

## Maths at Yarm Primary

**At Yarm Primary, our intent is to provide children with a broad and balanced curriculum, which builds on their needs and prepares them for the future. We use the project based learning approach to provide an engaging and purposeful context for learning where pupils are encouraged to apply the skills and knowledge in a range of subjects. We place emphasis on mastering key skills to provide a solid foundation for lifelong learning.**

Within the National Curriculum:

Pupils should be taught:

to 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

to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

to 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.

The principal focus of mathematics teaching in Early Years involves providing children with opportunities to develop and improve their skills in counting, understanding and using number, calculating simple addition and subtraction problems and to describe shapes, spaces and measure.

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

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the 4 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. Pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should 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. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.

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. Pupils should 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.

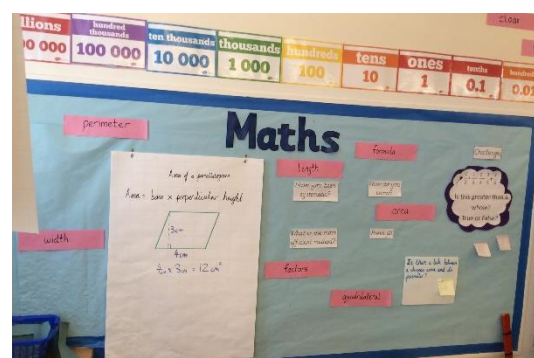
With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of year 6, pupils should be fluent in written methods for all 4 operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

To implement the offer, pupils are presented with a range of representations from the concrete, pictorial and abstract, in order for them to gain a thorough understanding of the concepts taught. The mastery approach is influential in the teaching of maths throughout the school, with pupils understanding being made deeper and more secure. Links across mathematical areas are encouraged to allow pupils to practice, rehearse and transfer knowledge and skills and apply them in a range of contexts.

Whole school events take place, such as My Money Week, and Barvember. Whenever possible, links are made to national events such as the Olympics and World Cup. When possible, Parents are invited in to school to take part in activities to support them with home learning.

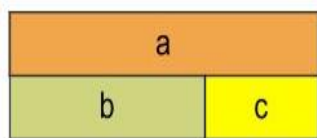
To secure the offer we feel our children deserve and better reflect what is captured in curriculum maps, we will work on the following as short term priorities:

- CPD to support representation and structure within the 5 Big Ideas
- Work with Archimedes Maths Hub – based around 5 bog ideas
- Resource audit and ordering of specific needs (place value counters, dice etc)
- Support NQT's in planning and delivering sequence of lessons
- Schofield and Sims internal enquiry.
- Maths event – whole school focus culminating in parental engagement around games and investigations.





### Using the bar model



The 'bar' is a **visual representation** of how the known and unknown quantities in a problem are related



### Jumping Frogs

There are 3 frogs sat at either side of the pond. How many jumps will they have to take in order for them to move to the other side?



Frogs can jump onto an empty lily pad that is next to them or jump over one frog onto an empty lily pad.

How many jumps will it take for all the frogs to swap places?

What is the least number of moves for 4 frogs?

What about 5 frogs?

Can you predict any number of frogs?