



## **Curriculum Statement – 2021/2022**

### **Science**

#### **Intent**

- Our school intent is to deliver high-quality science education which allows children to apply the knowledge and skills of working scientifically and making links with the wider world through Science
- Science has deep links with Maths, Design and Technology and other areas of the curriculum
- Our curriculum aims to prepare our children for the developing and ever-changing world
- The activities undertaken will enable our children to consider the needs of individuals and of society within the context of the wider Newton-le-Willows community
- It will also support them in the wider world to develop a natural curiosity and become potential scientists of the future.
- We aim to instil in our children a greater awareness and understanding of how the three sub-sets of science, which includes physics, biology and chemistry, all play a vital role in everyday life
- We will provide children with the environment to learn to make careful observations and reach justifiable conclusions through analysis, discussion and exploration
- All learning is accessible, regardless of age, background or understanding
- We ensure memorable moments, such as experiments and visitors, are a regular feature of our curriculum and provide enriching, unique learning opportunities for all pupils

#### **Implementation**

- At Newton-le-Willows Primary School Primary School, our aim is designed to teach children the knowledge and the skills to work scientifically in a way that is both sequential and relevant to their learning projects in other areas.
- Our curriculum allows the children to work in a range of relevant contexts and areas across their time in school, including: asking relevant questions and using different types of scientific enquiries to answer them, setting up simple practical enquiries, comparative and fair tests, gathering, recording, classifying and presenting data in a variety of ways to help in answering questions and identifying differences, similarities or changes related to simple scientific ideas and processes.
- All resources, tools and software are used under the guidance of class teachers, and any digital equipment or software that is used is externally checked to ensure GDPR compliance and is approved by the Local Authority and an external consultant.
- All of work are delivered with appropriate risk assessments in place.
- Teachers always teach the safe use of tools and equipment and insist on good practice
- Children will be supervised in their use of equipment at all times, and direct safety instructions will be given to children each time they undertake an activity
- All risks are assessed in advance of any experiment or investigation.
- Science is taught over a two week block of sequenced lessons covering each unit individually. This sequence of lessons takes place every half term.
- Each year group is taught a variety of units from the National Curriculum and have a healthy balance of the three sub-strands, Chemistry, Physics and Biology.
- Staff use a range of resources including ASE, STEM, Explorify and TAPPS. Teachers use the excellence offered by these platforms as a starting point to develop purposeful and challenging

lessons which all facilitate children to work towards the National Curriculum learning objectives

- A unit will begin with a pre-learn activity that is completed in advance of the unit block. This is to enable teachers to adapt planning in line with all abilities and prevents teaching points to some children that are already clearly understood and embedded
- All unit planning includes lots of opportunities for children to working scientifically, with at least two practical investigations conducted within each topic
- Science Ambassadors are elected for each unit and this enables individual children to participate in orchestrating the setup of experiments in line with health and safety guidelines
- Scientific questioning and discussions need to play a big part in the science taught at Newton and teachers should use the platform Explorify to facilitate this
- Each sequence of lessons includes the use of POP quizzes, a set of 5 questions that are introduced at the start of every session which test the skill, knowledge and understanding from the previous lesson. These are designed to help support with ongoing assessment
- Staff assess children on an ongoing basis. Staff will use both formative and summative assessment judgements to inform their practice and differentiate their lessons appropriately to account for pupil ability and level of challenge
- Each unit must conclude with a post-learn which allows children to demonstrate progress across the series of lessons
- Teachers set ambitious targets which stretch pupils of all abilities and ensure inclusivity
- Each year group consolidates previous learning whilst gaining new understanding and skills, ensuring that all aspects of the National Curriculum are covered
- The school continually maintains, updates and develops its resources to allow effective delivery of the National Curriculum
- The subject leader has good knowledge and seeks to further the subject through continuous professional development, research and regular meetings, including local network meetings

### **Impact**

- Teachers regularly assess pupil understanding through a range of formative assessment strategies, observations and looking at completed work in relation to the specified objectives
- Through individual and team endeavours, they will learn the necessity of clear planning, effective/efficient production, collaboration with others, self and peer-evaluation and flexibility.
- Children use scientific skills in a range of practical applications and scenarios
- In the EYFS, class teachers assess children's development and progress in Science by making informal judgements as they observe children
- At regular intervals throughout the year, an assessment of learning outcomes is recorded and pupil's attainment and progress data is gathered. This is used to identify which children need further support or enhanced challenge.
- In Key Stage 1 and 2, class teachers gather evidence of what individual pupils know, understand and can do in Science by observing them at work, listening to and discussing with them, and evaluating and responding to any work they produce.
- As in EYFS, at regular intervals throughout the year, an assessment of learning outcomes is recorded and pupil's attainment and progress data is gathered. This is used to identify which children need further support or enhanced challenge.

Through rigorous implementation and monitoring, we aim to develop pupils' detailed knowledge and skills across the Science curriculum and, as a result, they achieve well. Upon leaving school, our pupils have:

- covered in the required depth the statutory and non-statutory guidance of the national curriculum
- the opportunities to regularly revisit concepts and link ideas together
- access to high quality design bases projects, challenges and resources
- a real love of curiosity and love of Science
- specific subject knowledge and skills to prepare them for the next phase in their educational journey and able to integrate into a modern British society