

SPRINGWOOD HEATH PRIMARY SCHOOL MATHS POLICY

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.

National Curriculum 2013

<u>Intent</u>

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

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- 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.

At Springwood Heath, 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 are committed to developing children's curiosity about the subject, as well as an appreciation of the beauty and power of Mathematics.

Implementation

Mathematics in the Early Years Foundation Stage

In FS1 mathematical activities take place as an integral part of the child's daily experience. These mathematical experiences are part of their topic work and relate directly to the child's understanding of everyday life; role play is vital in this aspect. Children have the opportunity to consolidate their learning during independent activities. The aim of these activities is to develop the child's number skills and the skills of ordering, sequencing, matching, grouping and number recognition and to develop mathematical ideas and methods to solve practical problems.

It is through these activities where children are working co-operatively in groups and discussing their learning with other children and their teachers that they are encouraged to develop and use mathematical language. Most of these experiential activities will be planned and structured within half-termly and weekly planning to ensure differentiation and progression. However, there must also be scope for children within the Early Years Foundation Stage to choose activities according to their interests.

FS2 follow White Rose Maths planning which is in line with the new statutory framework for EYFS 2022.

	Week 1 Week 2 Week 3	Week 4 Week 5 Week 6	Week 7 Week 8 Week 9	Week 10 Week 11 Week 12
Autumn term	Cetting to know you (Take this time to play and get to know the children!) Contains overviews and frequently asked questions VIEW	Just like me! Match and sort Compare amounts Compare size, mass & capacity Exploring pattern	It's me 1, 2, 3I Representing 1, 2 & 3 Composition 0, 1, 2 & 3 Composition of 1, 2 & 3 Circles and triangles Positional language	Light & dark Representing numbers to 5 One more or less Shapes with 4 sides Time
Spring term	Alive in 5! Introducing zero Comparing numbers to 5 Compare mass (2) Compare capacity (2) VIEW	Growing 6, 7, 8 6, 7 & 8 Combining two amounts Making pairs Langth & height Time (2) VIEW	Building 9 & 10 Counting to 9 & 10 Comparing numbers to 10 Bonds to 10 3–D shappas Spatial awareness Patterns VEW	Consolidation
Summer term	To 20 and beyond Build numbers beyond 10 Count patterns beyond 10 Spatial reasoning 1 Match, rotate, manipulate	First, then, now Adding more Taking away Spatial reasoning 2 Compose and decompose	Find my pattern Doubling Sharing & grouping Even & odd Spatial reasoning 3 Visualise and build	On the move Deepening understanding Patterns & relationships Spatial mapping (4) Mapping

<u>Planning</u>

Clear and careful planning is important to the success of the teaching and learning of Maths. Teachers plan lessons that incorporate the three aims of the National Curriculum: fluency, reasoning and problem solving.

White Rose Maths (2021-2022) planning is used for long and medium term plans, this outlines the concepts and knowledge to be developed in each year group and each term during the year. Resources to support these plans are taken from a range of high-quality websites including White Rose Maths Premium resources, Twinkl, Classroom Secrets, Espresso Mathletics and TTRockstars.

In addition, the following School improvement Liverpool resources are used:

- Basic Skills
- Fluent in 5 a selection of 5 number and arithmetic questions
- Small Steps for Mastery breaking down each objective into small steps
- Let's Talk Maths

TT Rock Stars and Mathletics are used to practise maths skills and times tables. Children have access to these websites at home and are encouraged to use them as often as possible to develop their knowledge and skills. They have the incentive of rewards and certificates each week.

YEAR 1

Autumn term	Week 1 Week 2 Week 3 Number Place value (within 10)	Number Additi (within	week 7 week 8 ion and subtractio IO)	VIEW	Consolidation			
Spring term	Number Place value (within 20) VIEW	Number Addition and subtraction (within 20)	VIEW	Number Place value (within 50) VIEW	Measure Lengt heigh	ment h and t	Measurer Mass volum	nent and ie VIEW
Summer term	Number Multiplication and division	Number Fractions VIEW	Geometry Position and direction	Number Place value (within 100) VIEW	Measurement Money	Measurer Time	ent VIEW	Consolidation

YEAR 2

mn term	Week 1 Week 2 Week 3 Week 4 Number Place value			Week 5 Week 6 Week 7 Week 8 Week 9 Number Addition and subtraction				Geometry Shape		
Autu			VIEW				VIEW		VIEW	
	Measurement	Number				Measurement		Measurement		
ring term	Money	Multip	Multiplication and division				Length and Mass, capacity and height temperature			
Sp	VIEW				VIEW		VIEW		VIEW	
E	Number Measu Fractions Time		Measure	ement Statis		tics Geom		у		
immer terr			Time		Posit and direc		Position and direct		Consolidation	
Su		VIEW		VIEW	VIEW		VIEW			

YEAR 3

ımn term	Number Place value		Number Addition and subtraction			_{Number} Multiplication and division A			
Autu		VIEW				VIEW			VIEW
ring term	_{Number} Multiplication and division B		Messurement N Length and F perimeter		Number Fractio	Number Fractions A		Measurement Mass and capacity	
Sp		VIEW		VIEW			VIEW		VIEW
nmer term	Fractions B Money		ient	Measurement Time	Geometry			Statistics	onsolidation
Sun	VIEW		VIEW		VIEW		VIEW	VIEW	0

YEAR 4





YEAR 6



Teachers plan to include a range of teaching strategies ensuring a balance between audio, visual, and kinaesthetic techniques. Plans are shared with Learning Support Assistants and are annotated and adapted in the course of a unit in response to on-going assessments.

Vocabulary

The Mathematics Framework provides vocabulary lists for all areas of the Mathematics curriculum. Each class has at least one Maths display up within the classroom, which includes focused mathematical vocabulary. Maths dictionaries are available in each classroom.

Display

Each class has a Maths working wall. This supports current learning with information, such as 100 squares, number lines, representations and vocabulary. Where appropriate, work in maths is celebrated and displayed around school. Curricular targets are displayed and referred to by staff.

<u>Resources</u>

Each classroom has a wide range of concrete maths equipment for children to use to support and enhance their learning. In addition to this, shared resources are kept in a central store. Resources are regularly audited, and where necessary, increased and updated <u>Presentation of work</u>

- From Year 3 children use 2 cm margins in their books and are encouraged to rule off half pages and use them up next time
- Each new piece of work should show the short, numerical date and should have a title/objective written by the child or a member of staff.
- Children use a self-assessment star system of three, two or one star depending on their understanding and confidence.
- Children are encouraged to underline all dates and titles neatly with a ruler. Children should put a digit and not a number in each square, in order to avoid confusion when attempting written, vertical methods
- When numbers cross decades in written methods of calculation, children should be taught to carry the extra number under the problem line, rather than within it.
- Children should work with a well-sharpened pencil
- Worksheets should be kept to a minimum and placed in a separate maths folder, including past SATS papers and other revision materials in years 2 and 6
- Rough working out should be done in a working out box within the exercise book page being used.
- Jotters are used for Fluent in 5 and for Basic skills.

<u>Marking</u>

Children assess their learning and understanding at the end of lessons using the 3-star system. * means just beginning to understand, ** means getting there, *** understands fully and can move on. Whole class feedback is given to the children at the beginning of lessons were relevant. Self and peer marking are also used.

A school rewards system 'Good to be Green' is in place and used to reward good maths work. Mathletics certificates are awarded as children earn them and a class Maths certificate is awarded to someone in each class. These are celebrated during a specific assembly each week.

Home Learning

Year 1 to 6 children are given cross curricular home tasks which can include maths and, on occasion, can be a discrete maths task. Year 6 pupils are also given extra mathematical homework throughout the Spring and Summer terms prior to assessments. Maths homework activities may be related to curricular targets and also will be practical or investigative as opposed to written maths.

Assessment

Assessment is an integral part of teaching and learning and is a continuous process. It is used to inform weekly planning and to identify any difficulties or misconceptions the children may have.

In KS1 and KS2 children are assessed through termly NFER tests and Teacher Assessment. Year 2 and Year 6 take SATs and Year 4 complete the Multiplication Tables Checker.

In EYFS there is a Baseline assessment within the first few weeks. Ongoing assessment through observations are recorded in Learning Journals. An EYFS Profile is completed using Development Matters, children are assessed as expected, emerging or exceeded.

Children who are working at Pre-Key Stage are assessed using PIVAT assessments, carried out each term.

Parents are informed of their child's achievements in annual reports.

<u>Monitoring</u>

Teaching and learning in mathematics is monitored through lesson observations, work sampling, Performance Management, discussion with children and displays in the classroom.

Inclusion

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's pupil profiles incorporate suitable objectives from the National Curriculum for Mathematics or development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson. Maths focused intervention in school helps children with gaps in their learning and mathematical understanding. These are delivered by trained support staff and overseen by the SENCO and/or the class teacher. Within the daily mathematics lesson teachers have a responsibility to not only provide differentiated activities to support children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

Impact

- Impact is evident in our most recent KS1 and KS2 progress measures and also in Teacher Assessment data
- Children have quick recall of facts and procedures as well as the flexibility and fluidity to move between different contexts and representations of mathematics
- Children have the ability to recognise relationships and make connections in mathematics
- Children understand that maths is an important skill for life
- Staff are confident in numeracy and maths which results in increased pupil confidence
- Book scrutinies and lesson visits demonstrate progression and confidence in maths across the school
- Pupil voice shows that children enjoy maths lesson and enjoy a challenge, they feel that they are fully supported and know what to do when they need extra help
- TT Rock Stars data demonstrates that the time taken for children to rapidly recall times table facts has improved year on year
- Mathletics Data shows children's engagement both in school and at home.

Policy agreed <u>July 2022</u> and will be reviewed July 2023.