

Your child in Year 5

We want all of our children to develop excellent fluency, reasoning and problem solving skills so they become well rounded mathematicians.

Maths is taught as a discrete subject but is further developed through a range of opportunities and experiences across the curriculum. We would also encourage children to develop these skills at home so it important that families talk to their children about their learning in maths using vocabulary which is appropriate to Year 5.

At Thorns, we are developing a curriculum approach that is underpinned by Chris Quigley Essentials; in this way we aim to develop mastery and depth of learning, rather than a tick list approach. For this reason, you will notice that expectations for children look the same in years 1 & 2, years 3 & 4 and years 5 & 6. this is deliberate and does not mean that children do the same things in each of the two years, it simply means that thy will have opportunities to revisit learning and in this way develop it further.

Essential characteristics of mathematicians:

- An understanding of the important concepts and an ability to make connections within mathematics.
- A broad range of skills in using and applying mathematics.
- Fluent knowledge and recall of number facts and the number system.
- The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.
- The ability to think independently and to persevere when faced with challenges, showing a confidence of success.
- The ability to embrace the value of learning from mistakes and false starts.
- The ability to reason, generalise and make sense of solutions.
- Fluency in performing written and mental calculations and mathematical techniques.
- A wide range of mathematical vocabulary.
- A commitment to and passion for the subject.

The children will regularly be given opportunities to progress towards proficiency in the following objectives:

Essential learning objectives

- To know and use numbers
- To add and subtract
- To multiply and divide
- To use fractions

Essentials for progress: Milestone 3

To know and use numbers

- Read, write and compare numbers to at least 1,000,000 and determine the value of each digit.
- Count forwards or backwards in steps of 100, 1,000, or 10,000 for any given number up to 1,000,000.
- Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.
- Estimate the answer to to calculations involving the four operations.
- Read Roman numerals to 1,000(M) and recognise years written in Roman numerals.
- Round any number to a required degree.

To add and subtract

- Add and subtract whole numbers with up to 5 digits using formal written methods.
- Add and subtract mentally with large numbers.
- Add and subtract negative integers.
- See also: Multiplication and division for problems involving all four operations.

To multiply and divide

- Multiply 4 digit by 2 digit numbers using long multiplication.
- Divide 4 digit by 2 digit numbers using long division, giving remainders as whole numbers, fractions, decimals or by rounding.
- Mentally calculate using mixed operations and large numbers.
- Use estimation to check.
- Use context to decide whether an answer should be rounded, written as a fraction or decimal.
- Carry out operations in the correct order.
- Solve word problems using the four operations.

To use fractions

- Compare and order fractions with different denominators.
- Recognise mixed numbers and improper fractions and convert one from another.
- Add and subtract mixed fractions that exceed 1.
- Multiply proper fractions and mixed numbers by whole numbers.
- Read and write decimal numbers as fractions.
- Recognise decimal ‘bonds’ to 1 ($0.83 + 0.17 = 1$)
- Read, write and compare numbers with up to three decimal places.
- Recognise the per cent symbol % and understand its meaning.
- Write simple fractions as percentages.
- Add and subtract fractions with different denominators.
- Multiply simple unit fractions ($1/2 \times 1/3 = 1/6$).
- Multiply proper fractions ($2/3 \times 1/4 = 1/6$).
- Divide proper fractions by whole numbers ($2/3 \div 3 = 2/9$).
- Divide fractions to calculate a decimal fraction.
- Identify the value of each digit in a decimal fraction to three decimal places.
- Multiply and divide numbers up to three decimal places by 10, 100 and 1,000.
- Multiply and divide numbers up to two decimal places by 1 digit and 2 digit whole numbers.
- Use percentages for comparison and calculate percentages of whole numbers.
- Recall and use equivalences between fractions, decimals and percentages.
- Use ratio to show the relative sizes of two quantities.
- Recognise equivalent ratios and simplify a ratio to its lowest terms.
- Use the language associated with probability such as certain, equally likely, unlikely, impossible and use this to calculate the likelihood of events.
- Calculate the probability of events using correct notation.

In school, we will ensure that we take every opportunity to encourage the children to develop as mathematicians.

Essential opportunities - Key Stage 2

- Count and calculate in increasingly complex contexts, including those that cannot be experienced first hand.
- Rigorously apply mathematical knowledge across the curriculum, in particular in science, technology and computing.
- Deepen conceptual understanding of mathematics by frequent repetition and extension of key concepts in a range of engaging purposeful contexts.
- Explore numbers and place value so as to read and understand the value of all numbers.
- Add and subtract using efficient mental and formal written methods.
- Multiply and divide using efficient mental and formal written methods.
- Use the properties of shapes and angles in increasingly complex and practical contexts, including in construction and engineering contexts.

Please speak to your child's teacher if you have any questions or would like further help or advice.

Thorns Primary School

**Information for Parents:
NUMBER and
CALCULATIONS**

YEAR 5



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Please keep this reference guide safe as it gives you an overview of the curriculum coverage for your child's year group.