



Maths Policy

Intent

At Ouston Primary School, we view mathematics as 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, and a sense of enjoyment and curiosity about the subject.

Our intent is to provide children with a mathematics curriculum that will allow them to become confident individuals through developing their mathematical skills to their full potential. We also aim to present maths as a challenging, exciting, creative and relevant subject in order to promote a positive and confident attitude.

In line with the National Curriculum (2014), our overall intent focuses on all pupils being able to:

- use and understand a wide range of appropriate mathematical language to discuss, explain and justify their mathematical thinking and reasoning.
- explore and deepen their mathematical understanding through a C-P-A approach, allowing exploration, acquisition of fluency skills and application of skills to a range of problems and lines of enquiry.
- 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.
- move fluently between different representations of mathematical ideas.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- 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.
- make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.
- apply mathematical knowledge across the curriculum in science, humanities and other subjects relating mathematical knowledge and skills to real life situations.
- access challenges of rich and sophisticated problems when they grasp fluency concepts rapidly rather than progressing to new content.
- consolidate learning and concepts through repetition and intervention to acquire sound foundations for fluency of mathematics.

Implementation

At Ouston Primary School, we are committed to providing a motivating, challenging and comprehensive maths curriculum that is accessible to all and links the use of mathematics across a range of subjects, adding meaning to the learning of maths. Our whole school approach to the teaching and learning of maths involves the following;

- Our maths planning is largely based on Schemes of Learning from White Rose Maths and enhanced by a wide range of resources. This ensures a progressive and thorough curriculum in every year group. Teachers know which objectives must be taught and assessed in each year group and can follow progressive small steps to ensure pupils have a comprehensive understanding of maths.
- Teachers are encouraged to plan in PowerPoint or Notebook software format, creating slides for each 'small step' with teaching points and activities to be completed. This format ensures evaluation of each lesson and subsequent lessons are adapted accordingly.
- WRM (White Rose Maths) promotes kinaesthetic learning to ensure children acquire fluency of skills by introducing concepts in a practical/concrete way to progress to pictorial then abstract (C-P-A).



- Teachers deliver one curriculum for all, providing opportunities to stay together and to work through new content as a whole group. Teachers teach the whole class, allow pupils time to practise and bring the class back together to move on. Differentiated learning is provided through a selection of tasks to consolidate fluency, use skills to solve problems or use skills and reasoning skills to solve higher-level challenge problems. Teachers should use their professional judgement to determine the activities, timing and organisation in each lesson in order to suit the teaching objectives and ensure children understand each small step.
- For pupils who may struggle or possibly 'fall behind' with parts of the curriculum, in class support is provided on a daily basis. Additionally, intervention and consolidation is provided in the afternoon or lunchtime to ensure they are ready for the next lesson. For some SEND pupils, a separate curriculum may be more appropriate.
- Throughout KS1 and KS2, pupils have daily maths lessons. In Early Years, pupils have 2 or 3 maths mornings each week, enabling the maths lesson to continue throughout the morning to ensure all pupils receive quality adult input and also opportunities to practise and consolidate their knowledge through a range of planned, child initiated activities.
- The NCETM Mastering Number programme is delivered daily in EYFS and KS1, ensuring children have ample opportunity to establish, repeat and master basic number skills.
- The teaching of mathematics at Ouston Primary School promotes the use of mathematical vocabulary through encouraging children to explain their thinking, strategies and mistakes during lessons to embed understanding and to support peer on peer learning as children learn well from peers.
- During lessons, we encourage children to self-mark, using green (correct) and pink (incorrect) highlighters. After activities, the whole class discuss answers, strategies and mistakes. This provides children with immediate feedback and time to reflect on their learning. Mistakes are discussed and correction time given as part of a lesson. Children respond well to this and learn well from their mistakes. We see assessment as an integral part of the teaching process and strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring confidence and progress.
- WRM planning is taught in blocks. At the end of the block, a short assessment named a 'progress check' is used to determine knowledge and progress. Objectives for each block are shared and discussed with the children during the block. This ensures children know their learning targets.

- The national curriculum for mathematics reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof. Children need to learn to explain their thinking clearly and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Impact

Our successful approach to the teaching and learning of maths results in a fun and engaging curriculum that embeds understanding and knowledge through hands on, practical activities. Introductions to concepts using concrete materials and practical activities supports learning through memorable activities and 'games' which children can recall at a later date, relating the learning to new situations. Our policy of self-marking within lessons supports children in recognising their strengths and areas for development. Children are encouraged to share their misconceptions and misunderstandings and become adept in using appropriate vocabulary in doing so. The inclusion of open dialogue to discuss and explain mathematical thinking also strengthens the use and understanding of mathematical language along with ensuring children can explain, justify and evidence their thinking. Connecting maths across the curriculum highlights how maths relates to life. We regularly use and highlight our use of maths in other disciplines: during science investigations when collecting, recording and presenting data; during geography field trips when collecting and categorising resources from the world around us and taking measurements, e.g. Rivers and Erosion in Upper KS2. Computing also highlights the real use of maths with statistics and data collection and analysis while measuring and position and direction are essential skills to programme toys and VEX Robotics (STEM and coding links). Special weeks timetabled throughout the year also celebrate mathematical thinking, such as Science Week, Careers Week and Enterprise Week.

Teaching and Learning

EYFS

The principle focus of mathematics teaching in the Early Years is to ensure pupils develop their knowledge of numbers, learning to count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

The EYFS curriculum also develops pupils understanding of shape, space and measures, teaching children to use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

KS1

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 involves working with numerals, words and the four operations, including with practical resources. At this stage, pupils develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching involves using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. Pupils read and spell mathematical vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

By the end of year 2, we aim for all pupils to know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

KS2

The principal focus of mathematics teaching in Lower KS2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value, to develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place

value. Teaching also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. Pupils use measuring instruments with increasing accuracy and make connections between measure and number. Pupils read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

By the end of year 4, we aim for all pupils to have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

The principal focus of mathematics teaching in Upper KS2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This develops the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures consolidates and extends knowledge developed in number. Teaching ensures that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. Pupils should read, spell and pronounce mathematical vocabulary correctly.

By the end of year 6, we aim for all pupils to be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Organisation, Planning and Resources.

- Each class has a general bank of resources for day-to-day maths lessons. EYFS classrooms have a wide range of counting equipment for children to explore and use in their learning and play. KS1 classrooms have table-top maths boxes on each table for children to access during lessons, selecting and choosing resources that will be most helpful to them. Maths boxes are also available in Lower KS2 to support children if, and when, required. Further shared resources are stored in the Maths resource cupboards located in the KS2 corridor and the hall for staff to access.
- Each classroom has a maths display that celebrates children's success and demonstrates progress across the school.
- Each classroom is equipped with an Interactive Board and access to laptops and iPads to enhance mathematical learning (Times Tables Rock Stars and Doodle Maths).
- Additional resources are available in school to support children's learning further, e.g. specific teaching programmes.
- Online programmes (TTRS, Doodle Maths) are used to enhance learning and provide motivational tasks and homework activities.

Assessment

At the end of each term, children complete an end of term assessment, assessing all the blocks taught over the term. This assesses long-term progress and enables teachers to assess the children against age-related expectations. Termly assessments are recorded in iTrack, our whole school assessment system, as Year group emerging, developing, expected or greater depth. Some children are working below their year group expectations and this is recorded accordingly.

In Early Years, pupils are assessed against the Early Years Learning Goals and are awarded levels of Emerging or Expected, matched to their achievement of the assessed statements.

Each term, the maths lead analyses the data for achievement across the school to identify the percentage of those working at expected, above expected and below expected. This enables SLT to identify groups of pupils who are at risk of underachieving, in which case, intervention strategies, programmes and support are implemented to support learning.

Performance Indicators

Performance Indicators, which are the criteria for success of the school's mathematics policy at Ouston Primary School, are:

- Early Years Foundation Profile (Statutory Assessment)
- KS1 results (Statutory Assessment)
- KS2 results (Statutory Assessment)
- ITrack data
- Pupil voice (enjoyment of maths and their ability to talk confidently about what they are doing)

Equal opportunities.

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multicultural aspects of mathematics e.g. Islamic patterns in RE.

All children have equal access to the curriculum regardless of race, social circumstance or gender. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

Teachers ensure that children have regular access to CPA resources and activities. Additional support is given to groups of identified children both in and out of class. Special Educational Support Plans are used to address specific areas of weakness and achievable targets are set in order to help the child make progress, either by quality first teaching strategies or additional opportunities.

We are committed to giving all our children every opportunity to achieve the highest of standards. We do this by taking account of pupils' varied life experiences and needs. We offer a broad and balanced curriculum and have high expectations for all children. The Inclusion Policy helps to ensure that this school promotes the individuality of all of our children, irrespective of ethnicity, attainment, age, disability, gender or background.

Our school aims to be an inclusive school. We actively seek to remove the barriers to learning and participation that can hinder or exclude pupils. We make this a reality through the attention we pay to the different individual and groups of children within our school to ensure minimal risk of underachievement.

Role of Subject Leader

The Mathematics Subject Leader monitors standards of planning and teaching and carries out scrutinies of children's work and teachers' planning. Support is given, if necessary, to ensure all staff are adhering to the agreed policy and planning format. Findings from monitoring are discussed with the Senior Leadership Team and shared with teaching staff as appropriate.

Parental Involvement.

At Ouston Primary School we encourage parents to be involved by:

- Inviting them into school to participate in year group maths workshops. To be informed about the up to date objectives, methods and strategies we use and to work with their child on a range of activities. Copies of the presentations and notes are sent home for parents who are unable to attend.
- Inviting them to parents' evening each term to discuss the progress of their child.
- Providing weekly homework to consolidate classroom learning to inform parents of their children's learning.

The Governing Body

A governor responsible for mathematics is identified from the governing body. Governors are invited to attend any Maths workshops or training days. The subject leader and the nominated governor meet annually for a monitoring meeting.

This policy will be reviewed annually.

Written by Mr. D Walsh

Date of Review June 2024

Date of Next Review June 2025