**Mobberley C of E Primary School Policy for Science**

**“Open Hearts, Open Doors, Open Minds”**

**Intent**

The 2014 national curriculum for science aims to ensure that all pupils:

● develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics

● 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

● are equipped with the scientific skills required to understand the uses and implications of science, today and for the future.

Through science, pupils at Mobberley Primary School will continue to deepen their respect, care and appreciation for the natural world and all its phenomena. The children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. Students are encouraged to ask and answer their own questions about science and we aim to develop them into active global citizens who understand their own impact on the natural environment. We ensure that the working scientifically skills are built-on and developed throughout a child’s time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings. We will also ensure that pupils realise the positive contribution of both men and women to science and the contribution from those of other cultures. We will not only emphasise the positive effects of science on the world but also include problems, which some human activities can produce.

**Implementation**

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all pupils are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following;

* Science is taught in discrete lessons throughout KS1 and KS2, with teachers using the national curriculum, Lancashire Science planning scheme and Twinkl to support their teaching. Content is taught carefully and thoroughly and is introduced in the phase areas set out in the National Curriculum: Key Stage 1, Lower Key Stage 2 and Upper Key Stage 2. Scientific enquiry, known as ‘Working Scientifically’ in the 2014 curriculum, is taught through and embedded within the content of biology, chemistry and physics. Reception children are taught Science as set out in the renewed EYFS framework.
* Teachers ensure there are cross-curricular links added to their planning. Data created in science links to each year group’s Maths objectives and teachers plan for extended writing pieces such as newspaper articles, non-chronological reports and letters throughout their topics. Students are also given access to a range of computing devices throughout their learning including data loggers and ipads.
* Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class. Trips have included: a whole school visit to Chester Zoo; a trip to the sea-life centre; a trip to the beach and a trip to safety central.
* Through our planning, we involve problem-solving opportunities that allow children to apply their knowledge, and find out answers for themselves. Children are encouraged to ask their own questions and given opportunities to use their scientific skills and research to discover the answers.
* Planning involves teachers creating engaging lessons. Teachers use questioning in class to test conceptual knowledge and skills, and formatively assess pupils by asking retrieval questions at the beginning of each lesson.
* Summative assessment is completed at the beginning and end of each topic with students completing a pre and post-assessment activity. Open questions are used to challenge the more able students and allow them to show the breadth of their knowledge.
* Within each key stage, students develop their ability to plan, carry out and evaluate simple scientific investigations. Scientific enquiry lessons, from one key stage to the next, are carefully planned to ensure progression throughout the school.
* Students are introduced to the language and vocabulary of science and they are given regular opportunities to use the scientific terms necessary to communicate ideas about science.
* We have high expectations for all our students and teachers ensure in their planning that SEN pupils have the support to access to all lessons.
* Regular events, such as STEM Week allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills. These events often involve families and the wider community.

**Impact**

The approach at Mobberley Primary School allows children to have a fun, engaging and high-quality science education. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. Through various workshops, trips and interactions with experts and learning about Scientists of the past and present, children have the understanding that science has changed our lives and that it is vital to the world’s future prosperity. Children learn the possibilities for careers in science, as a result of our community links and connection with national agencies such as the STEM association. This enables students to work with professionals, ensuring that children have access to positive role models within the field of science from the immediate and wider local community. From this exposure to a range of different scientists from various backgrounds, all children feel they are scientists and capable of achieving. Children at Mobberley Primary School overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding

**Health and safety**

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers, Teaching Assistants and the Subject Leader will check equipment regularly and report any

damage, taking defective equipment out of action. A simple risk assessment will be carried out for practical activities when necessary. The Subject Leader, together with the Headteacher will review risk assessments annually.

CLEAPSS (School Science Service Helpline 01895251496) will be contacted for further advice.

**Management and administration**

An annual key stage meeting will be held to review the needs of science. Personal development of staff and training needs will be discussed. The Science Subject Leader will organise and lead these meetings.

**Role of the subject Leader**

The Subject Leader will provide professional leadership and management for science and will ensure that it is managed and organised so that it meets the aims and objectives of the school. The Subject Leader will monitor teaching and learning within the subject and will initiate reviews of the scheme of work. The Subject Leader will manage the resources for science and will maintain the stock to meet the needs of the curriculum.

**Resourcing**

In order to encourage an investigative approach to learning both the science resources cupboard and practical area provide sufficient basic equipment to allow simple investigations, observation and measurements to be carried out in small groups. Class teachers may request specific equipment required, prior to their unit of work. The science subject leader will see that this level of resourcing is maintained and will administer the allocated budget for science.

More specialist pieces of equipment and those posing a potential safety risk will be held centrally and staff access when required. Teaching materials and background information on science are kept in the science cupboard.

The Science Leader will ensure regular orders are sent to the Local education Library Service, Cheshire East, in order to provide relevant books and resources for all key stages.

**Review**

The Science Subject Leader will monitor classroom teaching and complete a book scrutiny for all year groups. The effectiveness of the science curriculum will be evaluated in discussions with the

Headteacher, Key Stage Phase Managers and the Science Subject Leader. Priorities for in service support and external review will be established.

This evaluation will form the basis for an action plan, which will then inform the School Improvement Plan. This policy will be reviewed bi-annually by the Science Subject Leader or as necessary in view of

Government or LA initiatives, analysis of assessments or curriculum development.