

St. Andrew the Apostle Catholic Primary School



Mathematics Policy

December 2022

Succeeding Together in Faith and Love

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Introduction

At St Andrew the Apostle Catholic Primary School, we follow the Teaching for Mastery approach.

Mathematics is taught using concrete, pictorial and abstract approach. Pupils begin their journey exploring with practical resources and developing their understanding of number. They develop this understanding by using pictorial representations to further explain their mathematical understanding. Finally they move to abstract methods where they apply their understanding to a range of different contexts.

Through our Mathematics curriculum we aim to create confident pupils who are able to apply number facts to solve problems.

Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore 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.

(The National Curriculum 2014)

Legal Framework -

At St Andrew the Apostle Catholic Primary School, children begin their mathematical learning in Nursery and Reception where they follow the Early Years Foundation Stage Profile – (Appendix 2). At this stage pupils develop an understanding of number. They concentrate on numbers 1-10 and deepen their understanding of how numbers are made using concrete and pictorial models.

In Key Stage One and Two, our pupils follow the breadth of study depicted in the National Curriculum (Appendix 3).

Aims -

In St. Andrew the Apostle Catholic Primary we aim to:

- **become fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- can **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.
- **develop a positive attitude** towards mathematics and see how using the skills learnt in the real world.

Intent

The National Curriculum states that ‘Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history’s most intriguing problems. In St. Andrew the Apostle Primary School, we intend to provide our pupils with an enjoyable and engaging curriculum which is built on a foundation of fluency in Mathematics. Pupils should leave our school with not only a love and curiosity of mathematics but also deep understanding of mathematical concepts and the ability to adapt and work confidently when solving problems.

Implementation

In EYFS, pupils are taught to understand the concept behind a number and what that number represents in different contexts.

As we move into Key Stage 1 and 2, we use the teaching for mastery approach. Our lessons continue to allow the pupils to experiment and develop an understanding of key concepts through the use of the concrete, pictorial, abstract approach. We use basic skills sessions to develop a fluency in the fundamentals of mathematics by using variation and making connections between facts. We encourage the children to use mathematical vocabulary to explain their thinking and develop their reasoning skills. Problem solving is taught throughout each lesson and the pupils develop strategies to break down problems into a series of smaller steps and persevere when seeking solutions.

We make links to the real world and show the pupils how their mathematical skills will help them succeed in life.

Impact

The impact of this implementation will result in our pupils becoming competent and confident mathematicians. They will have a strong understanding of how to solve problems and the fundamental skills to work efficiently. Their love and confidence will allow them to continue their achievements as they make the transition to secondary school and then into the wider world of education and employment.

Resources

The long term plan is based on the White Rose Programme and teachers have access to online resources. Due to the practical nature of Mathematics we provide the pupils and teachers with a wide variety of resources such as:

- Dienes cubes (base 10 sets)
- Numicon
- Cuisenaire rods
- Cubes
- Ten frames
- Measuring equipment (protractors, rulers etc)

- 2D and 3D shapes

In addition to this we have online resources such as:

- Times Table Rock Stars
- Online workbooks from the White Rose Programme
- Online digital resources to support the use of visual representations

Curriculum Links

Mathematics has curriculum links with most subjects and the skills that our pupils develop in their Mathematics lessons can enhance their learning in other subjects such as:

- Science- measuring, interpreting data and drawing graphs
- Geography- Understanding position and direction
- History- Number skills to develop their chronological understanding

Roles and Responsibilities

- To prepare and review policy documents and curriculum plans.
- To promote good practice throughout the school - support and extend good practice among colleagues in classes.
- Encourage staff to provide effective learning opportunities for all pupils.
- Enable pupils to progress in the subject and to have regard to the principles for inclusion.
- Organise and monitor professional development to help colleagues develop their subject expertise.
- Work with staff to co-ordinate the preparation and assimilation of medium term planning throughout school.
- Keep up to date with current developments in their subjects
- To communicate developments in the subject, e.g. through staff meetings and distributing information.
- To monitor and evaluate the effectiveness of the teaching of Mathematics.
- To ensure common standards and formats for recording and assessing.
- To produce reports on the subject in the school, e.g. to governors, in newsletters.

- Audit resources and produce updated lists of books, materials and equipment relevant to the subject.
- Contribute to the school improvement plan including costings and priorities which can help inform the school development plan.
- Be involved in liaison with secondary schools and other primary schools in the area.

Monitoring

Monitoring will take place each year according to the Monitoring Matrix (Appendix 6). There will be two types of monitoring i. deep dive ii. shallow paddle.

- i. During a deep dive, the subject lead, curriculum lead and SLT will plan lesson observations, book looks, and pupil/staff voice. From this, the subject lead will produce a subject overview to be presented to SLT containing strengths and ways forward.
- ii. During a shallow paddle, the subject lead will be invited to drop in on lessons by class teachers and discuss learning with pupils. The subject lead will prompt the class teachers as to what term/week this should be. From this, the subject lead will gain a clear understanding of current teaching and learning.

Equality, Inclusion and Support

At St. Andrew the Apostle Catholic Primary School we recognise the responsibility to provide a broad and balanced curriculum for all pupils. When planning lessons, teachers will adapt as necessary, to provide relevant and appropriately challenging activities in order to ensure a fully inclusive curriculum. This will ensure all pupils are given equal opportunities to develop their knowledge, skills, understanding and vocabulary.

During discussions, care is taken to present both sides of any debate clearly and fairly.

Review

This policy was written by the subject leader and reviewed by the governors of St Andrew the Apostle Catholic Primary School in December 2022.

Review Date: October 2023

Appendix 1 – Long Term Plan

Available from school website at:

<https://standrewapostle.co.uk/key-information/curriculum/subjects/mathematics>

Appendix 2 - Early Years Foundation Stage Profile

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1109972/Early Years Foundation Stage profile 2023 handbook.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1109972/Early_Years_Foundation_Stage_profile_2023_handbook.pdf)

Appendix 3 - National Curriculum

[Mathematics programmes of study: key stages 1 and 2 \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/1109972/Mathematics_programmes_of_study_key_stages_1_and_2.pdf)

Appendix 4 – Key Concepts

Available from school website at:

<https://standrewapostle.co.uk/key-information/curriculum/subjects/mathematics>

Appendix 5 – Progression Map

Available from school website at:

<https://standrewapostle.co.uk/key-information/curriculum/subjects/mathematics>

Appendix 6 – Monitoring Matrix