

## Your child in Year 4

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 4.

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 they 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 2

#### *To know and use numbers*

- *Read and write numbers to at least 10,000.*
- *Recognise place value in 4 digit numbers.*
- *Order and compare numbers up to 10,000.*
- *Count in multiples of 2, 3, 4, 5, 6, 7, 8, 9, 10, 25, 50, 100 and 1,000 from any given number.*
- *Round any number to the nearest 10 or 100.*
- *Read and write negative numbers and order and count through zero.*
- *Read Roman numerals to 100 and compare with the concept of place value and zero.*
- *Solve word problems that involve negative numbers and large positive numbers.*

#### *To add and subtract*

- *Use columnar addition and subtraction (decomposition) for up to 3 digit numbers.*
- *Mentally add and subtract (2-1 digits, 2-2 digits, 3-1, 2, 3 digits).*
- *Solve word problems including missing numbers.*
- *Add and subtract 4 digit numbers using formal written methods.*
- *Add and subtract numbers mentally including 2-3 digit numbers.*
- *Use the terms 'sum' and 'difference'.*
- *Estimate within a range.*
- *Use the inverse operation to check calculations.*

#### *To multiply and divide*

- *Know all x tables to 12 x 12.*
- *Mentally multiply and divide, including multiplying by 0 and dividing by 1.*
- *Multiply or divide 2 digit and 3 digit numbers by a single digit, including remainders.*
- *Recognise and use factor pairs within 144.*
- *Solve word problems including the four operations.*

### To use fractions

- Identify, name and write unit fractions to  $1/2$ .
- Compare and order unit fractions with the same denominator.
- Recognise fractions that are equivalent to 1 and pairs of fractions that add up to 1.
- Count up and down in 'tenths'.
- Know what the term 'tenths' means (dividing an object into 10 and a number by 10).
- Identify and name equivalent fractions with a denominator not greater than 12.
- Write the equivalent fraction of a fraction given the denominator or the numerator.
- Reduce fractions to their simplest form.
- Add and subtract two fractions with common denominators within one whole.
- Compare and order numbers to 2 decimal places.
- Find the effect of dividing 2 digit numbers by 10 and 100, identifying the value of digits as ones, tenths and hundredths.
- Recognise and write decimal equivalents to  $1/4$ ,  $1/2$ ,  $3/4$  and any number of tenths and hundredths.

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 4



Thorns Primary School  
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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.**