



Swinford School Mathematics

"Inspiring confident learners who thrive in a changing world."

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'. Lessons are broken down into small connected steps that gradually build up fluency of a concept, providing access for all children and leading to a generalisation of the concept and the ability to apply skills to a range of contexts or problems.

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, we refer to the 'Statutory Framework for the Early Years Foundation Stage' and the non-statutory guidance of 'Development Matters' to inform teaching and learning. Early number is taught daily with opportunities to apply and build fluency throughout the day. 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 children are fluent before moving on. These targets are communicated with parents.

APPLY

Children have the opportunity to apply their skills in a range of activities planned within continuous provision. Maths activities may also be the focus of '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. 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 is split into short sessions daily and two additional longer 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, where necessary.

During the short Maths sessions, children may be introduced to a new concept for the week or practice their fluency of a skill that has already been taught, using the White Rose Flashback materials.

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 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 is 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.

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 and believe in themselves as “Mathematicians” and have a solid grounding in numbers up to 100 ready for KS2. They should be able to apply their maths skills to solve problems and explain their methods using manipulatives 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; recognising 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 four times per week in KS2. UKS2 may also have an additional lesson per week to consolidate a skill or for arithmetic practise. 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.

Flashback 4 slides are used as a morning activity at least once a week to encourage consolidation of previously taught topics and retention of skills.

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.



SWINFORD

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.