



Subject routeway

Subject: Science

1. Curriculum intent:

Our science teaching aims to give all children a strong understanding of the world around them and the ability to think scientifically. Science lays the foundations for children's future ability to understand and critically assess information in the media and online, and to contribute to informed decisions about health, the environment and technology in society.

2. Implementation

We lay the foundations for future science learning through our Early Years curriculum, which teaches children to understand and talk about the world around them. We use stories, objects, artefacts and experiences to develop children's understanding of the natural and physical world, and to give them the concepts and vocabulary they need to discuss their observations and investigations.

We use the National Curriculum in Science to teach biology, physics and chemistry in a progressive programme of study, which systematically revisits and builds upon previous learning. This consolidates prior knowledge and builds enthusiasm whilst embedding procedural and conceptual knowledge into long-term memory.

We teach and reinforce specialist vocabulary throughout the Key Stages, developing oracy so that children are fluent to communicate their scientific ideas. We aim for children to leave Key Stage 2 ready to cope with the demands of the next stage of the curriculum and of the modern world around them.

We use the newest *Plan Bee Science* scheme to inform our planning. This follows the objectives of the National Curriculum and includes detailed planning with the scientific knowledge teachers need to deliver effective Science teaching and learning. This ensures a consistent approach to Science across the school.

3. Impact

Milestones at Unity are based on the Clive Davies' 'How to Assess a Knowledge-Rich Curriculum - Focusing on 'sticky knowledge' in science, history & geography,' which we use to help shape our curriculum. Assessment from EYFS to Year 6 is carried out in every lesson to ensure that pupils are reaching these milestones. We use assessment for learning techniques and in each lesson to address misconceptions and ascertain if the lesson objective has been met.

Questioning and independent work is the biggest indicator of if a child has acquired the necessary knowledge from a lesson and reached their milestone. However, we want our

pupils to recall knowledge from previous topics, and use metacognitive techniques to build connections between themes. In Years 1-6, we do this by using low-stakes, flashback quizzes that ask a question about previous scientific topics. Furthermore, at the end of each unit, pupils will complete an end of unit multiple-choice quiz to help teachers assess each pupils acquired knowledge.

3. Inclusion

At Unity Community Primary, we work hard to ensure that every member of our school community enjoys being a scientist and fulfils their potential. We use strength-based approaches to ensure that every child gains an understanding of science. Each lesson utilises quality-first teaching to ensure that resources are adapted to meet the needs of individual pupils, for example with pre-teaching important scientific vocabulary, prior to each unit. Many lessons also have the opportunity for non-written and practical activities with the use of concrete resources.

We work to ensure that girls as well as boys are confident to engage, experiment and attain in science, using diverse role models to promote science as a valid career option for all children. We aspire to work with families to promote science as a career and draw on the scientific and technological resources of Manchester and the North-West to broaden children's horizons and inspire a passion for science.

4. Professional development

Professional development is delivered by the Subject Lead in conjunction with Deborah Cox (Curriculum Specialist). Our Subject Lead is a member of the Science & Engineering Education Research and Innovation hub and has attended seminars and training to help develop the strength of Science teaching and learning at Unity. Staff meetings are also delivered to support teachers with their subject knowledge. Staff receive planning support from the Science subject leader to tailor each lesson so that every child at Unity is supported and challenged.