

Nelson Academy Mathematics Intent Statement 2021/22

The national curriculum states that, “A high-quality mathematics education provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.” Here at Nelson Academy, we believe that all children can succeed in mathematics and promote enjoyment of the subject. We aim for the pupils to gain a deep understanding, confidence and competence in maths – a culture that produces strong, secure learning and progress, no matter what their starting points.

Maths is a journey and at each stage of learning, children should be able to demonstrate a deep, understanding of the topic and be able to build on this over time. We encourage our pupils to be independent problem solvers.

Passionate staff teach mathematics with enthusiasm. We follow the White Rose Maths Scheme which encourages the CPA (concrete, pictorial, abstract) approach. This in turn, promotes deeper understanding and equips the children with the skills and knowledge needed to problem solve and discuss their mathematical ideas. Manipulatives, pictures/diagrams, words, numbers and symbols are visible in learning areas. The mastery approach incorporates all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding. Together, these elements help cement knowledge so pupils truly understand what they've learnt. All pupils, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking this approach. Pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.

Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.

Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

To ensure fluency, we teach number bonds, facts and times tables and have a reward system for these. Reception and KS1 take part in regular maths meetings and KS2 enjoy times tables sessions. This is not only taught explicitly but also alongside problem solving.

At Nelson Academy, we use a variety of assessment systems; for instance: Pixl and Pupil Asset. Formative assessment is used to guide teaching focus; summative assessment is used to track progress and attainment over time. We hope to see quick recall of number facts and mathematical concepts or skills *mastered*. This is shown when a child can represent an answer in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.