Teaching and Assessment in Mathematics Policy
2024-2025

To be reviewed by July 2025
Approved by Headteacher July 2024

Aiming for Excellence: Unlocking Every Child's Potential

Hunslet Moor Primary School

A Policy for the Teaching and Assessment of Mathematics

Introduction:
This policy outlines the expectations for the teaching, organisation and assessment of mathematics at Hunslet Moor Primary School for the academic year 2024 – 2025. The Policy is based on the aims and expectations of the national curriculum, the Statutory Framework for the Early Years Foundation Stage and the Development Matters in the Early Years Foundation Stage document. The policy has been drawn by the subject leader, shared with the whole staff and has the agreement of the Senior Leadership Team and Head Teacher.

Rationale
Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solutions 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 all forms of employment. A high-quality education in mathematics is therefore 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.

Mathematics Intent
At Hunslet Moor we believe that all children should be given the opportunity to achieve their true potential, taking into account the importance of meeting the needs of each individual child's learning, and their social and emotional needs.
We want our children to love Maths! We want them to have no limits to what their ambitions are and grow up with secure mathematical understanding which will assist them in whichever career path they take, as well as in their daily lives. In order to successfully deliver a structured, rich curriculum with a clear progression of skills, we follow the statutory requirements of the National Curriculum for mathematics. At Hunslet Moor Primary School, our approach to teaching mathematics is intended to support all of our children in becoming young, confident mathematicians; prepare them for their next stage of mathematical learning at secondary school, and to be able to apply their mathematical knowledge in everyday situations in order to be successful in life beyond school. We intend to do this, on a daily basis, through developing all children's fluency in all areas of the mathematics national curriculum; providing opportunities to reason mathematically; and also develop children's using and applying skills when solving increasingly more complex problems involving a range of mathematical knowledge.

Aims (embracing the mastery curriculum)
The mathematics curriculum at Hunslet Moor aims to ensure that pupils:
- Achieve their true potential and above the expectations for their year group
- Develop a love of mathematics, which they can share within and around the community
- Become fluent in the fundamentals of mathematics, through varied and frequent practise with increasingly complex problems over time
- Develop conceptual understanding of core principles and procedures in mathematics that can be applied to a variety of problems
- Recall and apply previous knowledge rapidly and accurately
- Reason mathematically
- Can follow a line of enquiry, conjecturing relationships, generalisation and patterns

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- Develop arguments and justifications of proof using mathematical language
- Solve problems, applying their mathematics to a variety of routine and non-routine problems
- Persevere in seeking solutions- develop the resilience of a mathematician
- Develop and select appropriate mathematical strategies which can be applied to any problem
- Represent their ideas and working with increasing sophistication
- Make connections within and between mathematical units
- Reflect upon their mathematical journey within a problem, lesson, term and begin to identify what a good, great and even better learner looks like.

To achieve these aims Hunslet Moor will provide its pupils with:
- Access to a rich, varied and age appropriate curriculum
- A stimulating environment which promotes mathematical learning
- An organised mathematics curriculum which promotes continuity and progressions as well as opportunities to strengthen and deepen previous skills.
- A commitment to the mastery curriculum for mathematics, its principles and pedagogy
- A careful tracking and assessment system which identifies gaps, promotes transition between key phases and year groups and promotes depth of understanding
- Mastery and reasoning-rich teaching and learning strategies which promote the continual application and development of mathematical skills.
- Necessary and high quality resources which encourage variation.
- Rich, purposeful and carefully planned mathematics interventions.
- A celebration of mathematical success through the school.

Entitlement:
While there is currently no statutory guidance as to how many hours of mathematics a child must do a week, as a school we have committed to approximately 5.5 hours of mathematics teaching a week in Key Stage 1 and in Key Stage 2.
In Nursery, 2 x maths inputs will be delivered weekly and maths activities will be incorporated as a part of daily provision. In Reception, a maths input will be delivered daily and maths activities will be incorporated as part of daily provision.

The statutory requirements for planning and progression are laid out in Development Matters (EYFS curriculum) and the National Curriculum document for Mathematics.

Long Term Planning: In Key Stage 1 and 2, each year group is given a long term plan which outlines unit coverage, order, length and objectives covered. These long term plans have been designed to promote the mastery principles. The length of unit specified is a suggestion of the minimum time that a unit can run. It is suggested that units can be modified when assessment has deemed this necessary. In the EYFS, coverage is mapped out over a yearly cycle with key focus identified in line with progression documents.

Medium Term Planning: The use of White Rose medium term planning is adapted to create a curriculum designed to meet the needs of pupils and to allow for opportunities for revisit and retention, ensuring full coverage of the national curriculum for mathematics and providing a broad and balanced spread of all areas of the curriculum. Teachers are confident to manipulate this planning in the short term in order to meet the needs of all children.

Unit Plans (S- planning) : S-Plans outline a progressive number of lessons that build on one another to achieve a learning outcome. It is reminded that with the maths curriculum, there isn't an

expectation that every session has a new objective and that a sequence of lessons can build up across a few days in order to achieve a target objective. S- Plans include key questions, new vocabulary, resources, differentiated tasks and activities to support talk and explanations of maths for all learners.

Documents to support Planning
- Long term planning documents – per year group
- White Rose Medium Term Planning documents – outline objectives and tasks to support S-planning (cross reference these with stipulated long term planning as White Rose Units are in a slightly different order)
- School Calculation Policy- ensure age appropriate pitch is reflected in reordered work
- Development Matters in the Early Years Foundation Stage

Planning Expectations
EYFS
- To plan in line with the development matters document, using the White Rose Scheme of work.
- In Reception, weekly maths planning should include objectives linking to the EYFS Framework.
- Across EYFS, maths activities should be planned in all areas of our provision to allow children to experience it in a purposeful and meaningful context within their play and daily routines.

KS1
- All planning should be pitched at age related expectations
- All planning should detail curriculum objective (even if this is across a number of days)
- Teachers to use the long term plan provided and where possible spend the allocated time on a unit. Weeks in this document assumes 5 full sessions so 2 weeks = 10 sessions etc.
- Teachers can extend/ shorten a unit (depending on pupil need).
- Differentiation will be through support, scaffold or equipment and not through content – if pupils are working two years below their peers and cannot access age related content, please notify the subject leader for discussion around intervention and support through provision mapping.
- Planning is in units rather than half terms. The supplied units for the White Rose and S- plans format will be used to shape the teaching of Mathematics.

KS2
- Lessons will be pitched according to age related expectations. However, there is an understanding that some year groups (particularly UPKS2) may still have gaps which need to be filled early in a unit, in this instance the aim is to ensure that children have accessed the age related expectation by the end of the week/ unit. Time has been allocated in the planning to allow for the lengthening of key units e.g. place value.
- All planning should detail a curriculum objective.
- Teachers use the long term plan provided and where possible spend the allocated time on a unit. Weeks in this document assumes 5 full sessions so 2 weeks = 10 sessions etc. Teachers can extend a unit if they feel it is required, but seek discussion beforehand.
- Where possible, differentiation should be provided through support, scaffold or equipment in order to meet an age related expectation and not through content particularly in year 3

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upwards. However, as children are older, gaps will be larger and it is understood that for some children age related content will be too challenging at first.

- Any children who fall significantly outside age related content will be discussed with the a Senior Manager/ SEND Co where provision will be tailored to their needs.
- Planning is in units rather than half terms. The supplied units for the White Rose and S- plans format will be used to shape the teaching of Mathematics.

The subject leader will continually monitor planning to assess compliance to planning documents, pitch, progression and opportunities to apply skills.

Differentiation & Adaptive teaching
At Hunslet Moor Primary School we commit to providing our pupils with the greatest opportunity to access curriculum at and within age related expectations. As such, we commit to differentiating through access rather than curriculum content where possible. Ways we can achieve this are:
- Depth of questioning
- Dialogue
- Support
- Ways of recording
- Resources – tailored and scaffolded
- Open ended/ scaffolded investigations

Special Educational needs:
The School's Policy document for Special Educational Needs explains in full the procedures which are in place for providing for pupils with Special Educational Needs. Within Science, tasks are differentiated to ensure access to the National Curriculum and to offer activities which are relevant to the conceptual development of the child.

More Able Pupils:
Pupils with above average ability are to benefit from a curriculum which offers challenge and opportunities for depth investigations in order to extend their learning. We aim to give very able pupils the opportunity to extend their mathematical thinking through extension activities such as problem solving, investigative work and research of a mathematical nature.

Teaching and learning
At Hunslet Moor we believe that high quality maths teaching and learning happens when:
- Children can discover for themselves through trial and error.
- Children use accurate mathematical vocabulary.
- Teachers are confident about what they are teaching.
- When children talk, ask questions, share ideas, explain.
- When children are inspired to do and know more, transfer knowledge.
- When children work in groups.
- When children work practically.
- When children are engaged, excited, involved.
- When children record their learning in a variety of ways using their own words.

Application of mastery
As a school we have committed to providing our children with a mastery curriculum. As such, we commit to expose them to the following concepts during our lessons:

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- CPA – We will provide children with the ability to explore new concepts in a concrete, pictorial and abstract way no matter their age or stage.
- Variance – We will vary how we ask questions of our children, we will use different organisations and representations of numbers and equations and encourage reasoning to apply skills.
- Making Connections – We will provide opportunities for our pupils to explore and discover connections between numbers, equations and different strands of mathematics.
- Modelling – We will provide a wide variety of models and diagrams to represent our numbers. We commit to using at least three different models across a unit to add variance.
- Reasoning – Children will be challenged to reason daily. The maths lessons will be more about questioning children through principles than showing.

The maths leader will monitor teaching and learning through the use of lesson observations, planning scrutiny, book scrutiny, drop-ins and pupil voice.

Recording of work

EYFS
- In the EYFS children's learning will be captured in their individual profiles or on Tapestry.
  - o In Nursery, regular evidence for maths must be captured. This should be largely child initiated and activities provided in the environment and may include jottings that children have recorded, adult written observations supported by photographs where appropriate that will be recorded on to Tapestry.
  - o In Reception, 2 x weekly evidence for maths must be captured. This should be a balance between child initiated activities provided in the environment and focus activities. This may include pieces of a child's work or adult written observations supported by photographs where appropriate which will be uploaded on to tapestry. In Reception, children will also record their maths work in workbooks.

Key Stage 1 and 2
- By the end of the year, all children will have two books
- o **Pupil Maths work book –**
  - ▪ This will hold at least 3 pieces of work for every 5 days in a unit.
  - ▪ This MUST reference a curriculum objective which should be visible on the work (though this can be built up through the week.)
  - ▪ Work books should also encompass a Maths Memory grid which reviews previous learning. These should be short, snappy tasks which require children to apply previous learnt skills or reasoning.
  - ▪ This can be plenary or application tasks as outlined in the mastery model lesson plan
  - ▪ A variety of methods of recording should be used, direct note taking, adult observations, photos (where necessary) and direct task work
- o **Maths Arithmetic book –**
  - ▪ These books are evidence from Morning maths starters 5 x weekly (yr 1- 6) and Arithmetic lessons (1 x 30 min weekly Yr 2- 6)
  - ▪ These books replace whiteboards for morning tasks
  - ▪ They will form discussion around evaluation of layout, methods
  - ▪ These are not expected to be marked outside of the classroom (walk around ticks, self-marking and corrections may apply).

The subject leader may monitor books for coverage, pitch, application of mastery concepts

Assessment

At the end of each mathematics unit, teachers will use the school SONAR assessment programme to highlight the number of objectives achieved. Teachers will then formulate a judgement for each pupil at the end of each term. A variety of evidence can be used to inform these judgements; informal classroom assessments, pupil work in books, dialogue with children. In KS1 & KS2 teachers may also use the White Rose assessment for mastery assessment papers. However, the raw score can only inform teacher assessment and will not be the sole method of assessing pupils.

To be deemed as working at the expected standard at the end of the year, objectives taken from the Sonar assessment programme alongside using a number of Expected Standard objectives will indicate that they have met all required objectives as well as having a broad understanding of the rest the curriculum. *(An example of the expected standards can be seen in Appendices A)*

Evidence to support assessments

- Informal classroom observations
- Work in books
- NCTEM mastery documents
- White Rose assessments
- Expected standard objectives (found on the SONAR assessment portal)
- National curriculum Sonar objectives (found on the SONAR assessment portal)

The subject leader will use data and moderation tools to monitor accuracy of assessment, standards and progress across year groups.

Environment

All teachers are expected to ensure that the classroom environment has the following;

- A mathematically rich environment- reviewing previous and new learning daily.
- A range of practical resources to support the diverse need of learners.
- Every class to have a maths working wall display themed around current learning
- Display to include examples of calculations and misconceptions of methods.
- Some form of maths celebration displayed- photos/ work/ reflection/ next steps.

Role of Subject Leader:

The Subject Leader will be responsible for improving the standards of teaching and learning in Maths through:

- Monitoring and evaluating pupil progress.
- Mapping provision and curriculum across each phase.
- Coverage across year groups.
- The quality of the Learning Environment.
- Taking the lead in policy development.
- Auditing and supporting colleagues in their CPD.
- Purchasing and organising resources.
- Keeping up to dates with changes in the subject.
- Monitoring pupil, parent and staff engagement.

Key Performance Indicators (KPI Grids)
Working at the expected standard (3EXS): Year 3

To be deemed as working securely by the end of Year 3 a child needs to demonstrate that they have met all of the working at targets and that they can reason and problem solve fluently within these objectives. They must also demonstrate that they can meet all of the below statements

Statement	Evidence	Secure
Counting and Place value		
Count from 0 in multiples of 4		
Count from 0 in multiples of 8		
Count from 0 in multiples of 50		
Count from 0 in multiples of 100		
Can count , read and write numbers to 1000		
Can identify the place value of each digit in a 3 digit number using the terminology ones, tens and hundreds		
Can solve problems and reason about any aspects of counting and place value		
Addition and Subtraction		
Add any 1 digit number to a 3 digit number mentally		
Subtract any 1 digit number from a 3 digit number mentally		
Add any multiple of 10 to a three digit number mentally		
Subtract any multiple of 10 from a 3 digit number mentally		
Add any multiple of 100 a 3 digit number mentally		
Subtract any multiple of 100 from a 3 digit number mentally		
Add numbers with up to 3 digits (where possible using the formal column method of addition)		
Subtract numbers with up to 3 digits (where possible using the formal column method of subtraction)		
Multiplication		
Recall and use the multiplication and division facts for the 3 x table		
Recall and use the multiplication and division facts for the 4 x table		
Recall and use the multiplication and division facts for the 8 x table		
Write and calculate mathematical statements using the times table facts that they know		
Use what they know about times tables to solve 2 digit x 1 digit multiplication problems		
Fractions		
Understand how tenths arise and count up and down in tenths		
Using pictures, diagrams or representations add or subtract fractions with the same denominator		
Recognise, find and write fractions of a discrete set of objects using unit fractions with small denominators		
Recognise, find and write fractions of a discrete set of objects using non- unit fractions with small denominators		
Recognises and shows, using diagrams, equivalent fractions with small denominators		
Measurement		
Measures, compares, adds and subtracts lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)		
Adds and subtracts amounts of money to give change, using both £ and p in practical contexts		
Tells and writes the time accurately from an analogue clock and 12-hour and 24-hour clocks		
Know how many seconds in a minute and how many days in a year/ leap year		
Identifies right angles, recognises that two right angles make a half-turn, three make three quarters of a turn and four a complete turn		
Identifies whether angles are greater than or less than a right angle		
Statistics		
Interprets data presented in bar charts, pictograms and tables		

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Working at Greater Depth (3GDS): Year 3

To be deemed as working Greater Depth by the end of Year 3 a child needs to demonstrate that they have met all of the working at targets and that they can reason and problem solve fluently within these objectives. They must also demonstrate that they can meet all of the below statements.

Statement	Evidence	Secure
Counting and Place value		
Compare and order numbers up to 1000 in a number of ways including on a number line		
represent and estimate the size of different numbers to 1000 in different ways including on a number line		
Read and write any number to 1000 in words		
Can solve problems which involve all areas of counting and place value		
Addition and Subtraction		
Can choose whether a written or mental calculation is most appropriate based on the problem presented		
Can use the column method of addition fluently and in a range of contexts for 3 digit numbers		
Can use the column method of subtraction fluently and in a range of contexts for 3 digit numbers		
Reasonably estimate the answer to a problem before calculating it		
Use inverse to check the answer of a calculation		
Solve complex addition and subtraction problems including missing number and multiple step problems		
Multiplication and division		
Use the grid method of multiplication fluently		
Use inverse to check multiplication and division calculations		
Confidently solve a range of multiplication and division problems including missing box and integer scaling problems		
Fractions		
Add and subtract fractions confidently with the same denominator and solve problems in this context		
Solve a variety of more complex fraction problems		
Measurement		
Confidently measure and solve perimeter problems of simple 2d shapes		
Use Roman numerals to write and read the time		
Compare durations of events and solve problems to calculate durations or differences in times		
Shape		
identify horizontal and vertical lines,		
identify pairs of parallel and perpendicular lines		
Statistics		
Interpret bar charts, tables and pictograms to solve complex one step and two step problems e.g. how many more and find the difference		

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