



St Aidan's

Church of England Primary Academy

A member of **CDARI**

'I came that they may have life and live it to the full' John 10.10

'Fulfilling potential, growing in God.'



Acceptance, Love, Wisdom, Accountability, Youthfulness, Service

Our Vision

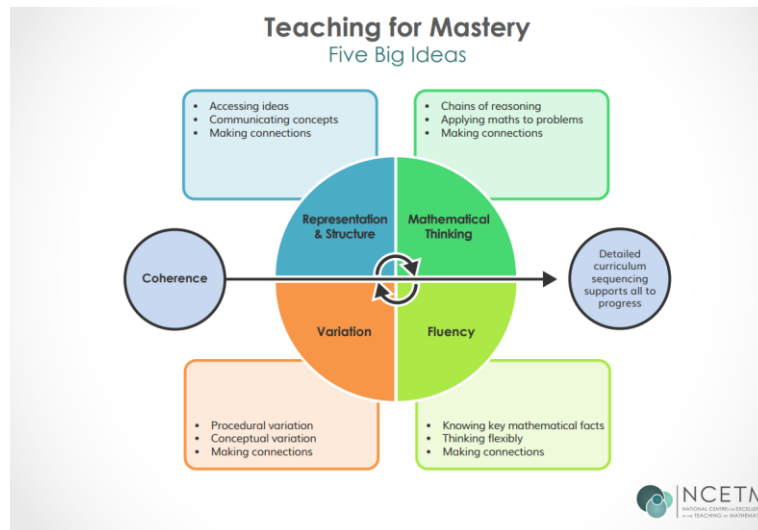
At St. Aidan's, not only do we want our children to become happy and well rounded individuals; we aim to nurture and equip children to be resilient, enthusiastic and effective communicators and learners who are able to use their experiences and technology skills to achieve their fullest potential allowing them to excel in the careers of the future and grow in God.

Maths Policy

Intent

To develop confident, curious mathematicians who have a deep understanding of mathematical concepts and can apply their skills fluently to solve problems in a variety of contexts.

Every child at St. Aidan's is given every opportunity to achieve their potential in mathematics. We believe that all children have the ability to 'master' mathematical concepts, and our maths teaching is guided by the Mastery Principles as set out by the NCETM.



Coherence

Teaching is designed to enable a coherent learning progression through the curriculum, providing access for all pupils to develop a deep and connected understanding of mathematics that they can apply and communicate in a range of contexts.

Representation and Structure

Teachers carefully select representations of mathematics to expose mathematical structure. The intention is to support pupils in 'seeing' the mathematics, rather than using the representation as a tool to 'do' the mathematics. These representations become mental images that students can use to think about and discuss mathematics, supporting them to achieve a deep understanding of mathematical structures and connections.

Mathematical Thinking

Mathematical Thinking is central to how pupils learn mathematics and includes looking for patterns and relationships, making connections, conjecturing, reasoning, and generalising. Pupils should actively engage in mathematical thinking in all lessons, discussing and communicating their ideas using precise mathematical language.

Fluency

Efficient, accurate recall of key number facts and procedures is essential for fluency, freeing pupils' minds to think deeply about concepts and problems, but fluency demands more than this. It requires pupils to have the flexibility to move between different contexts and representations of mathematics, to recognise relationships and make connections, to explain their ideas and to choose appropriate methods and strategies to solve problems.

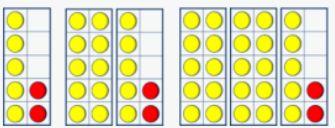
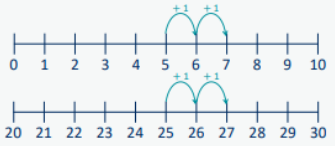
Variation

The purpose of variation is to draw closer attention to a key feature of a mathematical concept or structure through varying some elements while keeping others constant. Through variation the teacher focuses thinking and discussion on the key feature in question.

- Conceptual variation involves varying how a concept is represented to draw attention to critical features. Often more than one representation is required to look at the concept from different perspectives and gain comprehensive knowledge.
- Procedural variation considers how the student will 'proceed' through a learning sequence. Purposeful changes are made in order that pupils' attention is drawn to key features of the mathematics, scaffolding students' thinking to enable them to reason logically and make connections.

Implementation:

Using a mastery approach and a progressive curriculum, children acquire a deep understanding of concepts that they can apply to a range of circumstances. The use of a CPA (concrete, pictorial, abstract) approach is fundamental in our teaching.

	Concrete	Pictorial	Abstract
Progression of skills	Key representations		
Add ones to any number (related facts) Make links to known facts.	I know that ... and ... = ... so ... and ... = ... 	... more than ... is ... so ... more than ... is ... 	What do you notice? Can you continue the pattern? $5 + 2 = 7$ $15 + 2 = 17$ $25 + 2 = 27...$

A CPA approach uses physical and visual aids to build understanding. Children are introduced to new concepts through concrete resources, and when progress they move to a pictorial approach. Once a child has a secure knowledge they move onto an abstract method. Resources and pictorial models are used to expose mathematical structures.

Maths coverage

To ensure continuity, coverage and progression, teachers plan for mathematics using **White Rose Maths** yearly planning overviews. We do not use White Rose Maths as a scheme. We understand it must be **adapted** to the needs of the class. Teachers **consider the children's prior knowledge** and pitch and expectations. Each lesson is intended to be accessible for a mixed-ability class, with differentiation possible through adult or peer support (mixed-ability pairings or groupings) and particularly through the use of mathematical equipment (from Base 10 pieces, to Cuisenaire rods, to place value counters) and scaffolds, such as place value charts or times tables grids. Maths is taught everyday.

What does teaching and learning look like at St. Aidan's?

As part of our morning routine each class starts their day with maths fact fluency practice using **Quick Maths**.

EYFS #####

Years 1-3 have a dedicated 15 minute fluency lesson separate from the main maths lesson using **Fluency Bee**. Fluency Bee is a structured teaching programme designed to give children confidence with numbers through varied and frequent practice. It is an easy way to build number sense and develop a range of core skills in maths. Years 4-6 also have a 15 minute **times tables**

fluency lesson separate from the main maths lesson that builds fluency in multiplication and division facts and an understanding of multiplicative relationship through the teaching of the 36 essential times table facts.

Lessons- Teacher-led Instruction and Continuous Formative Assessment

To aid delivery of CPA approach underpinned by Mastery Maths principles we use **Maths Shed** that links to the small steps in the White Rose Maths Scheme. **Our maths lessons begin with a starter** activity that will either follow on from the previous lesson's learning or begin to introduce the focus of the particular lesson the class is embarking upon.

Following the starter activity, generally our lessons have **Talking Time slides** that tend to generate discussions drawing out where the children may have encountered the mathematical concept before in real-life (or where to look out for it in future!).

By building in **oracy** we can gauge the children's current capabilities or know-how, and/or model the strategy or impart the knowledge the class requires to access and succeed. Our lessons have also been designed to allow for staged instruction, with Talking Time slides allowing for a **Me-We-You** approach/ I do- we do- you do.

Generally, there is a teacher model question, the class working through a **question or problem** alongside the class teacher, then example problems for fluency practice before embarking upon a maths based activity either independently, collaboratively or with adult support.

Multiple mini-plenaries throughout the lesson enable **continuous formative assessment** to be able to react to and address misconceptions and confusion in the moment (as well as an opportunity for **live-, self- or peer-marking to reduce teacher workload outside of class time**).

Generally a lesson progresses from fluency tasks to tasks requiring reasoning, problem solving or investigation. Again, these tasks can be completed independently, in pairs or groups, with adult support and with or without mathematical equipment, scaffolds, pictorial representations (such as bar models or part-whole models).

Some lessons include an **evaluation question**. These could be low-ceiling, high-threshold tasks; others allow the children an opportunity to give a summary of the day's learning; whilst others again encourage the children to prove a rule or disprove a misconception.

See: <https://staidansblackburn.co.uk/classes-curriculum/curriculum-overview/maths> for our planning and progression overviews.

Calculations Policy

The calculation policy is divided into four sections: addition, subtraction, multiplication and division. At the start of each section there is an overview of the progression of skills. Calculations involving decimal numbers and fractions are included. The calculation policy follows the same concrete, pictorial, abstract approach as our main schemes of learning. Where appropriate, sentence stems and key questions are included alongside the key representations. Where skills are divided into more than one section across the page, there is a progression in the level of difficulty from left to right.

See: <https://staidansblackburn.co.uk/classes-curriculum/curriculum-overview/maths> for our calculations policy.

See also Times Tables Policy.

Impact

We measure the impact of our teaching through:

- Pupil progress and attainment.
- Pupil engagement and participation in lessons.
- Pupil confidence and self-efficacy in mathematics.
- Observations of teaching and learning.

Assessment

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Professional Development

- **Continuous Professional Development (CPD):** We provide ongoing CPD opportunities for all staff to enhance their subject knowledge and pedagogical skills in mathematics through White Rose Maths and dedicated Maths CPD.
- **Collaboration:** We are part of the North West Maths Hub Sustaining group. We collaborate and share practice with our school improvement group and our Multi Academy Trust to ensure a consistent and high-quality approach to mathematics teaching across the school. The maths lead meets with other maths leaders termly.

Parental Engagement

- **Communication:** We maintain open communication with parents about their child's progress in mathematics and provide guidance on how they can support their child's learning at home. We regularly share apps such as **1 minute maths** on our social media pages.
- **Workshops:** We offer workshops and information sessions to help parents understand our approach to mathematics teaching and how they can best support their child's mathematical development.

Review and Evaluation

- **Regular Review:** This policy will be reviewed annually by the Mathematics Subject Leader and Senior Leadership Team to ensure it remains effective and aligned with current best practices.
- **Impact Evaluation:** We will regularly evaluate the impact of our mathematics teaching on children's learning and attainment, using this data to inform future improvements.

Policy reviewed : September 2024

Policy reviewed by: Mrs K Harrison

