



Wallsend Jubilee primary School Mathematics Curriculum Statement

At Wallsend Jubilee Primary School, we want every child to be happy and enthusiastic learners of Mathematics, and to be eager to achieve their very best in order to fulfil their talents. We firmly believe that the recipe for success is high quality first teaching in Mathematics, which is central to the life of our happy, caring school. We want all of our children 'To be the best that they can be'.

At Wallsend Jubilee Primary School, we strive for our children to be successful and proficient mathematicians who can solve problems, fluently recall facts rapidly and reason mathematically while justifying their reasoning. This will provide them with the essential life skills required to be financially capable while understanding and contributing to the world around them. It will allow them to create solutions to problems in a range of settings. To be successful, pupils should display the following attributes: curiosity, resourcefulness, determination, flexibility and bravery.

We recognise that maths is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. We aim to promote a love of maths while providing a high-quality mathematics education with a mastery approach so that all children can: become fluent in the fundamentals of mathematics; reason mathematically and solve problems by applying their mathematics.

Intent – What we are trying to achieve

Our principal aim is that children leave Wallsend Jubilee Primary School with a wide range of happy and rich memories in Mathematics formed through interesting and exciting experiences that enhance a child's awareness of their own abilities and strengths as a lifelong learner; thus, ensuring that children see learning in Mathematics as an on-going process, not a one-off event.

The national curriculum for mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
- Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects as well as being encouraged to use their mathematic skills in their everyday life.

It is our intention that:

- Children will meet the National Curriculum expectations in Mathematics, which will be taught by highly-enthusiastic and qualified staff who will support children to develop mastery of concepts and inspire enthusiasm and interest in mathematics.
- Children will study a high quality maths curriculum that is both challenging and enjoyable.
- Children will be developed into independent learners with inquisitive minds who have secure mathematical foundations and an interest in self-improvement.
- All children will study mathematics for 5 hours per week.
- Opportunities will exist for children of all ages to experience learning beyond the classroom. This will allow them to enrich their knowledge by, for example, undertaking maths investigations outdoors, applying maths skills to curriculum vehicle work and engaging parents in home application of skills.
- Children will develop a deep understanding of the mathematics they are studying. They will increasingly use their prior knowledge to solve problems and develop the sophistication of mathematics. Thus will be done through teacher input as well as independently.

- Children will be provided with a variety of mathematical opportunities which will enable them to make connections in learning leading to greater depth learning, ensuring they are confident mathematicians who are not afraid to take risks.
- Children will understand how our 6Rs of learning and British values relate to Mathematics.
- A high-quality mathematics education will be taught providing a foundation for understanding the world, developing the ability to reason mathematically and encouraging a sense of enjoyment and curiosity about mathematics.
- Mathematical skills will be applied to other subjects including science, technology and engineering.

Characteristics of a Mathematician

- An understanding of the important concepts and an ability to make connections within mathematics.
- A broad range of skills in using and applying mathematics.
- Fluent knowledge and recall of number facts and the number system.
- The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.
- The ability to embrace the value of learning from mistakes and false starts.
- The ability to reason, generalise and make sense of solutions.
- Fluency in performing written and mental calculations and mathematical techniques.
- A wide range of mathematical vocabulary.
- A commitment to and passion for the subject.

Implementation – How do we translate our vision into practice?

- The curriculum hours in Mathematics are non-negotiable and will be followed by all staff in the school. Fixed timetables will be set before the academic year and monitored by the Senior Leadership Team of the school.
- We are able to contact Burnside College for advice and support to help aid transition into Key Stage 3.
- The subject leader for Mathematics will meet the senior leadership team/ governing body termly to evaluate provision in order to ensure that teaching and learning in Mathematics is outstanding. Where necessary, staff will receive coaching and training in Mathematics.
- Carefully designed sequences of learning in Mathematics ensure consistency and progress of all learners.
- A carefully designed lesson structure allowing for 'step by step' journey through mathematical concepts. Every lesson is divided into sections that involve plenty of discovery, sharing, collaboration, practice and reflection. Children are encouraged to solve problems each day through the use of concrete resources, pictorial representations and abstract thinking.
- The focus on a Mastery approach to Mathematics will ensure that pupils acquire a deep, long-term, secure and adaptable understanding of the subject.
- Practising – not drill and practise but practise characterised by variation.
- Recording the learning – not just pages of similar calculations. Children also document their reasoning and mastery activities, including written explanations of the children's understanding and pictorial representations to help the child prove or explain and also challenging problem solving activities including open ended investigations.
- Discussion and feedback – pupils have opportunities to talk to their partners and explain / clarify their thinking at all stages during their lessons.
- Mathematics is taught individually but plays a key role in the achievement of the learning aims of the topic. For example, a topic involving land use or settlement, could encompass the use of area and perimeter knowledge to plan plots on a housing estate, use ratio to create scale models, calculate the number of bricks needed to construct homes or calculate the amount of paint needed to decorate rooms.
- Pupils will make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.
- Success criteria in every Mathematics lesson are set in order to guide children to achieve their potential. This ensures work is demanding and matches the aims of the curriculum.
- High quality teaching responds to the needs of children. Spiral learning is a key focus of all formative and summative assessment with teachers actively marking work in lessons in order to identify misconceptions early.
- High quality input from experts and educational resources complement the delivery of specialist learning admirably. Children understand how Mathematics is used in the wider world including careers.
- Actively promoting aspirations for the future. Children develop an understanding of how subjects and specific skills are linked to future jobs.

Here are some of the jobs you could aspire to do in the future as a Mathematician:

- Chief Test Pilot
- Automotive Engineer
- Astronaut
- Land Surveyor

Cultural Capital

- Children will learn about famous mathematicians through STEM activities such as Galileo, who himself stated that 'If I were again beginning my studies, I would follow the advice of Plato and start with mathematics.'
- Annual visits from University of Northumbria at Newcastle to explore real life concepts using mathematics and to highlight potential careers arising from mathematics courses of study.

Impact – What is the impact of our curriculum on the students?

- Children are happy learners within Mathematics. They experience a wide range of learning challenges within the subject and know appropriate responses to them.
- Through Mathematics children deepen their appreciation for the 6 R's for learning
- Visits within Mathematics have enriched the lives of the children and they are able to discuss how the experience impacted their knowledge and understanding.
- Children of all abilities and backgrounds achieve well in Mathematics, reflected in outstanding progress that reveals a clear learning journey. Children talk enthusiastically about their learning in Mathematics and are eager to further their learning in the next stages of their education.
- There is a proven track record of test success that reflects the impact of deep learning.
- Clear outcomes focus and guide all mathematical development plans and drive improvement.
- Fundamental British Values are evident in Mathematics and children understand how it can celebrate difference.
- Children will become fluent in the fundamentals of mathematics. Through varied and frequent practice with increasingly complex problems over time, pupils will have the conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Children will be able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, developing an argument, justification or proof using mathematical language.
- Children will solve problems by applying their mathematics in a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering to seek solutions.
- Through this exposure, children will produce work and 'Be the best they can be.'