INTENT

At Hormead, we recognise that everyone is a unique child of God with individual gifts and talents that need to be recognised and nurtured to their full potential. Our Science lessons at Hormead incorporate various teaching strategies from independent tasks to paired and group work; including practical, creative, computer-based and collaborative tasks that help the children to live our school values and love learning.

Both indoor and outdoor learning are used to create a stimulating, enjoyable learning environment. This variety means that lessons are engaging and appeal to those with different learning styles. Learning is adapted where needed in every lesson to ensure that all pupils can access learning, and opportunities to stretch pupils' learning are available when required to promote a love and enjoyment of learning. Knowledge organisers for each unit help to identify prior and future curriculum links to make learning as meaningful as possible and reinforce key technical terms. Children use knowledge organisers as a form of self-assessment to review and reflect on their learning and are given the opportunity to show how they feel about their learning in each unit and which aspects they have enjoyed to further inform teachers' planning.

Implementation

Both indoor and outdoor learning are used to create a stimulating, enjoyable learning environment. This variety means that lessons are engaging and appeal to those with different learning styles. Learning is adapted where needed in every lesson to ensure that all pupils can access learning, and opportunities to stretch pupils' learning are available when required to promote a love and enjoyment of learning. Knowledge organisers for each unit help to identify prior and future curriculum links to make learning as meaningful as possible and reinforce key technical terms. Children use knowledge organisers as a form of self-assessment to review and reflect on their learning and are given the opportunity to show how they feel about their learning in each unit and which aspects they have enjoyed to further inform teachers' planning.

Kapow's Progression of skills and knowledge shows the skills and key knowledge that are taught within each unit in each year group. It shows how these skills develop year on year to ensure attainment targets are met by the

end of the key stage. The core concepts and vocabulary from our progression of skills and knowledge document can be found in our Science Knowledge organisers, which are child friendly in their display of core knowledge for each unit. Children are provided with a discrete 'question time' in each lesson, designed to encourage children to ask and answer questions as scientists, using scientific vocabulary to express their ideas and knowledge.

Teachers aim to encourage critical thinking and empower pupils to question the hows and whys of the world around them. Our child-led investigations ensure that they develop scientific enquiry skills, such as:

- observing over time;
- pattern seeking; identifying, classifying and grouping;
- comparative and fair testing (controlled investigations);
- researching using secondary sources.

Our Hormead Science curriculum aligns with the National Curriculum and has been carefully planned and sequenced to enable all pupils to meet the end of key stage attainment targets in the national curriculum. Work is inclusive and meaningful, so all pupils experience the joy of science and make links between their science learning in school and their lives outside of the classroom. Studying science allows children to appreciate how new knowledge and skills can be useful in the wider community and the world.

We aim to promote:

A strong focus on developing knowledge alongside scientific skills across the three threads of science Biology, Chemistry and Physics.

- Curiosity and excitement about familiar and unknown observations.
- Challenging misconceptions
- Continuous progression by building on practical and investigative skills throughout the entire curriculum.
- Critical thinking, with the ability to ask perceptive questions and explain and analyse evidence.
- Development of scientific literacy using wide-ranging, specialist vocabulary.
- Building positive relationships through collaborative work.

Each year group completes an additional exploration-based unit titled ‘Making connections.’ This unit delves beyond the essential curriculum, compiling prior knowledge and skills to create excitement and to show science in different contexts, providing an additional method of assessing scientific attainment.

Strong subject knowledge is vital for staff to deliver a highly effective and full-bodied Science curriculum to allow all children to reach their full potential. Each unit of lessons includes multiple resources to develop subject knowledge, target misconceptions effectively and support ongoing professional development. Our supporting scheme ‘Kapow’ has been created to build confidence amongst non-specialist primary teachers who are required to deliver and assess the full Science curriculum and maximise pupil progression. Support is also available from the school’s subject leader to support staff and address any training needs across the school so that both children and adults in school have the opportunity to flourish.

Impact

The impact of Kapow Primary’s Science scheme can be constantly monitored through both formative and summative assessment opportunities. Each lesson includes guidance to support teachers in assessing pupils against the learning objectives and any relevant scientific enquiry skills. Furthermore, each unit has a unit quiz and a knowledge and skills catcher, which can be used at the beginning and/or end of the unit to provide a summative assessment. Opportunities for children to communicate using scientific vocabulary will also form part of the assessment process in each unit.

After implementing Kapow Primary Science, pupils should leave school equipped with the requisite skills and knowledge to succeed in upper KS2 Science. They will have the necessary tools to confidently and meaningfully question and explore the world around them as well as critically and analytically experiencing and observing phenomena. Pupils will understand the significance and impact of science in the wider community and in society.

The expected impact of following the Kapow Primary Science scheme of work is

that children will:

● Develop a body of foundational knowledge for the Biology topics in the National curriculum:

Plants; Animals, Including Humans; Living Things and Their Habitats; Evolution and Inheritance.

● Develop a body of foundational knowledge for the Chemistry topics in the National curriculum:

Everyday Materials; Uses of Everyday Materials; Properties and Changes of Materials; States of

Matter; Rocks.

● Develop a body of foundational knowledge for the Physics topics in the National curriculum:

Seasonal Changes; Forces and Magnets; Sound; Light; Electricity; Earth and Space.

● Be able to evaluate and identify the methods that 'real world' scientists use in society to develop and answer scientific questions.

● Identify and use equipment effectively to accurately gather, measure, record and analyse data.

● Be able to display and convey data in a variety of ways, including graphs.

● Analyse data in order to identify, classify, group, and find patterns.

● Use evidence to formulate explanations and conclusions.

● Demonstrate scientific literacy through asking questions and communicating ideas using

scientific vocabulary.

● Understand the importance of our school value of resilience and a growth mindset, particularly in reference to scientific enquiry.

● Meet the end of key stage expectations outlined in the National curriculum for Science.