

# Chapel Street Science Policy

## Justification

At Chapel Street, we aim to stimulate a child's natural curiosity into the world around them, by providing them with opportunities to enquire, investigate and analyse how and why things happen. We believe that by building up a body of key foundational knowledge of biology, chemistry and physics, that pupils will recognise the impact of science in their own futures, personally and globally. In developing the skills associated with working scientifically, particularly those of observation, prediction, investigation and interpretation, children can learn to be confident in meeting the challenges presented by our rapidly changing world. Throughout their experience of Science, our children will encounter different types of research and experimentation which will help them answer scientific questions about the world around them. Developing and increasing pupils' understanding and enjoyment of Science is core to our curriculum at Chapel Street, which has been personalised to reflect our local area alongside the needs and interests of our children. WOW opportunities are used to enhance and revisit key aspects.

## Intent

1. To ensure that the statutory requirements of the National Curriculum (2014) for science are taught well and that where appropriate their scientific knowledge skills and understanding are applied through cross-curricular links.
2. To promote and develop children's enjoyment and enthusiasm for science through stimulating, practical, first-hand learning and opportunities to experiment, explore and investigate.
3. To ensure that the school's personalised curriculum is taught, thoroughly, systematically and progressively to all pupils by all staff.
4. To help pupils to operate as scientists by developing their problem solving and reasoning skills so that they can apply their scientific thinking across the curriculum.
5. To ensure that from the EYFS onwards, pupils are confident in their understanding and application of their basic skills in science and that they build upon their prior learning at every stage.
6. To encourage children to use their increasing knowledge, skills and understanding of science to investigate, ask questions and solve challenging problems with increasing independence.
7. To develop pupils' confidence and skill in scientific methods as they explore the areas of science and address increasingly complex problems.
8. To bring science to life and make it real so that children understand the importance of science in the world, their everyday day lives and their future.
9. To ensure that all children particularly those with special needs; English as an additional language or disability are well supported to achieve their personal best.
10. To teach pupils to work with proper regard for their own safety and that of others, using safety equipment where necessary.

## **Implementation**

1. An appropriate range of teaching and learning strategies will be used in all science lessons alongside the highest of expectations, to capture pupils' interest and to promote effective learning and progress.
2. Teachers will use the medium term planning sheets and exemplification materials, supported by a wide range of teaching and learning resources, to develop the knowledge, skills and understanding of every child, ensuring that all pupils, including those with SEND or EAL, achieve high standards for their ability and make appropriate progress.
3. Children will be encouraged to; ask questions, solve problems, discover new information, apply and consolidate their knowledge, skills and understanding through first-hand experience, investigations and practical work.
4. Teachers will make use of the immediate and wider environment to help pupils apply their scientific knowledge skills and understanding to see the relevance of science to their own lives. They will set challenging work, tasks and problems to increase children's' knowledge, skills and understanding, to extend their thinking and build their self-confidence.
5. Teachers will assess children's work in science through formative and summative judgements by; asking questions, observing learners during lessons, observing pupils solving practical problems and listening to pupils' discussions. Work will be marked in line with the school marking policy, and pupils will be given appropriate, clear feedback to move their learning forward.
6. The science subject leader will support the teaching and learning of science by; providing strategic leadership and direction, outlining the direction of the medium term plans, monitoring progress and standards across the school, reviewing and revising the science policy, monitoring and supporting teachers in the teaching of science, providing CPD, keeping staff up to date on new developments in science, monitoring the effectiveness of the planning and development of science, auditing, monitoring the effective and appropriate use of resources and replenishing resources when necessary.

## **Impact**

Science at Chapel Street is a fun, engaging, high-quality education, that provides children with the foundations for understanding the world. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. So much of science lends itself to outdoor learning and so we provide children with opportunities to experience this. Through various workshops, trips and interactions with experts and outside agencies, 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. Pupil voice is used to further develop the Science curriculum, through questioning of pupil's views and attitudes to Science to support the children's enjoyment and to motivate learners.

## **Cross Curricular Links**

The school will teach Science through a cross-curricular approach where possible, identifying opportunities to develop our scientific knowledge during our Literacy lessons by using specific vocabulary and resources. Mathematical skills will be developed through their accurate application during scientific tasks, particularly with data handling. We will include opportunities to use ICT in ways that will enhance children's learning in Science.

## **Planning**

The school has adopted a thematic approach to the planning and delivery of Science. Learning objectives are taken from the National Curriculum Programmes of Study (2014). The Long Term Planning Framework is fixed, as are the Medium Term Plans within it. These give detailed information about what should be taught in each topic and which National Curriculum objectives this covers. Individual teachers develop Short Term planning for use in their year group to support the needs of their cohort.

## **Recording & Assessment**

Topics will begin with a short assessment of what the children already know and short term lesson plans will then be drawn up accordingly. KWL grids and knowledge mats are used to highlight areas of focus for the unit, and to review learning at the end. Children are involved in the process of self-evaluation throughout the sessions, recognising their achievements and where they could further improve. Assessment of the quality of children's work and rate of progress will be through teachers' careful observations and feedback will help to move learning forward. Teachers will assess the learning of the children at the end of each topic, identifying those children who are working below, in line with and above expectation. The Subject Leader will monitor teaching and learning by analysing the assessments, alongside sampling children's work and carrying out Pupil Voice interviews at regular intervals. Children not reaching age related expectations and those demonstrating a high ability in science are identified and supported, to ensure we meet their individual needs. Exemplification materials will be used to assess pupil progress and provide an accurate level of attainment at the end of each academic year. Reports to parents are made at the end of each year, informing about each child's attitude to science and his/her progress in relation to age related expectations. Children in the Foundation will be assessed against the 'EYFS Ages & Stages and Foundation Stage Profile' criteria, and assessments will be on-going throughout the year in this phase.

## **Resources**

General science resources and books are stored in the Science Resource Cupboards outside the staff room, and they are organised into suitable areas of learning. Resources will be updated and replenished through annual audits and at teachers requests after units have been taught.

## **Professional Development**

It is important to recognise any particular difficulties staff may have in delivering the curriculum and an annual review will determine any co-ordinator input or INSET which may be required. Staff will be encouraged to use the 'Reach Out CPD' materials, prior to teaching each unit to enhance both their subject and pedagogic knowledge. The Science Subject Leader will attend regular networking meetings run by SEERIH, to keep up to date with any developments.

## **SEN and Equal Opportunity**

Our school will aim to provide children with Special Educational Needs with a curriculum that is inclusive and which meets individual needs through differentiated activities. This may be by task, resources, support, level of challenge, interest or ability grouping as appropriate. We will ensure children from all gender, race and ability groups are included and motivated through a range of teaching styles and experiences.

**Children with English as a Second Language**

We will try to ensure that children who have English as a second language have adult / peer support in class to enable them to gain the knowledge, understanding and skills to access the Science Curriculum.

**Review**

This document will be reviewed annually by the Subject Leader, staff and governors.

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