and Animals	Seasonal changes	Materials and their Properties	Light	Plants	Habitats
LKS2	Humans and Animals	Weather	Materials and their Properties	Light Shadow and Reflection	Plants	Living things and their habitats
UKS2	Humans and Animals	Weather	Properties and changes of materials	Light Shadow and Reflection Electricity	Evolution and inheritance	Living things and their habitats

Year 2	The Stone Age	Chocolate Cake and Golden Tickets		Walk the Plank	
KS1	Forces	Materials and their Properties	Materials and their Properties	Humans and Animals	Forces
LKS2	Rocks and Fossils	Solids liquids and gases	States of matter	Skeletons and Nutrition	Forces and magnets
UKS2	Evolution and inheritance	Solids liquids and gases	States of matter	Skeletons and Nutrition	Forces and magnets

Year 3	Explorers		Our Living World		Heros	
KS1		Materials and their properties	Plants	Habitats	Sound Science	
LKS2	Earth and Space	Materials and their properties	Plants	Habitats	Sound Science	Electricity
UKS2	Earth and Space	Materials and their properties	Living things and their habitats	Habitats	Sound Science	Electricity

Working Scientifically:

Primary Science Teaching Trust

Explorify

Asking questions
Asking questions that can be answered using a scientific enquiry.

Making predictions
Using prior knowledge to suggest what will happen in an enquiry.

Setting up tests
Deciding on the method and equipment to use to carry out an enquiry.

Observing and measuring
Using senses and measuring equipment to make observations about the enquiry.

Recording data
Using tables, drawings and other means to note observations and measurements.

Interpreting and communicating results
Using information from the data to say what you found out.

Evaluating
Reflecting on the success of the enquiry approach and identifying further questions for enquiry.

PATHWAY CURRICULUM

The curriculum across all keystages and throughout all classes has been developed in order to allow for the flexibility and personalization required to respond to the individual needs of each child. All curricular areas aim to support children's SEMH needs by providing learning opportunities.

We use key information about children's needs identified in their EHCP to develop Individualised Learning Plans (ILPs) which include curriculum targets collectively supporting their SEMH needs and engagement.

Below is an example of how we may see planning for engagement in science for pupils on different pathways in the same class.

Connect	Engage	Develop
Highly dysregulated, seeks disruption to feel safe, inconsistent attention span, poor peer to peer and adult relationships, low self esteem.	Poor resilience to adversity, particularly with peer to peer and adult relationships, or academic challenge reluctance to preserve with work, even with support.	Poor resilience to adversity, particularly with peer to peer and adult relationships, or academic challenge reluctance to preserve with work.
Bespoke timetable. Identify any hooks with science with links to PSHE or PFA to work 1:1 support. Focus on science SEMH skills- this may include engaging with the adult, working in a different classroom area for science investigation, sharing resources with others or willing to take risks,	Emphasis on hooks within the science curriculum (Usually practical elements). Continuous play based learning opportunities that are low stake to encourage engagement and risk taking such as sorting, exploring and investigating activities. Focus on developing practical skills that involve planning, observing, analysing and evaluating. 1:1 support offered for scaffolding to develop learning key knowledge.	Use hooks and practical skills to support engagement in key knowledge retention. Pupils can engage in the academic curriculum and emphasis is on knowledge retention and practical skill development to develop well rounded pupils that can access further education.

ASSESSMENT FRAMEWORK

In each class and with careful consideration of pupils within each pathway the science curriculum planning includes topic outlines with clear objectives of learning to which children are assessed formatively to check the retention of knowledge and skills.

Low stakes testing is used supported by activities in Explorify to check new knowledge is learned. Pupils then have the opportunity to use this knowledge to articulate ideas and explanations across the thematic curriculum in different scientific contexts.

A core set of curriculum statements accompany each science topic which pupils are assessed against. Alongside each topic, pupils enquiry skills are developed Teacher assessment of pupils practical skills takes a dynamic approach and is continually observed through all classroom investigations.