A screenshot of a computer

Description automatically generated**Science Policy 2023 - 2024**

“Science is fun. Science is curiosity. We all have natural curiosity. Science is a process of investigating. It’s posing questions and coming at it with a method. It’s delving in.” Sally Ride

**Intent**

At Pearson, the Science topics we explore are informed by the Science Primary National Curriculum. We use this to plan science units of work that support clear skills and knowledge progression. We are also informed by documents created by an HCAT working party to develop a clear progression of skills, pre-loading, key knowledge and coverage.

The whole school science overview ensures children begin their science journey in EYFS by looking at ‘Understanding the world’ which is a precursor to many of the KS1 and KS2 science topics. KS1 children learn about seasonal changes, materials, animals including humans, living things and their habitats and plants. Working Scientifically runs throughout and should complement the science topics, covering all five types of inquiry – pattern seeking, researching using secondary sources, observation over time, comparative and fair testing, and identifying, and classifying and grouping. This should be repeated into KS2 using the working scientifically skills from each phase. KS2 also cover animals including humans, plants, living things and their habitats and materials. They also learn about electricity, sound, light, rocks, forces, Earth and space, states of matter and evolution and inheritance. Every class from Year 1 upwards teaches animals including humans. All the other topics are covered in the specific year groups that the National Curriculum lays out. Through each topic we develop our three key drivers: language, community and possibilities. This is also underpinned by the five pillars of the HCAT signature.

We develop strong subject knowledge amongst all staff through comprehensive middle leader development, a focus on developing teachers’ subject knowledge and Scientific pedagogy, and the provision of high-quality planning resources. Key grants and funding is sought yearly and ring-fenced for new resources and appropriate science related visitors.

**Implementation**

At Pearson Primary School, teachers create a medium-term plan for each unit. This includes a sequence of lessons that carefully plan for clear skills, vocabulary and knowledge progression, including disciplinary knowledge. Pupils build on these skills year on year to achieve depth in their learning. At the beginning of a new unit, pupils are able to convey what they already know, as well as what they would like to find out, which is used by teachers to support planning and come back to at the end of the unit.

Consideration is given to how greater depth will be taught, learnt and demonstrated over the unit. This includes through specific questioning, extra challenges and applying learning into a different context. Learning is carefully planned and structured to ensure that current learning is linked to previous learning, both within a unit and across units, using the pre-loading HCAT documents.

Scientific vocabulary develops and evolves from EYFS to KS1 and through to KS2. The promotion of a language rich science curriculum is essential to the successful acquisition of knowledge and understanding in science. Vocabulary includes words that are needed for the unit knowledge but also specifically identified Tier 2 vocabulary that we want the children to learn throughout their time at our school. This is important due to the high EAL numbers at Pearson Primary School and the low level of vocabulary many have on entry to Pearson.

High-quality educational experiences (visitors and trips) develop pupils’ confidence and deepen understanding. Trips and visits are organised by classes depending on their topic, and the needs of the children, including the knowledge gaps they have. This is important due to a lack of opportunity to visit farms with their families and with some, a fear of animals. Each year Pearson has dedicated Science days. These are key opportunities to deepen some of the skills each class has been developing and open their understanding of careers at the earliest appropriate age. This is important due to an increase of science careers in the city because of companies like Siemens and the Ron Dearing UTC. It is also an opportunity to showcase our children’s enthusiasm and excitement around science, as we have parent workshops in each class or phase and a science showcase or assembly to end the week.

**Impact**

We use a variety of strategies to evaluate the knowledge, skills and understanding that our pupils have gained in each unit: Recall Four, end of unit quizzes; skilful questioning lesson by lesson; summarising learning at end of topics; and science investigations. Evidence of this learning will be recorded within pupils’ books and will form the basis of moderation within the year at school. Leaders will monitor the quality and impact of the Science Curriculum through regular book looks, pupil voice and learning walks, to assess the extent to which pupils know more and remember more. This will also evaluate the impact of prior learning.

**Assessment**

Formative:

This form of assessment takes place within lessons, and throughout the sequence, and is an inherent part of teacher practice. Teachers will re-group pupils and assign adult support based on which children require this to achieve the learning outcome. Sequences will be altered based on pupil need.

Summative:

Children from Year 1 to Year 6 are assessed half termly at the end of a unit, using an assessment the teacher designs. There is also a dedicated working scientifically day where teachers plan activities so they can carefully observe their Science skills. Assessment information is reported bi-annually at pupil progress meetings. The information is used to target children who are not working at age-related standards for interventions and further support.

**Leadership**

The role of the Science lead is to:

* Provide a strategic lead and direction for the subject;
* Support and offer advice to colleagues in relation to the teaching and learning of Science;
* Monitor pupil progress in Science;
* Monitor the Science sequence in each year group;
* Monitor the quality of the teaching of Science within the school.

It is the role of each subject leader to keep up to date with developments in their subject, at both national and local level. They review the way the subject is taught in the school and plan for improvement. This development planning links to whole-school objectives. Each subject leader reviews the curriculum plans for their subject, ensuring that there is full coverage of the National Curriculum, and that progression is planned into the schemes of work.

**Equal Opportunities**

At Pearson Primary School we are committed to providing all children with an equal entitlement to writing activities and opportunities regardless of race, gender, culture or class.

**Inclusion At Pearson Primary School**

We know how to achieve educational inclusion in writing by: Identifying and overcoming potential barriers to learning and assessment; responding to diverse learning needs; and setting suitable and aspirational learning challenges for all children.