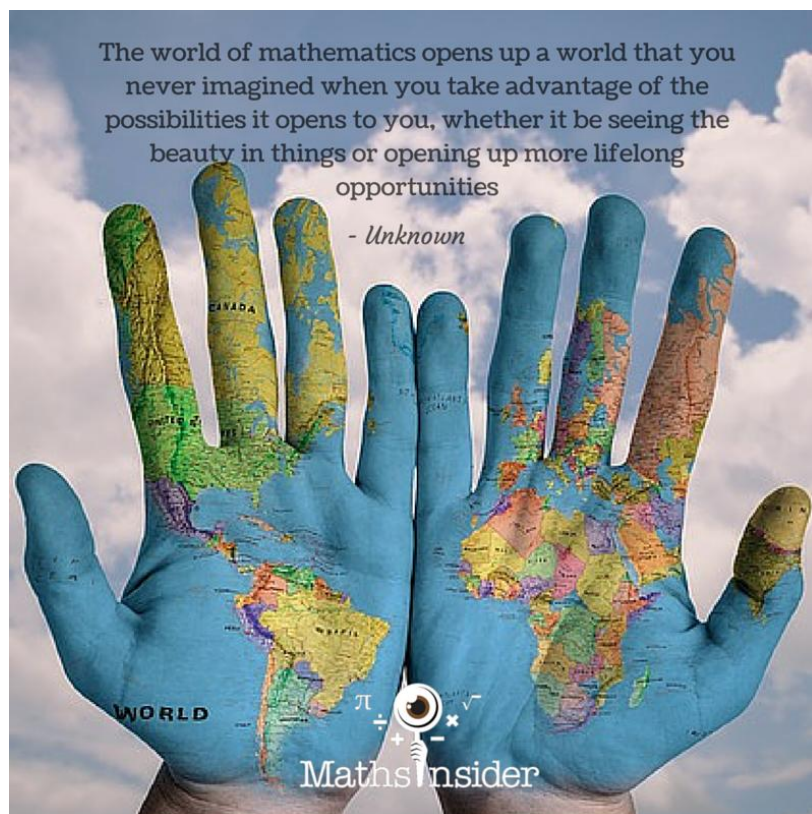


Ballifield Primary's Maths Curriculum



Context

- At Ballifield Primary school, our mathematics program is tailored to meet the diverse needs of pupils aged 3-11 within our large urban primary school.
- Central to our approach is the successful implementation of the 'White Rose Maths' Curriculum. We have chosen this because it is carefully ordered and sequenced with an emphasis on number skills and knowledge being built overtime. The Scheme of Work is influenced, inspired and informed by the work of leading maths researchers and practitioners in mathematics across the world.

OUR INTENT FOR THE TEACHING OF MATHS AT BALLIFIELD PRIMARY SCHOOL

Principle Aim

The principal focus of mathematics teaching in the Early Years is to ensure that children begin to develop strong foundations in maths and number, helping them to problem-solve, measure, develop spatial awareness, and understand and use shapes.

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

Purpose

We believe that **strong foundations** in maths are paramount for all our children, especially our disadvantaged pupils, those with SEND, those who are known (or previously known) to children's social care, and those who may face other barriers to their learning and/or well-being. Aligned with the National Curriculum, we provide a rich, coherent, and sequenced progression of mathematical concepts, enabling pupils to build upon prior knowledge **systematically** so that they know more, remember more and can do more in maths over time. It fosters a positive **attitude** and empowering each student with **skills** and **confidence**. Our goal is to equip students to apply maths to **real-world situations**, ensuring success academically and in their future pursuits. Recognising diverse learning styles, we create an inclusive environment, utilising strategies like the '**Concrete, Pictorial, and Abstract**' process to cater to individual needs. Beyond academic achievement, our commitment extends to developing resilient problem solvers. With rigorous content, hands-on experiences, and an embrace of diverse problem-solving approaches, our curriculum aims to nurture well-rounded individuals who carry a **lifelong appreciation for the power of mathematics**.

OUR IMPLEMENTATION OF THE TEACHING OF MATHS AT BALLIFIELD PRIMARY SCHOOL

Teaching and Learning

- Fundamental maths skills are practised daily, including key mathematical skills such as developing number sense, subitising in EYFS, additive facts in Key Stage 1, and multiplicative facts in Key Stage 2. These strong foundations are imperative in ensuring that children build on their mathematical knowledge over time.
- Maths is taught daily via units of work across a range of mathematical areas (such as place value, addition & subtraction, shape, money and fractions). This allows for meaningful coverage of mathematical concepts and takes into consideration pupil age and stage of development.
- In addition to the main daily maths lesson, all year groups also deliver a dedicated 'Number Sense' session each day. These sessions focus on strengthening pupils' fluency, flexibility with number, and deepening their conceptual understanding. This helps those children who need it, especially disadvantaged pupils, those with SEND, those who are known (or previously known) to children's social care, and those who may face other barriers to their learning and/or well-being, receive extra exposure to maths in the school day.
- We embrace a variety of teaching strategies to effectively deliver our curriculum. This includes using concrete resources, pictorial representations, integration of appropriate ICT tools, teacher and pupil modelling, and collaborative partner work.
- Times Table Rockstars is used in KS2 to improve fluency and mastery of times table facts.
- Teachers recap previously taught skills and concepts regularly to support and inform planning and ensure children retain knowledge from prior units of learning, facilitating a scaffolded approach to mathematical progression.
- To further strengthen fluency, reasoning, and conceptual understanding, teachers draw on high-quality materials from the National Centre for Excellence in the Teaching of Mathematics (NCETM). This includes guidance and structured resources designed to support teaching for mastery, develop secure number sense, and ensure all pupils build a deep and lasting understanding of mathematical concepts.

Planning

- Long-term plans, aligned with the White Rose scheme, set out the clear sequencing and coherence of the maths curriculum across each year group for the academic year.
- Class teachers ensure that the calculation policy is followed to ensure consistency and that both knowledge and skills from previous year groups are built upon in a progressive and connected way.
- Teachers identify opportunities to facilitate and extend learning, such as learning outside the classroom and making explicit links to SMSC and the promotion of British Values.
- Comprehensive small-step planning from White Rose provides a coherent and well-sequenced series of lessons for each unit. Teachers then adapt these and allocate lesson

time according to the individual needs of children and classes to ensure optimal learning outcomes.

- In addition to the White Rose scheme, teachers use high-quality guidance and resources from the National Centre for Excellence in the Teaching of Mathematics (NCETM) to deepen subject knowledge and strengthen mastery elements within the curriculum. This includes access to planning supports, lesson breakdowns, and professional development materials.
- Daily number sense sessions are also planned separately across all year groups to systematically develop fluency, flexibility, and a deep conceptual understanding of number. These sessions are responsive to pupils' needs and build incrementally over time, forming a vital part of our approach to teaching for mastery.

Resources

- All classes have general concrete resources available to support learning, accessible within their classrooms. For example, base ten resources, Numicon, counters, dice, pegs, and multi-link cubes, as appropriate to the year group.
- Additional resources for specific areas of the curriculum are stored in the Tardis. These include scales, measuring cylinders, and other equipment needed for accurate measurement and data handling.
- Classes also have access to iPads and laptops, which are used to support learning through platforms such as Times Table Rockstars (TTRS), Freckle, Sumdog, Numbots, and 1-Minute Maths. These digital tools support fluency, number sense development, and pupil engagement.
- Each classroom has a maths working wall that children can refer to in order to visualise abstract concepts and support independent learning.
- To enhance teaching for mastery, staff regularly access high-quality materials and planning supports from the National Centre for Excellence in the Teaching of Mathematics (NCETM). These resources are used to support professional development, lesson design, and conceptual teaching approaches.
- Concrete materials and visual models are also used explicitly to support the teaching of number sense during both core lessons and daily number sense sessions, ensuring pupils develop deep understanding through hands-on experiences.

Inclusion

We understand that the most effective inclusion strategy begins with high-quality inclusive maths teaching, which benefits all pupils, especially disadvantaged pupils, those with SEND, those who are known (or previously known) to children's social care, and those who may face other barriers to their learning and/or well-being. Teachers are aware that pupils who have barriers to learning in other areas may have a strong interest in and aptitude for maths. We also recognise that strong foundations in communication, language and reading will aide pupils to access our maths curriculum more fully, particularly when reading mathematical problems to be solved. Adaptive teaching methods will be put into practice to support all pupils. Teachers also recognise that pupils' work and learning outcomes can take many forms, such as demonstrating their understanding using concrete resources or

pictorial drawings. Pupils who are very knowledgeable in maths are given opportunities to demonstrate and develop their knowledge and strengths.

While it is expected that most children will progress through our curriculum at a similar rate, we recognise that some pupils require additional support to maintain this pace. These children may access immediate intervention (pre or post teaching activities) to ensure they are adequately prepared for their next maths lesson. At times, they may receive targeted, differentiated small group sessions tailored to their specific needs.

Daily number sense sessions provide further inclusive access to essential number concepts, allowing pupils who need more time or reinforcement to revisit foundational ideas in a low-stakes, structured setting.

Teachers also use guidance from the NCETM, including scaffolding techniques and variation theory, to design tasks that are both accessible and challenging for all learners. This supports adaptive teaching and ensures all pupils are enabled to make progress, regardless of starting point.

Maths and SMSC

The teaching of mathematics supports the social development of children through collaborative learning. Children frequently engage in paired and group activities where they can work together, share ideas, and discuss their findings. This interaction not only deepens their understanding of mathematical concepts but also enhances their communication, collaboration, and teamwork skills.

Regular number sense sessions also help build pupil confidence in a supportive, inclusive environment, encouraging all learners to verbalise their thinking, explain their reasoning, and learn from one another.

Our approach is informed by teaching for mastery principles, including opportunities to explore multiple methods, justify answers, and use mathematical vocabulary accurately — key aspects of spiritual, moral, social and cultural development in the maths classroom.

EYFS

In Foundation Stage One (FS1), we use in-the-moment planning, which allows us to tailor maths learning experiences to the unique interests and needs of each child as they arise within continuous provision. Alongside this, we have timetabled daily maths sessions to provide structured learning opportunities. Mathematics holds a significant place in the early years, as it equips children with essential life skills fundamental to their development. It helps children to problem-solve, measure, develop spatial awareness, understand and use shapes.

Maths is embedded in everyday play activities — from counting steps and claps to building tall towers and solving real-life problems. We ensure it is incorporated into all areas of learning, both indoors and outdoors, using hands-on experiences, songs, rhymes, and interactive games to support early number recognition and develop strong foundations in maths.

To prepare children for their transition into Foundation Stage Two (FS2), we focus on developing their confidence through number play, sorting, patterning, and early problem-solving. These experiences build strong foundations in number sense, providing the building blocks for later mathematical fluency and understanding.

In FS2, children build upon these early mathematical foundations by developing a deep understanding of numbers, primarily within 10, extending to 20 in the summer term.

Key mathematical concepts include:

- ✓ Subitising (recognising small quantities without counting)
- ✓ Counting with one-to-one correspondence
- ✓ Composition of number (understanding how numbers are made up of smaller parts)
- ✓ Identifying more or less
- ✓ Pattern recognition
- ✓ Understanding addition and subtraction through real-life contexts
- ✓ Understanding and using mathematical vocabulary

Children also explore 2D and 3D shapes, spatial awareness, and early measurement concepts (such as length, weight, and capacity) through hands-on practical activities. Opportunities for mathematical learning are embedded throughout the environment, allowing children to apply their skills in meaningful ways.

Number sense is explicitly developed through daily mathematical talk, counting games and practical problem-solving. We also use guidance and resources such as White Rose, NCETM EYFS and mastering number materials to ensure progression, coherence and depth in early maths learning.

Maths provision in FS2 is carefully planned to ensure children work towards achieving the Early Learning Goals for Mathematics, which include:

- ✓ Number: Having strong foundations and a deep understanding of numbers to 10, including the composition of each number, subitising, and recall of number bonds.
- ✓ Numerical Patterns: Recognising patterns, understanding even and odd numbers, comparing quantities, and exploring simple number relationships.

By ensuring maths remains an integral and engaging part of their learning journey - both in the classroom and outdoor spaces - we aim to build strong, confident young mathematicians ready for the next stage of their education.

THE IMPACT OF THE TEACHING OF MATHS AT BALLIFIELD PRIMARY SCHOOL

As a result of our Maths teaching at Ballifield, you will see engaged and confident children who are all challenged and actively participate in their lessons. Our approach ensures that children are equipped with the mathematical language to articulate their understanding and draw connections between concepts.

Through a consistent emphasis on number sense, fluency, and reasoning — reinforced by daily number sense sessions and teaching for mastery — children develop deep, strong mathematical foundations. These daily opportunities help build both competence and confidence across all ability groups.

At Ballifield, we believe that all pupils should achieve to their full potential: academically, creatively, socially, physically and personally. To that end, we aim to create a caring, supportive, happy and secure learning environment where all children's successes are celebrated.

Mathematics is both a key skill to learn at school and a life skill that underpins everyday problem-solving. Our use of high-quality teaching resources, including materials from White

Rose Maths and the NCETM, supports pupils in developing both procedural fluency and conceptual understanding.

Our high-quality mathematics education 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, 2014).

Assessment, reporting and monitoring

- Short-term assessment is an integral part of every lesson. Teachers share the objective clearly with pupils and ensure children understand what is expected to achieve success.
- Ongoing formative assessment is used to inform immediate adaptations to planning and teaching. This includes identifying and addressing misconceptions, providing timely feedback and adjusting lesson sequences to meet the needs of all learners.
- Children's development in number sense is also closely monitored, particularly through daily fluency sessions and mental calculation strategies. Teachers use observations, questioning and retrieval practice to assess how securely children understand number relationships and concepts.
- In KS2, pupils are encouraged to mark their own work (with teacher guidance), helping them to identify errors and develop independence in reviewing their learning.
- At the end of each unit, children complete End of Block Assessments to assess understanding of recently taught content. These summative tools support teacher judgements and help identify children requiring further support or challenge.
- Termly Star Assessments (Renaissance Learning) provide a broader picture of progress, allowing teachers to track attainment, measure fluency growth, and plan targeted interventions.
- In KS2, children complete Times Table Rockstars (TTRS) daily, with results monitored to ensure rapid recall of multiplication facts, particularly in preparation for the Multiplication Tables Check (MTC).
- In Year 6, pupils sit end-of-Key Stage 2 SATs. Prior to these, they complete mock SATs papers to help teachers identify gaps in understanding and plan focused revision.
- All assessment data — including formative notes, unit assessments, fluency tracking, and termly progress measures — is used not only to inform day-to-day teaching, but also to shape future planning for the following academic year. This information is collated and shared during handover meetings to ensure continuity of provision, appropriate challenge, and early identification of support needs as children move into their next year group.

Role of the Subject Leader

The Subject Leader is responsible for overseeing teaching and learning in Maths at Ballifield. This role includes:

- Ensuring staff are clear on our approach to Maths and the requirements for planning using the White Rose scheme which is in line with the National Curriculum.
- Supporting staff with planning and delivery of Maths and leading by example.

- Acquiring and organising appropriate resources to support teaching and learning.
- Monitoring the teaching and learning of maths.
- Providing and sourcing training and CPD (INSETs & PDMs) for staff where necessary.
- Attending Subject Network meetings via Learn Sheffield to connect and liaise with other Maths Leads across the city, feeding back key messages/updates to staff at Ballifield.
- Work co-operatively with the SENDCO, SLT and governors.
- Utilising and sharing the resources available on White Rose, TTRS, Freckle and NCETM.
- Analyse children's test results to measure attainment and improve outcomes across school.