Moorlands Primary School

Maths Policy

Maths helps us to learn to persevere, solve problems and best of all promotes our curiosity in the world.

INTENT

At Moorlands Primary School, we have designed our Maths curriculum with the intent that all children, regardless of background, will become fluent mathematicians, able to reason confidently and solve a range of problems. Our children engage with a range of representations and concrete resources to develop their understanding of maths structures and calculations.

We understand that a good grasp of Maths will support children's learning in other areas of the curriculum as well as setting them up for later in life. We believe strongly in the vital role played by parents and carers in the development of basic number skills (including times tables). We welcome this and value their contribution. To develop the appropriate subject specific knowledge, skills and understanding set out in the National Curriculum, we have built our Maths curriculum upon principles from Chris Quigley's Essentials Curriculum and White Rose which is rooted in the Mastery Approach.

We deliver a maths curriculum, which develops:

- Basic numbers skills and rapid recall of multiplication facts.
- Fluency, which enables children to recall and apply knowledge rapidly and accurately.
- Reasoning skills, allowing children to argue justify and prove using mathematical language.
- Problem solving 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 " (NC 2014)
- Builds confidence in calculating mathematically
- An excellent understanding of mathematical resources and representation.
- The motivation to persevere with a mathematical problem.
- A sense of enjoyment and curiosity for maths.

IMPLEMENTATION

Our maths curriculum is progressively built on from EYFS all the way to year 6. Revisiting and applying previously learned knowledge to new contexts. Throughout Key Stage 1 and Key Stage 2, whole class maths lessons are taught using small steps planning that supports children's understanding of mathematical concepts and help them to gradually develop their skills.

Each unit of work will consist of concrete, pictorial and abstract learning, where skills are modelled, practiced and then applied to new problems and contexts. All children (where possible) will be working on the same concept however some children will require more support and will be given scaffolded work to suit their needs.

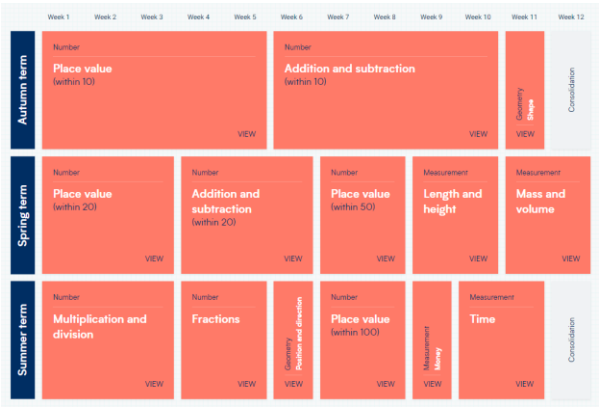
The order of units within each year groups is chosen specifically to build upon the previous units and to ensure skills and understanding are present in preparation for the next. Understanding number is essential to becoming a confident mathematician which is why number has a heavier weighting across the year than other areas. "Without firm foundations in number, children are likely to struggle with other aspects of mathematics." (White Rose 2022)

Each learning journey includes differentiated tasks designed to ensure all children are supported and challenged. During and after sessions, teachers give feedback to children and time is given to consolidate learning.

EYFS

EYFS and Year 1 have a heavier focus on number and place value than any other year group. This is because the basics of numbers up to 100 are crucial for all other aspects of maths. Year R begins by looking at numbers to 5. They learn how to count to 5, how to write the numbers and how to recognise 5 using patterns. They then use this to recall number bonds to 5. When ready, the children then repeat this process with numbers to 10 and then counting to 20 and beyond. Children will also start to look at shapes, positions and the beginnings of measure.

Year 1

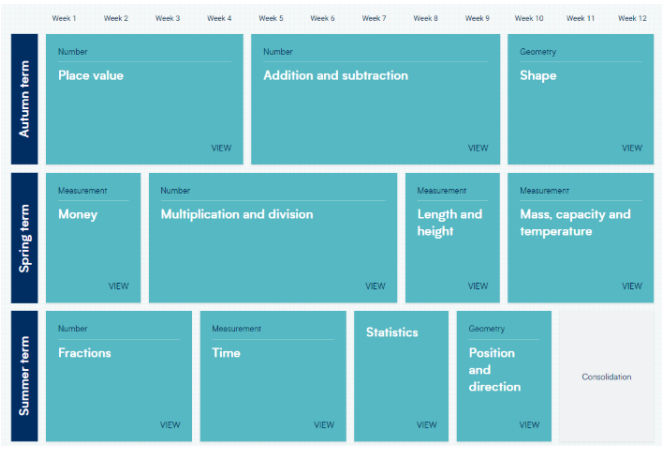


In Year 1, the children begin by looking at numbers within 10 and then using those numbers to add and subtract. They then move onto numbers to twenty, then to 50 and then finally to 100. They will also use these numbers to support their learning in the measurement units.

Halves and quarters are introduced.

Children sort 2d and 3d shapes.

Year 2



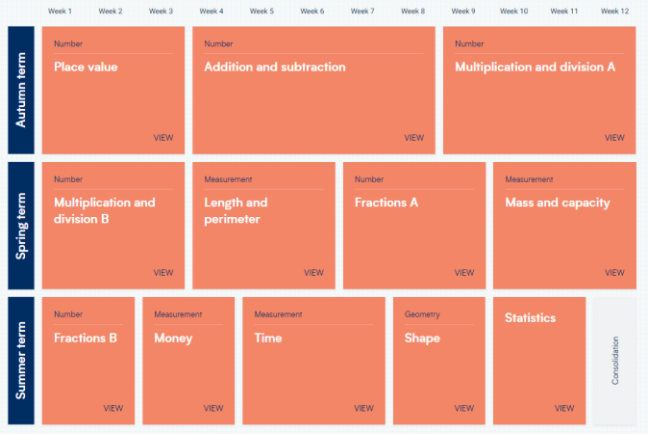
In year 2, the same concepts are covered as in year 1. This is to revisit previous learning and to build up it. The children do not go any further than 100 but deepen their understanding of what those numbers are.

All measurement, shape and statistic units will include an element of number work already covered to strengthen their understanding and to use maths in a range of contexts.

Fraction notation is introduced in year 2 for thirds, quarters and halves.

Children make patterns with 2d and 3d shapes and count the vertices and edges.

Year 3

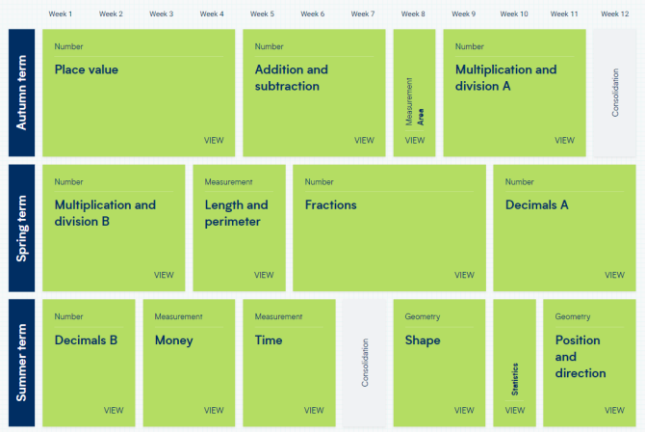


In year 3, children begin to work with numbers up to 1000, building on their previous place value learning. Formal methods of calculations are introduced this year for addition and subtraction.

Children develop their understanding of fractions by counting in tenths, adding fractions with the same denominator and recognising unit and non-unit fractions. Children will use their multiplication and division work from earlier in the year to support their learning in fractions.

Children begin to look at right angles within shapes and different types of lines.

Year 4



Year 4 begins in the same way as previous years but their place value work will include numbers over 1000.

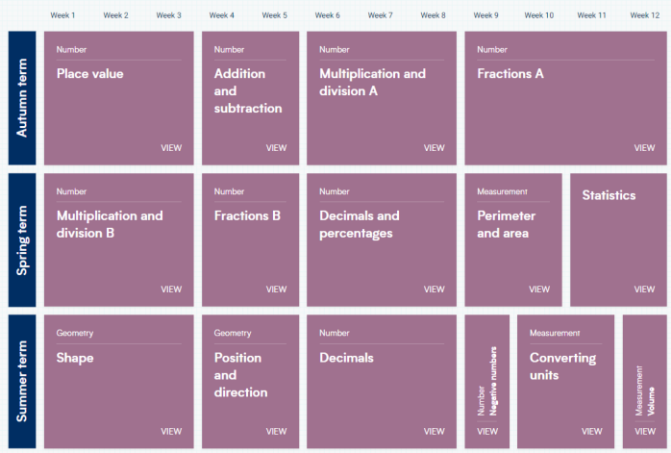
Children are introduced to a formal method for multiplication in year 4 and use this within their length and perimeter work.

In fractions, the children will strengthen their tenths work and begin to look at hundredths which will prepare them for when decimals are introduced.

Times tables are a big focus in year 4 and being able to recall multiplication facts rapidly will support their maths in year 5.

Children learn about obtuse and acute angles and the different types of triangles.

Year 5



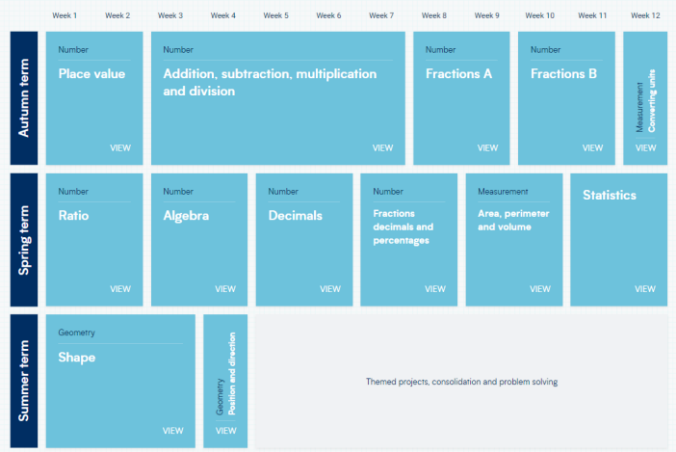
Again, year 5 begins with place value however the children develop their understanding by moving onto numbers up to one million. They then use these numbers to strengthen and deepen their understanding of addition and subtraction.

Prime numbers, factors, multiples, square numbers and cube numbers are all introduced and build upon children's previous learning of times tables.

In multiplication, children build on their written method learning from year 4 and extend to multiplying by a 2-digit number. The bus stop method for division is introduced.

Children begin to measure angles accurately with a protractor and use their knowledge of shapes to work out lengths.

Year 6



In year 6, children begin in the same ways as previous years, developing and building on their place value and operation understanding.

In the spring term, children are introduced to ratio, algebra and volume.

Year 6 is about developing the confidence and fluency in all areas of mathematics and having a range of strategies for solving problems efficiently.

Basic Skills and Times Table Challenge

At Moorlands, we have a basic skills and times table challenge that runs from year R all the way to year 6. The children begin with learning basic skills and then progress onto times tables, division facts, related facts and square and cubed numbers. The focus for this is on fluency and the rapid recall of facts to support other areas of mathematics.

Year R - Counting and number bonds to 5 and 10

Year 1 - Number bonds and doubles to 20

Year 2 - 1, 2, 5 and 10 times tables

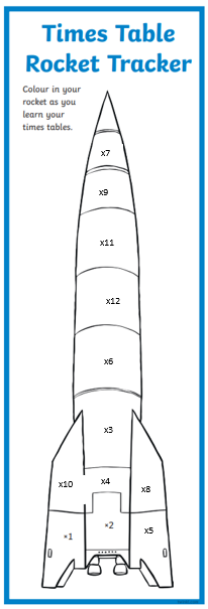
Year 3 – 4, 8, 3 and 6 times tables

Year 4 – 12, 11, 9 and 7 times tables

Year 5 – 1, 5, 10, 2, 4 and 8 division facts

Year 6 – 3, 6, 12, 9, 7 and 11 division facts

Challenge – Square numbers and cube numbers



Children have a rocket tracker that they keep in their trays to record which times tables/skills they have completed.

IMPACT

Through our high quality teaching of Maths, we aspire for all children to reach age-related expectations or above by the end of each year group.

The overarching aim is for children to achieve high standards numeracy with a strong understanding of all areas of maths.

Formative Assessment:

On-going formative assessment or AFL is used across units. We use entrance passes to help use see the children's previous understanding. We can then alter the planning and differentiation to challenge and support children further.

Teachers use formative assessment to check if children have met the learning objective and then act appropriately through immediate intervention within the lesson, an additional lesson on a skill or a small group or 1:1 intervention.

Summative Assessment:

Summative assessment is completed termly in order to track progress children are making towards end of year expectations and to identify key groups and individuals who need additional support. This data is recorded on the Target Tracker tracking system. Formal moderation is planned across the school at least termly to ensure judgements are consistent and robust. Staff are given up to date training based on developments in national assessments in order to support standardisation.

Statutory Assessments:

Summative assessment is also completed in the form of statutory assessments consisting of: -

Early Years Foundation Stage Profile (Year R)

Key Stage 1 Teacher Assessment in Maths (Year 2)

Multiplication Checks (Year 4)

Key Stage 2 tests in Arithmetic and reasoning (Year 6)

Interventions:

Children who require additional support are identified using a range of assessment information and will be supported through small group or one to one interventions.

Children will be identified to work on a range of maths skills. Some children may work with Maths Box to strengthen their basic skills or Catch Up Numeracy.

Monitoring and Evaluation:

In addition to formative and summative assessment, the School Improvement Team completes regular monitoring and evaluation of Maths in order to identify where teaching and learning is effective and where improvements are needed. This ensures quality of education remains consistently good across the school in order to get the best outcomes for the children.