



Mathematics and Calculation Policy 2025

Approved by:

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1. Introduction

“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 power of mathematics, and a sense of enjoyment and curiosity about the subject.”

(The National Curriculum for Mathematics 2014)

At Sandal Magna, we believe Mathematics is a proficiency which involves confidence and competence with numbers and measures. Our intent is to develop children to be confident, resilient and determined mathematicians, who enjoy maths and appreciate its importance as a valuable skill for life. A solid and rigorous approach to arithmetic skills progression ensures our children are well equipped to recall knowledge, tackle year group specific content and to be fluent and confident when reasoning and solving a wider range of mathematical problems. With reasoning skills and vocabulary at the very heart of our mathematics lessons, we encourage all children to think both independently and in collaboration with others. We celebrate learning from our mistakes and opportunities to unpick, share and prove our mathematical reasoning in varied contexts. Resilience is fostered and developed, to encourage children to relish every opportunity and rise to the challenges which life offers them. We are committed to ensuring that children are able to recognise the importance of maths in the wider world and are able to use their mathematical skills and knowledge confidently in their lives.

Purpose of Policy and Guiding Principles.

This document sets out the approach to teaching maths at our school and how we support all children to make progress and achieve their potential.

Planning

Mathematics planning follows the White Rose Scheme of work with additional support from the NCETM spines and Grammarsaurus if needed. Assessment for learning, fluency, reasoning and problem solving are at the heart of planning mathematics following a format of ‘I do, We do, You do.’ Each maths lesson will allow all children to work on a reasoning and problem-solving question as part of their daily learning. This will follow a pattern of modelled work, paired work and independent work throughout the course of the week.

Each lesson provides an opportunity for children to deepen their mathematical understanding. Our approach to planning is based on a thorough understanding of children’s needs that is collected through formative and summative assessment.

Each class teacher is responsible for the mathematics in their class in consultation with and with guidance from the mathematics subject leader. There is a daily mathematics lesson of between 50 and 60 minutes. During these lessons’ children engage in activities such as:

- The development of mental strategies and arithmetic skills
- Mathematical discussions and reasoning tasks using precise mathematical language.
- Written methods

- Practical work
- Investigational work
- Problem-solving
- Consolidation of basic skills and routines
- CPA approach to developing understanding

Teachers in EYFS ensure the children learn through a mixture of adult led and child-led activities both inside and outside the classroom. The majority of provision areas within the unit support early mathematics ensuring children can access maths opportunities throughout the day. In addition, there are daily maths lessons with an additional follow up focused activity for all reception children.

Since September 2022, we have also provided our youngest children with the opportunity to develop 'Mastery Number', with the aim to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The intention of using this is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

Times Tables

In Year 3 and Year 4, children are expected to learn times tables by heart, in order to prepare the Year 4 children for the statutory times tables test. Each week children complete TTRS activities and quizzes that develop rapid recall and fluency.

Recording of Work

Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording. Children are encouraged to use mental strategies when appropriate, before choosing a written method. All children are encouraged to think about presentation ensuring work is presented neatly when recording their work. When using squares, one square is used for each digit.

In Y2 and Y3, 1cm square exercise books are to be used. This changes to 7mm square exercise books in Year 4 through to Year 6 for the majority of children, unless it is unsuitable.

EYFS record informally for the majority of the week, with some mathematics activity formally recorded in the children's maths books.

Resources - Concrete, Pictorial, Abstract (CPA)

In order to support the delivery of maths lessons to all children, the school has a large range of resources available. Within the classroom, maths resources are available to children at all times, these include basic resources such as number lines, 100 squares, rulers, counters, numicon etc. Other specific resources are made available as required. We also recognise the importance of a stimulating learning environment. The school provides an environment, which is rich in a wide variety of print, pictures, diagrams, charts, tables, models and images. Each classroom has a mathematical display area, which includes a working wall with mathematical vocabulary, CPA representations, continuous maths provision and examples of the key calculation strategies taught to allow children to develop proficiency. This is updated regularly in accordance with the area of maths being taught at the time. Children are encouraged to use many representations to develop a deep conceptual understanding of mathematical ideas.

Throughout the entire school, concrete, pictorial and abstract resources are used to provide a route to understanding. This follows the White Rose calculation policy which provides more information about the resources that are used for each area of maths.

EYFS teaching and learning promotes social skills and develops the mathematical understanding of young children through stories, songs, rhymes and games. Both imaginative play and outdoor play allow opportunities to develop many skills by using a range of resources, which enable children to learn the six key areas of early mathematics.

- Cardinality and Counting - Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents
- Comparison- Understanding that comparing numbers involves knowing which numbers are worth more or less than each other.
- Composition-Understanding that one number can be made up from (composed from) two or more smaller numbers
- Pattern-Looking for and finding patterns helps children notice and understand mathematical relationships
- Shape and Space- Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking.
- Measures- Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later.

Continuous provision within the EYFS unit has maths incorporated into all areas of learning. In addition, there are specific maths areas both indoors and outdoors for children to investigate and apply their maths skills on a daily basis. Resources used in EYFS mirror resources used throughout school, this ensures children's familiarity in preparation for KS1.

Assessment, Feedback and Record Keeping

Assessment for learning occurs throughout the maths lessons at all times. Verbal feedback is incisive and regular. On a daily basis, children self-assess against learning objective and WISH, giving them a sense of success. Pupil's work is marked in line with the marking policy and teachers model how corrections are made, giving children a chance to learn from their misconceptions or incorrect methods, editing their corrections in purple pen. White Rose end of unit assessments from the previous year, gives teachers an accurate view of gaps in learning and what new learning needs to take pace. Likewise, end of unit assessments and termly assessments are completed for each year group to assess what learning has been embedded. Assessments are taken from NFER, White Rose and past SATs papers. From these assessments, teachers complete a question analysis, which then identifies the children who need support. Termly pupil progress meetings ensure that pupils can be targeted for support via target time, pre-teaching or daily interventions. Insight is used to track pupil progress and termly school/trust moderation meetings are used to review the accuracy of judgements.

Inclusion

Children with special educational needs are part of daily maths lessons, with their usual class where this remains a possibility.

- Within the daily mathematics lesson teachers provide scaffolding activities to support children. Children with SEND are taught within the daily mathematics lesson and are able to take part at their level, sometimes with the support of a teacher or teaching

assistant and always with appropriately differentiated activities and resources. WPS are used to plan small steps for pupils where necessary.

- Where applicable, children will do different rapid recall work or arithmetic to ensure they can access work. However, they will often be encouraged to take part in whole class inputs using additional resources such as numicon, base ten or practical manipulatives.
- Intervention groups, target time and pre-teaching will take place at times throughout the year, in order to give further support to vulnerable groups.

All children at SMCA have an equal entitlement to access the maths curriculum and make progress in order to attain the best they can in the subject.

Monitoring Teaching and Learning

This will be undertaken by the subject leader and other members of SLT.

Areas to be monitored will be decided at the beginning of each term and will be recorded on the monitoring calendar. Results of any monitoring will be fed back to staff quickly and to SLT at their meetings so that any action required can be carried out effectively. Half termly mathematics CPD is including in the school's staff meeting schedules and ensure consistency. Support from the trust is accessed and utilised on a half termly basis to ensure sharing of good practice, supportive criticism and moderation.

Roles and Responsibilities

1. Subject Leader:

- Supports teachers in their planning and teaching;
- Lead by example in the way they teach in their own classroom;
- Prepare, organise and lead INSET/staff meetings, with the support of the Head teacher;
- Work co-operatively with the SENCO;
- Monitor different aspects of maths teaching and learning feeding back to SLT and staff on findings and future actions.
- Attend INSET provided by the trust.
- Be available to discuss the progress of maths in the school with the head teacher, class teachers, parents and governors.

2. Class Teachers:

To deliver a daily maths lesson to all children which are engaging and motivating. That are line with school policy and procedures and are informed by the National Curriculum for Mathematics 2014.

3. Children:

To develop their skills, understanding and attainment in maths through engagement with daily lessons and behaviour conducive to learning.

4. Parents / Carers:

To support their children's learning in maths by taking an interest in their child's progress, encouraging the children to complete maths homework and having a good relationship with the class teacher so that queries and problems regarding maths can be dealt with easily.

Calculation Policy Representations

The Calculation Policy below is broken down into addition, subtraction, multiplication and division. Each operation is then broken down into skills and each skill has a dedicated page showing the different models and images that could be used to effectively teach that concept. There is an overview of skills linked to year groups to support consistency throughout school. The White Rose Maths calculation policy can be found on our school website.

