



St James and St John Church of England Primary School

Maths Intent, Implementation and Impact

Intent

The 2014 National Curriculum for Maths aims to ensure that all children:

- Become fluent in the fundamentals of Mathematics
- Are able to reason mathematically
- Can solve problems by applying their Mathematics

At St James and St John's, these skills are embedded within Maths lessons and developed consistently over time. We are committed to ensuring that children are able to recognise the importance of Maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in their lives in a range of different contexts. We want all children to enjoy Mathematics and to experience success in the subject, with the ability to reason mathematically. We want our children to leave Primary School 'Secondary ready', with an excellent foundation to flourish in their future learning.

Implementation

To ensure whole consistency and progression, the school uses the nationally recognised White Rose Maths scheme. The White Rose curriculum is a cumulative curriculum, so that once a topic is covered, it is met many times again in other contexts. For example, place value is revisited in addition and subtraction and multiplication and division. The curriculum is designed to have an emphasis on number, with a large proportion of time spent reinforcing number to build competency.

Lessons are planned to provide plenty of opportunities to build reasoning and problem solving elements into the curriculum. When introduced to a new concept, children have the opportunity to use concrete objects and manipulatives to help them understand what they are doing. Alongside this, children are encouraged to use pictorial representations. These representations can then be used to help reason and solve problems. Both concrete and pictorial representations support children's understanding of abstract methods.

Mathematical topics are taught in blocks, to enable the achievement of 'mastery' over time. These teaching blocks are broken down into smaller steps, to help children understand concepts better. This approach means that children do not cover too many concepts at once which can lead to cognitive overload. Each lesson phase provides the means for children to achieve greater depth, with children who are quick to grasp new content, being offered rich and sophisticated problems, within the lesson as appropriate.

White Rose Resources support us to provide:

- CPA (Concrete / Pictorial / Abstract) representations.
- Variation (Procedural / Conceptual).
- Logical and effective small steps.
- Vocabulary.
- Manipulative usage.

White Rose resources support:

- All learners through a whole class learning approach.
- EYFS stage learning.
- Visual representation designed to show concepts clearly.
- Re-visiting of concepts.
- Bar models and PPW models for problem solving.
- Clear progression of calculation.
- Fluency of calculation and concept with 'Flashback 4' questions

Manipulatives are:

- Used purposefully and appropriately.
- They are available for appropriate lessons – this builds a mental picture of a mathematical concept.
- Manipulative use develops through concepts as the learner moves from EYFS to Y6

Fluency

At St James and St John's we understand that the ability to quickly recall facts and have efficient mental and written strategies is fundamental to children's success in the learning of mathematics. Fluency in Maths develops number sense and allows children to choose the most effective method for their task. This then enables them to dive deeper, applying their knowledge to variety of contexts with the aim of achieving mastery. Having efficient methods to solve calculations is a vital life skill that the children will need as they continue through their higher education and into adult life.

As part of our Maths lesson, we have a fluency session daily in Years 1-6. Each week there is a range of carefully planned activities focussed on an objective appropriate to the year group. The children will experience a variety of activities such as games, songs and quizzes. Sessions do not necessarily need to result in written evidence, the aim is to practice mathematical concepts, not test them. It is also important that teacher workload is considered therefore written work needs to be meaningful.

There are fewer fluency objectives for Early Years per half term, this is because it is not always taught as an explicit lesson. The foundations of number sense and numeracy are supported through all areas of learning, and the classroom set up giving the children a rich mathematical environment. Songs, games and maths activities will be done daily to support the children's developing number sense. The activities in the continuous provision should link to the fluency objectives as well as the main maths lesson.

We follow a progression document from EYFS to Year 6 taken from the National Curriculum, that has been organised to ensure there is coverage across the school and that the skills build upon each other. Whilst using this document there is also an opportunity for staff to plan sessions based on the previous week's main maths lessons. Some objectives are repeated at multiple points throughout the year to ensure they are embedded. Where appropriate for example a child with an EHCP the teachers may need to look at previous years and plan accordingly.

Impact

A mathematical concept or skill has been mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.

- Children demonstrate quick recall of facts and procedures. This includes the recollection of the times tables.
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics.
- Children show confidence in their mathematical ability.
- Children show a high level of pride in the presentation and understanding of the work.

Children be confident and competent mathematicians and achieve in line or above national average at the end of KS2.

Assessment

At St James and St John we do the White Rose end of block assessments at the start of the topic to assess the children's prior knowledge and inform planning. We then repeat the test approximately two weeks after the unit has finished, to monitor understanding and retention. Three times each year the children complete the NFER maths tests. These test the whole year's curriculum and give teachers a comprehension picture of where the children are. All assessments are used to inform teacher judgements and data on DC PRO.