

Science at Kingsmoor



The important thing is to never stop questioning
- Albert Einstein -

Intent

At Kingsmoor Academy, we believe that every child is already a scientist. Every child has the ability to question and to be curious about the world in which they live, every child can identify patterns and trends and every child can evaluate and draw conclusions about the environment around them. Our science curriculum aims to increase children's understanding and knowledge of our world whilst developing the skills associated with science as a process of enquiry – skills such as predicting, observing, recording and interpreting.

Our school closely follows the aims and objectives of the National Curriculum. Each topic has been mapped out across different year groups and key stages and many topics build upon previous learning where there are opportunities to deepen their scientific knowledge and understanding. Although topics have been assigned to particular year groups, every class in every year group look at developing the skills needed for scientific enquiry.

Science at Kingsmoor Academy doesn't just happen within the confines of the classroom. We have a wonderful outdoor learning environment where children can learn so much about science, whether their topic is about weather, plants, habitats, adaptation and evolution. We also have many assemblies and days linked to science. For example, Year 3 have a whole day focusing on rocks and we have lots of assemblies where animals come in and the children can learn about them in a closer, more hands-on way.

We also have an excellent link with the OGDEN Trust where teachers and pupils have the opportunity to learn even more about science. This involves the loaning of resources that are sometimes unavailable in a primary school setting, access to detailed planning produced by the OGDEN Trust and the access to subject specific CPD.

We also have a yearly Science Week, in line with the British Science Week in March. Here, children can spend a whole week learning lots about science in different and exciting ways. For example, historically we had the UK's largest indoor astrodome visit our school and every child got to join in and 'visit the stars'. Children have also had the opportunity to speak with real life, every day scientists!

Implementation

Science is taught in every half term in Kingsmoor Academy. Teachers follow our school's own medium-term plans where every science National Curriculum objective has been mapped out across each Key Stage with, in most cases, learning building upon previous years. They also have access to plans created by The OGDEN Trust and Rising Stars and the teachers all have access to science specific websites such as Explorify.

Impact

The impact of our science curriculum can be seen in many different ways. Children start each topic by completing a pre-topic assessment. We complete a quiz, a vocabulary list and a self-assessment on the knowledge and skills that we will cover during the topic. We then repeat the same tasks at the end of the topic. The difference between this pre and post task shows the impact that the topic has had on the children. When they finish each topic they can reflect on what they have learnt.

The biggest way we show impact is through looking at the children's books and talking to our young scientists themselves. We conduct pupil voice

throughout the year to give autonomy to our young learners.

Assessment

- AFL is used within each lesson to establish next steps for pupils
- All National Curriculum aims and objectives have been mapped out across year groups and key stages.
- Start of topic and end of topic assessments are used to measure understanding and impact using Quizziz and Menti

Monitoring

Monitoring is undertaken by the subject leader and SLT during the school year. This will include:

- learning walks during science lessons
- scrutiny of science books
- speaking with pupils and discussions about what they have learnt and enjoyed

Marking and Feedback

Work should be marked according to the school marking policy by:

- highlighting the LO to show that children have understood the learning from that lesson
- stamping the work to show whether it was independent work or whether they received additional support
- misconceptions are addressed through either verbal or written feedback

EYFS

EYFS cover science in a range of Development Matters areas. They aim to get their children interested in science and build their curiosity in the world around them. Through our link with the OGDEN Trust, EYFS have a range of science activity cards and ideas for children. An example of this might be using magnets and making predictions over what car would be the fastest using different types of magnets. Every half term EYFS have a different science focus that is mapped out on our curriculum overview. In each half term approximately two weeks is dedicated to science and the science taught in split 50:50 into knowledge and investigation. For example, in the current topic of materials, teachers introduce different materials and key vocabulary first, children then explore the different types of materials and they must think of the best material needed for a superhero cape. This task has then been extended to look at the best materials for a parachute. EYFS can go outside to test their theories and designs to see which material was best. Towards the end of the spring term, EYFS liaise with KSI teachers to see if there are gaps in learning or whether any prior knowledge is needed in order for a smooth transition to Key Stage 1.

EYFS follows the Development matters but we have a specific Early Years Reception and Nursery Science Curriculum Map which looks at the science specific statements from Development Matters. This informs planning and assessment. Statements are linked to children's age bracket which enables our staff to differentiate according to age as well as ability.

The science EYFS lead checks children's profiles on 2build in order to monitor and evaluate the effectiveness of the Early Years science provision and to target individual children for the next topic.