Intent
The 2014 National Curriculum for Science aims to ensure that all children:

* 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. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this.

At Culcheth Primary, we encourage children to be inquisitive throughout their time at the school and beyond. The Science curriculum fosters a healthy curiosity in children about the world around them. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, 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. We ensure that the Working Scientifically skills are built-on with planned knowledge for future learning and developed throughout children’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. No child will be disadvantaged because of their lack of experience outside of school – we will create those opportunities, for all children.

Implementation
Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science captures the school motto of ‘Where Learning is Fun’ and involves the following;

* Science will be taught in planned and arranged thematic blocks by the class teacher and usually has a project based approach making links to other subjects where they are consistent.
* Through our planning, we involve problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning, so that all children keep up. This leads to integral discussions about topics being taught and systematically identifies misconceptions which can then be addressed by specific feedback.
* We build upon the learning and skill development of the previous years. As the children’s knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
* Children’s work is displayed in variety of ways: individual science books and class floor books. This approach creates an imaginative and ambitious direction for their work and scientific discovery. Every class is implementing this effective method.
* Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children’s school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.
* Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children’s understanding of their surroundings by accessing outdoor learning and workshops with experts.
* 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 whilst also exposing disadvantaged pupils to jobs, opportunities and rich vocabulary.
* Science Week or project days, such as Green Day, 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 successful approach at Culcheth Primary results in a fun, engaging, high-quality science education, that provides children with the foundations and knowledge 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. Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum. Through various workshops, trips and interactions with experts and local charities, 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 United Utilities and RSPB and learn from and 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 Culcheth Primary overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.