



Curriculum Overview St Andrew's Church of England Junior School

Curriculum Area: Maths

Subject Lead: Luke Higgins



Our curriculum approach to maths reflects our ethos statement:

'Shining a light of a world of Possibilities'.

In particular, we are keen for pupils to discover their own passion for mathematics learning.

Intent

At St Andrew's our intent for mathematics is to teach a rich, balanced and progressive curriculum using maths to reason, problem solve and develop fluent conceptual understanding in each area. Our long-term aim is for our curriculum to be ambitious yet accessible to all children. Teachers are supported and aided in their roles ensuring confidence in the skills and facts they are required to teach is secure. Lessons are child focused and maths is kept fun and current in school as we believe that if children are engaged and excited about maths as a subject then the learning will 'take care of itself.'

Our curriculum allows children to better make sense of the world around them relating the patterns between mathematics and everyday life. Our policies, resources and schemes support our vision completely e.g. our calculations policy; NCETM Teaching for Mastery PD materials; DfE Non-Statutory Guidance; White Rose Maths schemes of work and Gareth Metcalfe's 'I See Maths' resources. Teachers and governors are kept regularly informed of developments in our frequently reviewed curriculum and through termly summative reports from the maths subject leader.

Mathematics in our school is enhanced by our individual class working walls designed to aid children through each topic and used as and when the needs of the children necessitate it; through our regular TT Rockstars 'Battle of the Bands' competitions and taking part in the annual Wellington School Maths Challenge.

Implementation

Our curriculum is designed to allow children to build on their mathematical knowledge and skills as they progress through the school. At St Andrew's we are outward looking and creative in our approach to implementing a high-quality mathematics curriculum. Our implementation is developed through:

- Children developing a secure understanding of the curriculum and subject area before moving on to the next subject area.
- Ensuring that all children are challenged, and their needs are met regardless of ability or attainment.
- Discussion is essential to our learning and time is planned into lessons for this.
- Varied task types to suit different pupils and their learning preferences whilst reasoning in writing remains one of our key focuses.
- Investigative tasks are designed to allow pupils to follow lines of enquiry and develop their own ideas, justifying and proving their answers.
- Children work both collaboratively and independently solving problems, which require them to persevere and develop resilience.
- 3 x weekly fluency sessions to develop childrens' number sense and regularly recap, revisit and revise previously taught skills.

Impact

Our teachers rely on a range of tools to assess the knowledge and skills pupils have, their progress and development points. A mathematical concept or skill has been *mastered* when a child can show it in multiple ways, using mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations. This will be evident in the following ways:

- Children demonstrate a quick recall of facts and procedures. This includes the recollection of the times tables.
- Children show confidence in believing that they will achieve.
- Each child achieves objectives (expected standard) for their year group.
- The flexibility and fluidity to move between different contexts and representations of maths.
- The chance to develop the ability to recognise relationships and make connections in maths lessons.
- Children show a high level of pride in the presentation and understanding of the work.

Planning

Teachers follow the St Andrew's Long-Term Scheme of Work written by our maths lead in the summer of 2020 and updated Summer 2021 based on the needs of our pupils and teachers. The plans draw upon the NCETM PD and mastery teaching materials, the DfE Non-Statutory Guidance 2020, White Rose Small Steps and the Gareth Metcalfe 'I See Maths' materials. The emphasis is on looking backwards before moving forwards to ensure gaps are being addressed and misconceptions are tackled. Every one of our maths lessons is planned to a consistent standard using an agreed list of 'St Andrew's Absolutes'. This ensures that our key ideas and lesson foci are covered efficiently. Mathematical vocabulary is explicitly highlighted in bold and in red on our Smart Notebook lesson slides – this is discussed with children who are encouraged to use it independently throughout the lesson when talking about their learning with others and responding to questions and activities.

Our planning journey is as follows:

1. **Long term:** St Andrew's Maths Scheme of Work developed from the National Curriculum 2014 and based on the NCETM PD materials, White Rose Maths Hub materials, and Gareth Metcalfe's 'I See Reasoning / Problem Solving' resources. The Scheme of Work fully supports the aims of a Mastery curriculum.
2. **Medium term:** Termly overviews, up-dated annually in response to data and in house monitoring of teaching & learning.
3. **Short term:** Unit overviews are used to plan the individual teaching points. Every session includes a clear lesson intention 'Can I'; a range of fluency, problem solving and reasoning opportunities and an expectation that all children will use the concrete resources provided alongside the pictorial and the abstract representations. Sessions follow the 'Me, We, You' approach with explicit teacher modelling and scaffolded examples used to ease children into the concepts. Opportunities for thinking and discussion time will be planned in for children to engage and grapple with the maths being presented.

Knowledge and skills progression through the school

The knowledge and skills progression can be found in the DfE Non-Statutory Guidance released in 2020, also referred to as the Ready to Progress Criteria. It can be found [here](#).

The progression maps are structured using the topic headings as they appear in the National Curriculum:

- Number and Place Value
- Addition and Subtraction
- Multiplication and Division
- Fractions (including decimals and percentages)
- Ratio and Proportion
- Measurement
- Geometry - properties of shapes
- Geometry - position and direction
- Statistics
- Algebra

Our pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

Learning

Children are given opportunity to reason and solve problems regularly. We aim to ensure the learning is varied and allows for deep and secure understanding. Using mixed ability pairs, we encourage children to discuss ideas, share their own understanding and work collaboratively to solve problems and learn new concepts. Teachers develop fluency through practicing key skills, repeating, reinforcing and revising which is all built into formal planning across school. Children are given time to practice and perfect their calculation strategies including giving pupils opportunity to make appropriate decisions when estimating, calculating and evaluating the effectiveness of their chosen methods.

Assessment

Daily formative assessment is incredibly important at St Andrew's where we focus on challenge questions, analysis of learning, extension work, mini plenaries and discussion with peers. Feedback including our whole school 'DIRT' (Directed Improvement Response Time) system is designed to ensure pupils are well informed and making visible progress. Children self-assess at the end of each lesson and place their books in corresponding trays following the traffic light system: red – I didn't get it; yellow – I mostly got it but need more help; green – I got it. Teachers use a daily 'Got it' Sheet to note down marking and assessment information along with planned provision for our Pupil Premium and SEN learners. Based on the teacher judgement, the daily seating plan is fluid to ensure children's needs are always met.

Overview of assessment strategies and key points:

1. Termly Summative/ reported – Curriculum objective tracking on INSIGHT (Online assessment tracker)
2. Summative – End of unit tests from White Rose to assess each unit so gaps and misconceptions can then be acted upon in a timely and beneficial way.
3. Formative / ongoing – DIRT tasks offered after a session and diagnostic tests such as Test Base, Maths Frame, NCETM, I See Reasoning / Problem Solving will support day-to-day learning.
4. Prior & Post learning – informs future planning, demonstrates progress in books, celebrates effort and achievement.
5. Moderation: In-house, CLP (Local Schools partnership) and through Boolean Maths Hub outreach work.

All of the above will be monitored and discussed during pupil progress and performance management meetings.

Recording

Recording of lessons will take place in yellow maths books for year 3 and blue maths books across for years 4, 5 and 6.

Reporting

On our annual reports, which are given to parents at the end of the year, a judgement will be made regarding their child's attainment in Maths relating to the national curriculum for their year group. For example, HNM (Has Not Met), ARE (Age Related Expectations), GD (Greater Depth).

Monitoring

Curriculum leader will collate evidence including analysing how planning matches the evidence in books, learning walks, speaking to pupils about their learning and discussing with colleagues what has gone well as well as any lessons learnt. The Curriculum Leader will regularly engage with year group teams to support them in planning from the long-term scheme of work and providing CPD where necessary.

Rationale for this statement:

Mathematics is an interconnected subject in which pupils need to be able to move fluently between multiple representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but we believe that all 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, PE and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Review

Spring 2023