



ST. ANDREW'S MATHEMATICS CURRICULUM

MATHEMATICS CURRICULUM INTENT

At St. Andrew's, we believe that every child can be successful in mathematics. We give all children the opportunity to shine as they learn to solve problems; develop ways of looking at patterns; discover efficient strategies and make links between the different areas of mathematics and the wider curriculum. Our teaching aims for all children to become confident and competent mathematicians who are able to apply their mathematical knowledge creatively and to a wide range of contexts. We want children to recognise that mathematics is not restricted to the classroom; it is present in every aspect of their lives. By following a mastery approach, our intention is that all children develop deep, conceptual understanding of the core areas of mathematics and develop their number sense, fluency, reasoning and problem solving. As a result, we have reduced the number of objectives covered in order to allow for depth of learning in key areas.

We aim for high levels of success in the classroom so that we can be sure that children have solid mathematical foundations for them to build upon as they progress as mathematicians into Key Stage 3 and beyond. At St. Andrew's we believe in making steps of learning small enough that all children can succeed, allowing the whole class to move through the mathematics at a similar pace. Where children have not mastered the steps in the learning sequence, we intervene quickly to ensure that they are ready for the next lesson, our intention being that children keep up rather than catch up.

The Mathematics Curriculum contributes to the St. Andrew's Core Values:

Compassion: Solving problems is at the heart of mathematics, and we aim to make children observant to problems around them, and skilled, flexible thinkers in order to come up with solutions.

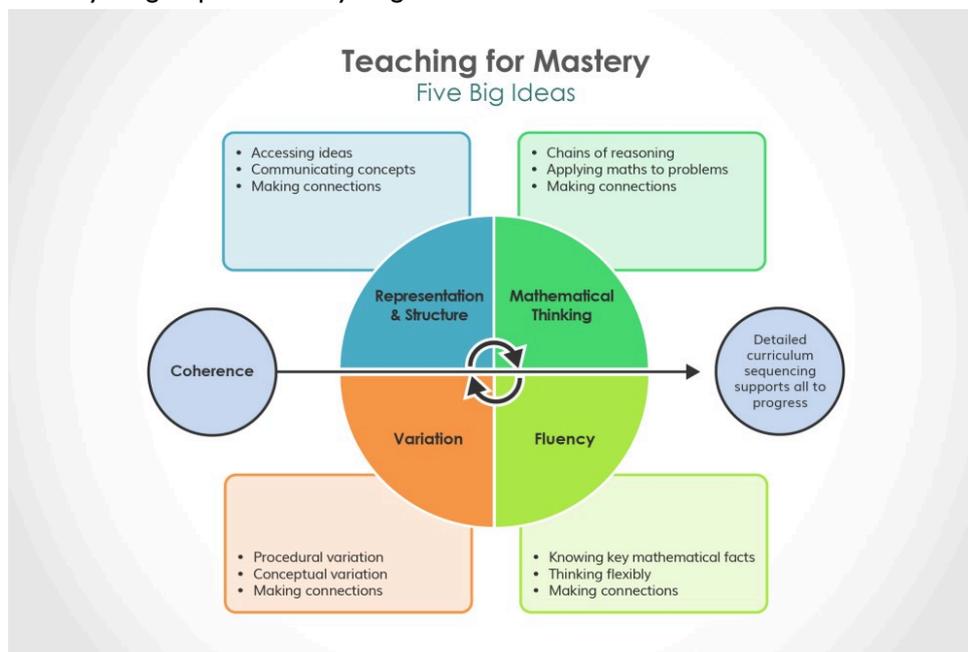
Achieve: All children can achieve through a mastery curriculum, and make excellent progress.

Respect: Children's ideas, solutions and views are valued, respectfully challenged and built upon.

Enjoy: Problem solving, mental flexibility and imagination in coming up with creative solutions to problems are hugely enjoyable.

CURRICULUM CONTENT & DELIVERY

First and foremost, we focus on effective, high-quality teaching for all. At St. Andrew's mathematics is taught through the small-stepped units of work taken from the National Centre for Excellence in Teaching Mathematics (NCETM) Curriculum Prioritisation materials. Our teaching is underpinned by NCETM's Teaching For Mastery Five Big Ideas: Coherence, Representation and Structure, Mathematical Thinking, Fluency and Variation. This mastery teaching involves using concrete resources, pictorial representations and finally moving to abstract representations of maths. Children are encouraged to make small steps, to make links with what they already know, to use stem sentences to talk about their learning in more detail, to use variation and fluency to cement and practice their learning and then to reason with their knowledge to achieve greater depth within a concept rather than moving on to new material before full understanding is reached. Where necessary, teachers also use Oak National Academy materials (which are inline with the NCETM CP materials) to inform and adjust their planning. The vast majority of children will be taught age related content and will be supported in their understanding of this through same day interventions (Maths Meetings). Progress is tracked against the small steps for each daily lesson and unit of work, using assessment materials from the NCETM. The units are mapped across the year to ensure coverage of core areas, with emphasis on the 'Ready to Progress' criteria objectives of mathematics across each year group and the key stage.



Mathematics is taught daily for an hour in the morning, with a 'Maths Meeting' at least four times a week in the afternoons. At St Andrew's, we recognise that knowledge of multiplication and division and its applications is an important aspect of the KS2 curriculum, and is the gateway to success at secondary school. Therefore, all children in Year 3, 4 and 5 follow the 'Mastering Number at KS2' NCETM project, which is taught daily during Maths Meets for 10-15 minutes. This project enables pupils in Years 4 and 5 to develop fluency in multiplication and division facts, and a confidence and flexibility with numbers that exemplifies good number sense. Teachers also use this time for same day interventions to address misconceptions from the Mathematics lesson that morning. We encourage all children to demonstrate their understanding of concepts through use of different manipulatives and working practically. Our chosen curriculum uses carefully selected representations and guides children from concrete to pictorial and then abstract understanding (CPA approach).

Opportunities for developing skills in problem-solving, collaborative working and oracy are built into daily maths lessons as well as specific open-ended problem-solving sessions in each unit of work, from NRich. Stem sentences and precise mathematical vocabulary are identified for each unit of work and interwoven into lessons, which supports children's conceptual understanding and explanation. These are displayed in the classroom on working walls.

EQUALITY FOR ALL

Through our mastery approach, our lower ability learners are all exposed to their age expected curriculum and teachers adapt the learning to meet the needs of these children using the 'Ready to Progress Criteria' from the DfE guidance (2020). Because of the way our curriculum is designed, there are opportunities for all children to look deeply into the detail and rigour of the mathematics they are learning. For those who grasp concepts quickly, we encourage them to 'Dive Deeper'. This challenge is open to all children. There are posters in each classroom which explain how children can demonstrate deeper thinking about their learning in their work by drawing, explaining, telling a maths story, proving and explaining misconceptions. There is also an opportunity to deepen learning within each lesson, with 'Dive Deeper' questions so that the mathematics is explored more deeply and in different ways. A very small minority of children find it difficult to make progress in mathematics within the whole class environment and are working at a significantly lower level than the rest of the year group. These children are grouped and have separate maths input, still taught with NCETM and mastery approaches in mind and using the Numicon 'Breaking Barriers' programme to support fluency and confidence in early numbers. This group is taught by a qualified teacher who also has a Numicon accredited qualification and training in Dyscalculia and maths anxiety. The Number Stacks intervention programme is also used to help children master the foundations of the number system and build the child's confidence and ability in the key areas of the primary maths curriculum. TA's lead this intervention in each year group and progress is regularly assessed and monitored.

CURRICULUM ENRICHMENT

All units of work have an NRich investigative lesson incorporated into the main learning, in order to allow children to demonstrate their problem solving skills in a slightly different way. We celebrate the children's access to the Times Table Rockstars website (TTRS) weekly and host half-termly 'Battle of the Bands' competitions. This encourages the children to practise their times tables, whilst having fun! We have pupils who are 'Maths Ambassadors' who support teachers with updating their maths mastery working walls and help the maths lead launch times table competitions.

MATHEMATICS CURRICULUM IMPACT

We ensure that children at St. Andrew's are equipped with the mathematical skills and knowledge that will enable them to be ready for the curriculum at Key Stage 3 and for life as an adult in the wider world. Children review the agreed objectives at the end of every session and are actively encouraged to identify their own target areas, with support from their teachers. Formative assessment happens in every lesson and teachers use live marking to provide immediate feedback and move on the pupil's learning in the lesson.

Those who need extra input have this on the same day as an intervention during the Maths Meeting. These are recorded in Maths books to best facilitate monitoring of individual students. Teachers use assessment questions to check progress throughout units of work. Termly, summative NFER assessments are used to track pupil progress against year group expectations and identify gaps in knowledge to inform planning. Teachers move through the unit of work at the pace that the children need, and will adjust the time spent on objectives in response to this.