**Cambois Primary School**

**Science Intent, Implementation and Impact**

**Curriculum Intent**

Here at Cambois Primary School we believe Science provides the foundations for understanding the world around us. Science has changed our lives and is vital to the world’s future prosperity. We teach Science as part of **STEM developments** in school which allows us to support children in the world around them as well as preparing them for their **next steps** in the future, whether this being secondary school or future employment. All pupils will be taught the essential aspects of knowledge through **concepts**, methods, processes and the uses of Science, through **dual objective planning** and the use of a **formative approach** to assessment**.** In our school we teach Science through **concepts** and as a result we build up **memorable knowledge and vocabulary**, supporting children with both their learning and long-term recall. Through teaching this way, we are allowing our pupils to develop a sense of excitement and curiosity about natural phenomena and the world around them. They will be encouraged to understand how key **knowledge** and **concepts** can be used to explain what is occurring, predict how things will behave and analyse causes.

**Curriculum Implementation**

**Teaching and Learning**

**Scientific knowledge and conceptual understanding**

Whilst it is important that pupils make progress, it is also vitally important that they develop a secure understanding of **knowledge and concepts** to progress to the next steps. Insecure knowledge will not allow for genuine progression. At Cambois Primary School children will develop **scientific knowledge** through **conceptual understanding.** The concepts taught through the topics of the curriculum are also known as **Science models,** which weave their way throughout the entirety of the Science curriculum. These **Science models** allow children to become scientists, developing their creativity, solve problems and begin to make fundamental connections between knowledge and ideas. Furthermore, these **Science models** allow children’s independence to develop, giving them the opportunity to overcome misconceptions and transfer their knowledge. As a result, pupil responses will be deeper and more extended as facts and knowledge will make sense due to the **underlying concepts** and **Science models** they have been taught. Ultimately, security, mastery and depth relate to the use of **Science models.**

**Scientific enquiry and working scientifically**

Science has changed the world we live in and the way we live in it over time and will continue to do so in the future, therefore making it a key priority to teach to our pupils. The demand for high-quality **STEM** education from employers is increasing, yet the numbers to fill these jobs are not. It is our job as teachers and educators to ignite a spark and love of Science in children, supporting **greater aspirations** and providing them with a high-class education in Science which fully prepares them for their next steps in life. In order to do this **scientific inquiry** and **working scientifically** is absolutely vital.

Pupils will develop an understanding of Science through different types of **scientific enquiries** and **working scientifically,** helping them to make sense of the world around them through enquiry, investigation and experimentation. **Science models** will be used to assist children through their inquiry and experimentation to develop an understanding of the nature, process and methods of Science as well as answering scientific questions about the world around them and supporting them to work more independently. Lessons will be **hands-on, active** and include a wide range of strategies and enquiry types to allow pupils to examine **concepts** through different lenses. This ensures children are equipped with the **scientific knowledge** required to understand the uses and implications of Science, today and for the future which correlates with our wider whole school push to support children to have **greater aspirations** in the world of **STEM** careers.

**Foundation Stage**

Science is also taught as a discrete subject. As the reception class is part of the foundation stage, we relate the scientific aspect of the children’s work to the objectives set out in the Early Learning Goals included in ‘Knowledge and Understanding of the World’. This encourages children to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. Foundation Stage recorded a lot of practical lessons on Tapestry.

**Curriculum Impact**

All children at Cambois Primary School are provided with the opportunity to develop their understanding of science through high-quality science lessons. Science plays a key part of children’s lives within school and children are able to enjoy and progress. We aim to provide for all children so they achieve as highly as they can regardless of their year group or ability. Those pupils who are under-achieving are identified and steps are taken to improve their attainment, whilst those more able are also identified and challenges for their learning are provided. Activities take place both within and outside the classroom and it is ensured all children actively participate in these tasks which are matched to their previous knowledge, understanding and experiences. As a school we have adopted a formative approach to assessment in science which allows pupils to make mistakes, clarify their understanding and act on feedback to develop their skills and knowledge. Furthermore, a pupil’s ability to use ‘science models’ can be picked up through formative assessment and provides a means for measuring how understanding is developing not only within but also between explicit topics. The assessment boardused by teachers matches the National Curriculum for Science and follows a skills development approach and works in conjunction with a model-basedapproach to teaching. Class teachers take this into account to plan lessons with a clear focus so that skills are taught, knowledge is developed and progress can be clearly demonstrated. Science work can be evidenced through children’s individual workbooks and through the use of the online platform Seesaw. Additionally, the Early Years Foundation Stage records a lot of practical lessons on Tapestry. This allows the science lead and class teachers to monitor and evaluate the effectiveness of teaching and learning in science, to identify next steps and targets and provide children with the opportunity to share their views on science and discuss their work through pupil voice.