**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, so that they gain an understanding of scientific processes and of the uses and implications of science for today and for the future. 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.

1. 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.

In the rest of the school, 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. This model also allows children who join us throughout a Key Stage to ‘backfill’ knowledge and skill gaps in Science. We teach and reinforce specialist vocabulary throughout the Key Stages, developing oracy so that children are fluent to communicate their scientific ideas. We also aim to engage our children and make it accessible for all through making many lessons practical and having a strong link to the working scientifically objectives of the curriculum.

We ensure a consistent approach to Science across the school and teachers receive planning support from the Science subject leader to tailor each lesson so that every child at Unity is supported and challenged.

1. 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 lesson. Most lesson also has the opportunity for non-written and practical activities with the use of concrete resources. We also 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.

1. Milestones

Milestones at Unity have been created using the National Curriculum statutory objectives including the working scientifically objectives for each year group. At the start of every lesson, there is the opportunity to ‘bridge back’ to a previous year group’s science unit so that key knowledge is being re-visited and embedded.

Questioning and independent work is the biggest indicator of if a child has acquired the necessary knowledge from a lesson and reached their milestone. We use assessment for learning techniques in each lesson, to address misconceptions and ascertain if the lesson objective has been met. Furthermore, at the end of each unit, pupils complete an end of unit; multiple-choice quiz to help teachers assess each pupil acquired knowledge.

We use a summative assessment tracker which is completed at the end of each unit to assess pupil’s knowledge and skills. We re-visit and re-assess the objectives that need further support, during the Summer term to further secure these objectives.

1. Professional development

Professional development is delivered by the Subject Lead. Our Subject Lead is a member of the Science & Engineering Education Research and Innovation hub and the Primary Science Teaching Trust. Staff meetings are also delivered to support teachers with their subject knowledge.