

Childwall Valley Primary School



Science Policy 2021

POLICY

Developing and increasing pupils' understanding and enjoyment of science is core to our curriculum. This policy will put into place the provisions for science which are set out in the National Curriculum 2014. We will ensure that all pupils develop scientific knowledge, skills and understanding through the appropriate teaching of biology, chemistry and physics. Effective teaching and learning will help them develop an understanding of the nature, processes and methods of Science. They will experience different types of research and experimentation which will help them answer scientific questions about the world around them and this policy will ensure that high standards are achieved and that pupils make good progress at every stage.

At Childwall Valley Primary School we believe that the teaching and learning of Science should stimulate and excite children's curiosity about the world around them. Science provides first hand experiences for children to develop enquiring minds, to learn how to question what they observe and discuss science through collaboration.

Within Science, children are given the opportunity to change their views about the world around them and ultimately improve their scientific knowledge through planned practical experiences set in meaningful contexts. Science will provide children with the opportunities to develop a range of investigative skills while working scientifically and will allow children to take risks and learn from their mistakes, developing children into independent learners.

INTENT

At CVP it is our intention to deliver a rich and broad curriculum. One that ignites excitement and wonder, where children feel encouraged and determined to take risks and develop their understanding, in a way that shows resilience and independence. We intend to share with children a range of key vocabulary, specific to each subject and unit they are learning, lessons that provide experiences that enrich learning from ‘inside the classroom’ and to make sure that knowledge is embedded. Our key drivers are supported by our intentions to:

- promote and develop children’s enjoyment and enthusiasm for science through exciting, practical, first-hand learning and opportunities to experiment, explore and investigate.
- 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 across all subjects of the curriculum
- ensure that the school’s schemes of work and guidelines for science are taught, thoroughly, systematically and progressively to all pupils by all staff
- help pupils to become scientists by developing their problem solving and reasoning skills so that they can apply their scientific thinking across the curriculum.
- 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.
- encourage children to use their increasing knowledge, skills and understanding of science to investigate, ask questions and solve challenging problems
- develop pupils’ confidence and skill in scientific methods as they explore the areas of science and address increasingly complex problems.
- bring science to life and make it real so that children understand the importance of science in the world and in their everyday day lives.
- ensure that all children particularly those with special needs or disability; those who are ‘stuck’ or those finding it hard, are well supported

- teach pupils to work with proper regard for their own safety and that of others, using safety equipment where necessary.

IMPLEMENTATION

Whilst implementing our intentions, our key drivers are at the forefront of all planning and teaching. The Pearson Science Bug Scheme has been replaced to allow teachers more freedom within their teaching, allowing them to teach to the interest and needs of their class more specifically, thus encouraging further investigation.

Key vocabulary is clear on medium term planning and on our Progression of Vocabulary document. It is shared at the beginning of each lesson, and throughout as new knowledge is delivered. It is used extensively during every lesson and children will know their definitions, their spellings and be able to apply them to the wider world.

Trips and visits are carefully considered to ensure they are worthwhile and meaningful and teachers are given the opportunity to, and are encouraged, to reflect and provide feedback on these experiences.

The learning of essential knowledge taught is monitored regularly during the teaching process and is used as a form of assessment to ensure teaching is of the highest standard and children are making good progress. Learning walks, book monitoring and pupil interviews are carried out at the end of each half term. This provides immediate feedback and ways forward before the next half term of teaching. Pupil interviews are key to highlighting the knowledge and understanding of some children, particularly those who struggle to record. Teachers are encouraged to be creative in their approach to 'recording' science learning. Much of the work done in science lessons is of a practical or oral nature and, as such, recording will take many varied forms. These must be valued in the same way 'written work' is. It is, however, important that written work is marked regularly and clearly in line with the school's marking policy. When appropriate, pupils may be asked to self assess or peer assess their own or other's work.

Lesson are planned carefully with all children making progress in mind. Science will be planned to give pupils a suitable range of differentiated activities appropriate to their age and abilities, while also providing opportunities to challenge children. In EYFS, Science is taught through the strand of, 'Understanding the World'. The teaching and learning of science is also linked to the other strands of The EYFS framework for learning, 2014 (these objectives can be found on the progression document). Children

discover science within their topic stimulating children so they can make predictions, use their senses and investigate materials and their properties. Teachers and teaching assistants support pupils to develop a solid understanding of things occurring around them in their day-to-day lives. Children are encouraged to be creative and inquisitive as they participate in activities. Children are encouraged to use their natural inquisitiveness, while taking part in exploratory play in specific scientific areas as well as areas that link across the EYFS framework. The grouping of pupils for practical activities will take account of their strengths and weaknesses and ensure that all take an active part in the task and gain in confidence.

An appropriate range of teaching and learning strategies will be used in all science lessons across all key stages to capture pupils' interest and to promote effective learning and progress.

Our key drivers are underpinned by the following:

- Teachers will use an appropriate range of teaching and learning resources, to develop the knowledge, skills and understanding of every child, ensuring that all pupils, including those with SEND, pupil premium and EAL, achieve high standards for their ability and make appropriate progress.
- 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.
- 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.
- 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 regularly and frequently and pupils will be given appropriate, clear feedback which tells them how well they have done and what they need to do next to improve.
- The science leader will support the teaching and learning of science by; providing strategic leadership and direction, monitoring progress and standards across the school, reviewing and revising the science

policy, monitoring and supporting teachers in the teaching of science, 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 obtaining new resources.

IMPACT

This policy will ensure that all pupils become confident scientists. Effective teaching will ensure that they can solve problems by applying their knowledge, understanding and skills in science with increasing sophistication. This policy should be read in conjunction with other key policies including; assessment, teaching and learning, special needs and equal opportunities, deployment of support staff.

At Childwall Valley Primary School we believe that through developing key scientific skills pupils will acquire knowledge and understanding of:

1. Life processes and living things
2. Materials and their properties
3. Physical processes

This is achieved by ensuring there is a clear focus on our key drivers and from covering objectives taken the National Curriculum. By the end of Year 6, children will be able to work scientifically and confidently in the following areas:

- Asking questions
- Hypothesising and predicting
- Planning and carrying out a range of investigations
- Using equipment correctly
- Observing and measuring
- Recording data
- Presenting results in a variety of ways, including the use of ICT
- Comparing and evaluating results, looking for patterns
- Drawing conclusions

This will be clear to see through pupil interviews and in assessment results as well as ongoing, constructive monitoring of teaching and learning. Evaluation may be through a number of methods including:

- The assessment of pupils' work and their achievements
- The analysis of teachers' planning
- Pupil interviews
- Discussion amongst groups of staff or the whole staff classroom

- Evaluation sheets completed at the end of each topic.