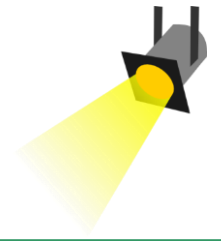


Spotlight on Maths



at Walnut Tree Walk

What do we want the children to achieve in Maths?

Maths is an essential skill to have in everyday life and it is a subject that is given high importance. Children receive daily maths lessons that focus on developing their confidence working with numbers, but also covering areas such as shape, space, measures and data handling.

We follow a Maths Mastery approach which broadly follows the White Rose scheme but with some adaptations including regular consolidation lessons of concepts taught previously. The main changes to the previous curriculum are that children spend much longer on a block or unit of teaching so that they can fully master that area of maths before moving on. The children spend a greater proportion of their learning time on the application of maths skills and deeper thinking.

Our intent:

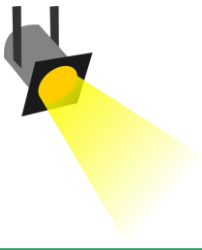
1. For children to independently progress through the maths mastery stages of calculate, apply and think in each lesson or sequence of lessons:
 - Calculate:** for children to establish a concrete understanding of each mathematical strategy.
 - Apply:** for children to have the confidence to apply each mathematical strategy when questions are presented in various ways.
 - Think:** for children to independently solve problems across a range of contexts and to share increasingly precise mathematical reasoning.
2. For the children to be able to justify mathematical reasoning through using appropriate mathematical vocabulary and terminology.
3. For children to confidently access practical and visual resources which support mathematical understanding.

What do maths lessons at Walnut Tree Walk look like?

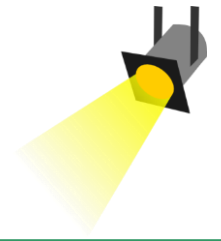
In Years 1 to 6, the children have a daily maths lesson of between 45 minutes to one hour, depending on their age. This normally takes place in the morning.

Lessons will often start with an opportunity for children to recall, practice and consolidate some of their previous learning (from yesterday/ earlier in the week, from previous units, or even from previous years). This is used as an assessment opportunity by teachers to inform what the content of their weekly consolidation lessons should be.

As mentioned above, we broadly follow the White Rose Maths Mastery approach. This has a real focus on depth of learning and ensuring that the children are really secure in their knowledge and



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understanding before they move on. Lessons typically involve a short whole class teacher input and then the majority of the time working independently or collaboratively on maths tasks. A typical lesson, or sequence of lessons, will involve most children going through three stages of learning.

The Stages of Each Maths Lesson or Sequence of Lessons (Year 1 to 6)

As mentioned earlier, we divide the learning into three key areas:

Calculate – this is where the children are given the opportunity to practise the skills being taught

Apply – this is where the children are given problems to solve in a variety of contexts, using the skills taught, giving pupils a richer and deeper learning experience. Pupils combine different concepts to solve complex problems, and apply knowledge to real-life situations.

Think – these questions require a deeper level of understanding and thought. Pupils explain the mathematics in full sentences. They should be able to say not just what the answer is, but how they know it's right. This is key to building mathematical language and reasoning skills.

Example of Year 2 'Think' questions:

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Think 4

Sam writes these statements about his pictogram:

- There were more cows than sheep.
- There were the same number of sheep and horses.
- There were more chickens than any other animal.
- There were less cows than goats.

Can you draw the pictogram, with a heading, so that Sam's statements are correct?

Animals	Pictogram
COW	5 blue circles
sheep	2 pink circles
goat	7 purple circles
horse	2 blue circles
chicken	10 yellow circles

0 = 1 animal

Think 2

Sometimes Always Never:
an odd number + an odd number = an odd number

Can you explain your reasoning?

Never because
 $5 + 5 = 10$ and
 $31 + 31 = 62$
 $25 + 25 = 50$

Think 3

I'm thinking of a number. If I add three to my number my answer is even.
My number is between 50 and 60.
What could my number be?

It could be 51, 53, 55, 57 or 59.

Amazing 😊

Think 1

6b. Jal wants to collect a total of 11 vertices. He says,

I need 2 rectangles and a triangle.

Is he correct? Explain how you know.

He is correct because
 $4 + 4 = 8$
 and $8 + 3 = 11$

Example of Year 5 'Think' questions

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Think!

Two children are ordering fractions. Who is correct?

Convince me.

$\frac{13}{5}$ $\frac{\square}{\square}$ $\frac{7}{5}$

Alex says,
The missing fraction could be $\frac{12}{7}$.

Kyra says,
The missing fraction could be $\frac{11}{7}$.

Handwritten calculations on grid paper:

$\frac{13}{5} \times 7 = \frac{91}{5}$	$\frac{7}{5} \times 7 = \frac{49}{5}$
$\frac{12}{7} \times 5 = \frac{60}{7}$	$\frac{11}{7} \times 5 = \frac{55}{7}$

Both of them are correct because both 60 and 55 can go between 91 and 49.

Example of Year 6 'Think' questions

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Think 4

Find the pairs of values that do not satisfy the equation:

$$\frac{a}{b} = 9$$

a	b
27	3
2	18
62	7

Explain your reasoning!

D There are two pairs that do not satisfy the question because 2 can't be divided by 18. 62 divided by 7 = 8.857 so therefore those are the answers.

Think 2

12.

What's the same? What's different?

Y	Y	Y	Y
48			

Y	Y	Y
48		

12 = 48 ÷ 3 = 16

There are similarities and differences. The similarity is that they both equal 48. The difference is that they have a different value. A=12 and B=16.

Ranjit collects marbles in jars.

He has the same number of marbles in each jar, and he has 120 marbles altogether.

FIRST

Write an equation for calculating the total number of marbles Ranjit owns if...

j = number of jars and m = amount of marbles



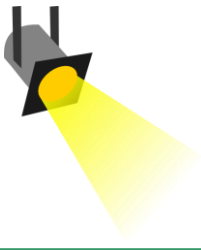
NOW

Find all the possible pairs of values for the number of jars and the number of marbles in each jar.

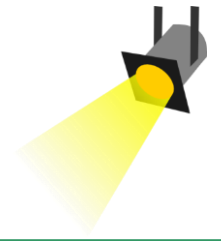
Maths in the Early Years

Children in the Early Years develop firm mathematical foundations in ways that are engaging and appropriate for their age. We recognise that a positive relationship with mathematics will encourage children to develop the thinking, reasoning and problem-solving skills needed to succeed throughout their time at school. We combine daily lessons, which are 10-15 minutes long, with an enabling mathematical environment that allows children to explore concepts independently. After each lesson, the teacher and TA will work with groups of 6 children to assess their level of understanding and provide personalised challenges. Each child will have one small group session with the teacher and one with their Teaching Assistant every week.

To prepare the children for Year 1-6, our teaching follows the principles of Maths Mastery. Children who learn a skill quickly are challenged to think in greater depth, rather than moving on to a new topic or simply working with bigger numbers. We know children have achieved mastery



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of a concept when they can explain their learning to us, so we ensure that they have lots of time to show off their developing mathematical vocabulary! As with all our teaching in the Early Years, we ensure maths is fun and practical with plenty of opportunities to use our voices.

How do we ensure that children are challenged?

It is expected that every child will master key concepts, whilst some will work more deeply on challenging tasks. Differentiation comes in a variety of ways. It might be through the amount of time children will spend using concrete resources to grasp concepts, for example. For higher attaining children, challenge is presented through more demanding problems, which deepen their knowledge of the same content. Some children may skip the calculate stage if they are showing a high level of understanding and confidence in the area of maths being studied, so that they can spend a greater amount of time on the more challenging apply and think questions which will aim to really stretch them. Further differentiation will be seen through targeted questioning, scaffolding and support as they work through problems. Depth of understanding and readiness for the next stage (whether it is the next lesson, next unit of work, year or key stage) is



prioritised, alongside high expectations of every child.