



Swinford School Mathematics

*"I will be the best that I can be and I will allow myself to love and to be loved
safe in the knowledge that the rest will follow"*

At Swinford we strive to support our pupils in achieving skills in Mathematics that they will require as a functioning adult in society through being the best that they can be and working hard. As well as skills within Mathematics, we encourage children to develop their character muscles of perseverance and resilience by acknowledging that we may not always correctly solve problems on our first attempt, highlighting the importance of being able to check and critically analyse our methods. At Swinford, we aim to teach Mathematics using the 'mastery approach', following the small steps of White Rose Maths. This ensures that lessons in each class are broken down into small connected steps that gradually build up fluency of a concept, providing access for all children. Our aim is for this to lead to a generalisation of the concept and the ability to apply skills to a range of contexts or problems. All children practice their fluency of number facts at home and work through a stepped approach to practice recall. In school, children identified as needing additional support, work with a teacher or LSA through our targeted intervention scheme, Number Stacks. In addition to this, each class also has one 'quick Maths' session per day during afternoon register time. The aim of this is to provide opportunities outside of the Maths lesson to consolidate a skill or aid recall of a previously taught skill.

"Mathematics is a creative and highly inter-connected 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 the power of Mathematics, and a sense of enjoyment and curiosity about the subject." (National Curriculum 2014)



Seahorses—Early Years



TEACH

At Swinford, we aim to teach our children to become confident in their development of number sense and put emphasis on mastery of key concepts. In Seahorses, children have five short maths sessions per week and continuous provision activities linked to these sessions throughout the week. We use EYFS White Rose Maths scheme of learning to inform teaching and learning and to give a broad foundation to the Maths curriculum in preparation for KS1. Although early number is taught daily, additional opportunities to apply and build fluency throughout the day are also provided. Songs, games and manipulatives are used to support the development of a concrete understanding.

Rapid recall is taught alongside the EYFS curriculum but as the year progresses, targets may become personalised to ensure

APPLY

Children have the opportunity to apply their skills in a range of activities planned within continuous provision. Further on in the year, children may also have a targeted 'Sid's Challenge', a challenge designed to encourage independent, purposeful learning in the classroom and allow for consolidation of key mathematical skills.

IMPACT

By the end of EYFS, we want all children to have a deep understanding of numbers to 10. We want children to be able to subitise quantities up to 5 quickly and confidently. We want children to recognise numerical patterns and be able to independently compare quantities using an array of mathematical language. In preparation for KS1, children should also develop their skills across a range of topics, including shape. The refinement and development of all of these skills will enable all children to enter KS1 feeling like confident and independent mathematicians.

Seals—Key Stage 1



TEACH

In Seals, Mathematics teaching is split into Year 1 and Year 2 and there are five sessions per week. Teachers use the White Rose Small Steps and resources to inform their planning but will adapt this to the need of the class through supplementing lessons with further resources to build a particular skill or fluency, where necessary to suit the need of learners.

White Rose Flashback materials may be used during the daily 'quick Maths' sessions to aid retrieval. Manipulatives will be modelled, explored and used to support a concrete understanding of number and the processes involved with the skill.

Within teaching, children are exposed to elements of fluency, reasoning and problem solving as the lessons are designed around these three mathematical elements. Regardless of ability, all children should have access to fluency, reasoning and problem solving as well as opportunities to show greater depth of understanding for example through the use of questioning (cold-calling) appropriate to the ability of the child. Teachers will scaffold and guide each element where a child needs support in order to make progress.

Rapid recall of a child's personal targets assessed once a week. Targets are communicated to parents so that they can support at home.

APPLY

Children have the opportunity to apply their learning in a range of different ways. Sometimes children will use whiteboards and/or manipulatives to show their understanding. Written work in books or partner/group activities are all planned to provide the children with different ways to show their understanding. Discussions about Maths are also encouraged and Mathematical vocabulary is modelled to aid these explanations.

Teachers may group children within their independent learning in order to support children. This fluidity with groupings enables adults to assess and track progress whilst supporting and also allows for children to learn from each other.

IMPACT

By the end of KS1, we want all pupils to enjoy maths, believing in themselves as "Mathematicians" and have a solid grounding in numbers up to 100 ready for KS2. Many children should be able to apply their maths skills to solve problems and explain their methods using manipulatives, Maths vocabulary and pictures. They will be able to confidently partition any two-digit number; add and subtract any 2 two-digit numbers; recall all number bonds to and within 10 and 20; recognize other associated additive relationships; recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary; identify fractions of shapes and numbers; use different coins to make the same amount; read the time on a clock to the nearest 15 minutes; name and describe properties of 2-D and 3-D shapes; use their skills when measuring objects.



Turtles & Dolphins -Key Stage 2



TEACH

Maths is taught five times per week in KS2. The majority of lessons will work on a White Rose Small Step and other lessons will consolidate a skill or practice arithmetic. Lessons will begin with a short 'brain warm-up' activity or set of questions which aim to either: prepare children for the lesson, promote retrieval of facts (times tables/number bonds etc), consolidate learning from a previous lesson or a previous year group. Sometimes children will learn as a mixed age class, where objectives allow for cross-over, and other times year groups will be split for their teaching, with the use of an LSA.

Rapid Recall is assessed once a week against a child's personal target. These targets are communicated to parents to encourage them to support their child at home. Support is put in place where a child is not making expected progress.

APPLY

Children in KS2 may work in groups or independently to apply their learning. The majority of lessons have fluency challenges where the children can gradually build up their confidence within the scaffold of the questions and then flow into problem solving and reasoning challenges when they become more fluent. Where a child is less confident or more confident, they may choose or be directed by an adult to start on a particular challenge to structure their learning. Opportunities for all children to problem solve and reason are provided through learning stops in some lessons where the class may solve a problem as a group or in partners and discuss answers.

IMPACT

By the end of KS2, we aim for our children to believe they are 'Mathematicians', regardless of their ability. They will be equipped with the strategies necessary for solving problems systematically but also build the character muscles needed to persevere and show resilience towards their learning, in preparation for Secondary school and their future lives. They will become fluent in the fundamentals of Mathematics and develop their ability to use mathematical vocabulary and proof within their reasoning explanations.

In addition to the formal Mathematics lessons at school, we encourage a positive and immersive approach to Maths through a range of different ways:

- Rapid Recall personalised targets to learn at home—tested weekly in school.
- Consistent use of TimesTableRockstars to promote fluency—each class in KS2 takes part in a battle at least once a term.
- Learning Ambassadors promote a positive attitude towards Maths through a lunch time Maths club where the children might use iPads or play games etc.
- Encouraging home learning activities that explore practical Maths and Maths in real-life contexts (homework grids).
- Parent engagement sessions in school to provide an opportunity for parents to work alongside their child and see how Maths is taught at Swinford.
- Number Stacks Targeted Intervention is used across the school for children identified as needing extra support.
- Daily Quick Maths sessions during afternoon register time to practice fluency of a skill and aid retrieval.



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