Science Policy

School Intent

At The John Harrox Primary School, our curriculum is designed to ensure children have a love for learning and a thirst for knowledge. It recognises children's prior learning, providing first hand learning experiences, allowing the children to develop interpersonal skills, build resilience and become creative, critical thinkers. Children's learning is viewed as a sequence, building blocks of knowledge overtime to achieve a bigger picture; cumulative knowledge is developed over time. Every child is recognised as a unique individual. We celebrate and welcome differences within our school community. The ability to learn is underpinned by the teaching of basic skills, knowledge, concepts and values. We constantly provide enhancement opportunities to engage learning and believe that childhood should be a happy, investigative and enquiring time in our lives where there are no limits to curiosity and there is a keen desire for new experiences and knowledge.

We promote 4 key outlooks on our world which include:

A Global Outlook

An Enterprising Outlook

A Creative Outlook

A Healthy Outlook

Each topic that is taught takes one outlook as a focus, ensuring a balanced coverage.

Intent	Implementation	Impact
At The John Harrox Primary School, it is our belief that Science is an integral part of a child's learning. By providing high-quality lessons, we aim for our pupils to learn knowledge and skills that will develop two of the school's key outlooks (Enterprising and Creative). At John Harrox Primary School, we understand that children are naturally **creative** and curious, with an urge to make sense of the world around them. It is therefore our belief that our Science curriculum should nurture these characteristics. Our Science Curriculum aims to stimulate a child's curiosity in providing and finding out the knowledge of why things happen in the way they do. It teaches methods of enquiry to stimulate **creative** thought and promotes initiative/resourcefulness when planning and conducting investigations	**Time allocation** Within both KS1 and KS2, our pupils experience a minimum of 1 hour of discreet Science per week across the academic year. **Planning** Science planning is provided through medium and long-term plans which outline the topic, skills and progression needed: • The two year Long Term Curriculum Map (A/B) for each phase shows which aspect of Science is being taught and when. • Science Curriculum map shows coverage across the whole school in each area of the subject. • Science Progression Map shows the progression of and the build-up of knowledge in each area of Science across the school. This allows teachers to effectively build upon prior learning in previous year groups.	**Expected Outcomes** Our Science Curriculum is planned to allow and demonstrate progression across year groups and key stages. By the end of each key stage, pupils are expected to know, apply and understand the knowledge and skills specified in the national curriculum for Science. **Assessment and Record Keeping** Throughout the course of an academic year sufficient record keeping and assessment is expected. We will measure the impact of our curriculum and progression of pupils in the following ways: • Formative, ongoing teacher assessment by the class teacher. Using discussion and marking of work (in line with the school feedback policy), teachers will be able to see progression and outcomes within each lesson.

(**enterprising**). Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national and global level.

The Aims of Science

Science at The John Harrox Primary School is provided in line with the legal requirements as follows:

To ensure that pupils develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.

To ensure pupils develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.

To ensure pupils are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. (The National Curriculum in England Framework Document (DfE) 2014).

Our school aims to teach the Science subject content outlined in the National Curriculum in a progressive way, according to our subject progression maps and subject overviews.

Foundation Stage

We teach science in the Foundation stage as an integral part of the topic work covered

- Subject Vocabulary document shows the progression of vocabulary in Science throughout the school.
- Teachers plan a sequence of lessons using the agreed medium term planning format where each lesson builds on prior learning.

Teaching and Learning

At John Harrox Primary School, a different aspect of Science is taught each term (according to the Science Curriculum Map). Science can be taught as a stand-alone subject or as part of 'topic' depending on the teacher's preferences.

In order to promote our key outlooks, Science within John Harrox Primary School should aim to inspire and motivate pupils. Where possible, lessons should involve practical elements or experiments. These types of lessons enable pupils to be creative whilst also providing knowledge in an engaging and memorable way.

Science lessons/topics should draw upon previous learning (referring to the progression document) enabling pupils to make connections and transfer knowledge and understanding across different aspects of Science as well as different subjects (e.g. Geography or Maths).

Across KS1 and KS2 each individual pupil will have their own 'Science Book' to record their learning within. This book will include a mixture of worksheets, investigations and extended writing pieces to assist learning and provide evidence of

- Summative assessment through the use of classroom monitor where data is updated termly to show achievement and progression throughout the academic year.

Monitoring, Evaluation & review

This policy should be reviewed by all staff and governors on a regular basis. To ensure that this policy is in practice, and to help teachers keep track of their own work and needs for support or training, the **Science co-ordinator** keeps an updated record of developments and monitors progress within this curriculum area.

This policy will be reviewed in 2021. Evaluation of the policy and practice will take place annually.

April 2020

during the year. It comes under Understanding the World in the EYFS. Children must be supported in developing the knowledge, skills and understanding that help them to make sense of the world. Their learning must be supported through offering opportunities for them to use a range of tools safely; encounter creatures, people, plants and objects in their natural environments and in real-life situations; undertake practical 'experiments'; and work with a range of materials.	both Scientific Knowledge and Working Scientifically. **Resourcing** Class teachers should aim to use as many practical/physical resources within their lessons as possible. Practical resources are stored in the Library cupboard. The subject leader will audit resources to ensure they meet the needs of the curriculum being delivered. See appendix 1 for equipment list/audit Teachers are encouraged to use online resources (such as video, planning aids, lesson ideas, subject knowledge) to support their lessons. Such resources can be found on Espresso, STEM, etc. The subject leader should oversee that teachers are aware of and can access these resources. Teachers are also encouraged to take Science outside and use the facilities we have at school. Such areas such as the pond area and the school garden should be regularly used within certain areas of Science. **Equal Opportunities & Inclusion** Science is a fundamental part of our curriculum at The John Harrox Primary School and is fully inclusive. Regardless of race, gender or ability (including any Special Educational Needs), every child should be able to access lessons and feel they are encouraged to be inquisitive and curious. Therefore, learning and activities (both within and outside the classroom) should be planned and	

	differentiated to ensure children can fully participate and have their needs catered for. Teachers are required to give particular consideration to the use of equipment and staff support when planning practical activities to ensure that any child with Special Educational Needs are provided with the correct support and accessibility. **Enrichment & Extension** There are many opportunities within Science as a subject to extend beyond normal classroom practice to meet the National Curriculum Standards. These may include, but are not limited to: School trips to Science establishments (e.g. The National Space Centre), visits from secondary school Science teachers/Science industry to provide focussed teaching/experiences or Science days/weeks. When creating a long and medium term plan, teachers should take into consideration any enrichment/extension activities they are able to incorporate into their Science curriculum. **Links to other subjects** As a subject, Science has integral links to other subjects. Where possible teachers should make learning cross curricular: **English - Writing**: Opportunities to link longer pieces of writing to demonstrate knowledge. **English – Reading:** Opportunities to read Scientific books/historic scientific figures. **Maths**: Interpreting and analysing data, calculating averages, etc.	

	ICT: Computer generated graphs and table to support conclusions. Research into topic areas, e.g. planets. **Geography**: Habitats, rock formations, vocabulary. **History**: Looking back at discoveries/figures from scientific history. **PE**: Healthy living, Bodily functions e.g. circulatory and respiratory system. **Link to specific outlooks** **Creative and Enterprising Outlook** Our Science curriculum aims to ensure that pupils can develop creativity and entrepreneurial skills, applying these towards problems and finding solutions. These key outlooks may encompass, but are not restricted to: • Planning creative lessons. • Planning activities where pupils work collectively or in teams • Using open-ended tasks/investigations to develop organisational skills and creativity. • Setting homework based on Science that allows pupils to show creativity and entrepreneurial skills. • Share scientific news to create a wonder and interest within the subject. • Having scientists visit the school. **Health and Safety** The safe use of equipment and consideration of others is promoted at all times. The Association for Science Education publication, "Be Safe!", should be used by staff as a point of reference for issues regarding health and safety. A copy of this is held in the Science	

	cupboard and teachers are encouraged to use this as an aid. The school's "Health and Safety Policy" should be consulted for details regarding scissors, craft tools, electrical equipment, wet areas, heavy equipment and use of other tools. When planning activities, safety issues should be identified in detail in the weekly plans and acted upon accordingly. Children should be made aware of safety issues and, where appropriate, the reasons behind them. Activities which take place away from the school's premises will require a separate risk assessment form to be filled in.	