



Trinity Maths Curriculum

2022-23

We aim for children to be fluent, flexible, confident and creative mathematicians.

Our approach to primary school mathematics teaching and learning is that it should be about exploring, reasoning and challenging thinking.

How we organise and sequence our maths learning: We aim to have breath in our maths curriculum and will often exceed what is expected in the national curriculum.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value			Number: Addition and Subtraction				Number: Multiplication and Division				
Spring	Number: Multiplication and Division		Measurement: Money	Statistics		Measurement: Length and Perimeter			Number: Fractions		Consolidation	
Summer	Number: Fractions		Measurement: Time		Geometry: Properties of Shape		Measurement: Mass and Capacity				Consolidation	

Long Term Planning

We use unit planning. The White Rose schemes of learning are adapted to meet the needs of our children.

Unit Planning

For each unit, year groups use small steps set out on White Rose. Using their professional judgement and knowledge, teachers adapt and annotate the schemes of work for each block to meet the needs of their class.

During the teaching of these units, teachers are encouraged to use formative assessment to adapt the sequencing of these lessons if required.

Year 4 | Autumn term | Block 1 - Place value | Step 1

Represent numbers to 1,000



Notes and guidance

Children learned how to represent numbers to 1,000 in Year 3 – a concept that will be reinforced in this small step to ensure they have a sound understanding. This understanding will be important later in the block, as children begin to explore numbers over 1,000

Examples have been chosen to ensure that children look at representing and interpreting numbers that have no tens or no ones, to reinforce the idea of using zero as a placeholder. Base 10 and place value counters are used throughout. Base 10 can help children understand the size of a number, while place value counters are more efficient later in the block, when working with 4-digit numbers.

Things to look out for

- Children may write numbers incorrectly, for example 421 as 400201
- Children may not understand the place value of each digit in a number.
- Children may not use placeholders appropriately.
- Children may not recognise the value of a place value counter correctly, because different place value counters are identical in size.

Key questions

- What is the value of each base 10 piece?
- What is the value of each place value counter?
- How did you count the pieces?
- Does the order in which you build the number matter?
- Can you represent the number another way?
- What do you do if there are no tens?

Possible sentence stems

- There are _____ hundreds, _____ tens and _____ ones. The number is _____
- When a number has no _____, then we use _____ as a placeholder.

National Curriculum links

- Read and write numbers up to 1,000 in numerals and words (Y3)
- Identify, represent and estimate numbers using different representations

Skill: Add 1-digit numbers within 10 **Year: 1**

When adding numbers to 10, children can explore both aggregation and augmentation.

The part-whole model, discrete and continuous bar model, number shapes and ten frame support aggregation.

The combination bar model, ten frame, bead string and number track all support track all support augmentation.

Teaching and Modelling

The Concrete, Pictorial, Abstract approach (CPA) is at the core of our teaching to develop a deep and sustainable understanding of maths in pupils. The value of discussion is recognised and encouraged with teachers carefully planning this into their sessions. When modelling processes and thinking, teachers use paired worked examples effectively.

See our [Calculation Policy](#)

EYFS

The EYFS LTP is based on the current research and guidance from a number of sources including: the NCETM's 6 key areas of EYFS Maths (*Counting and cardinality (the 5ness of 5), composition (What is inside 5?), comparison (vital before calculating) and change, pattern, shape and spaces and measures*), White Rose (*including the 5 key areas for counting*), Gareth Metcalfe (*I see Maths*) and Number Sense.

Number Sense Maths

We deliver daily number sense sessions in Early Years and daily number facts sessions in Key Stage 1 and beyond through Number Sense Maths.

Number Sense Maths enables children to develop both a deep understanding of number and number relationships, and fluency in addition and subtraction facts.



Daily Arithmetic

This time gives pupils the chance to overlearn key skills which should become part of their long-term knowledge in the style of a low stakes quiz.

A. $8,874 \times ? = 8,874$	B. $1,518 \div 6 =$
C. $87.3 \div 10 =$	D. $41 + 30 =$
E. $83,328 - 76,397 =$	

Retrieval

Recall is an important aspect of our maths curriculum and we use Flashback 4 as a resource to do this.

Flashback 4 is a series of quick questions covering something from the previous lesson, last week and then topics from earlier in the year – maybe even last year!

Flashback 4 Year 3 | Week 7 | Day 1

1) How many tens are there in 100? **10 tens**

2) How many visitors were there all weekend?

Day	Number of visitors
Saturday	493
Sunday	413

906 visitors

3) Find the difference between £4 and 42p and £2 and 50p
£1 and 92p

4) What is 8×6 ? **48**

Reasoning & Problem Solving

Reasoning and Problem Solving opportunities are woven into all maths lessons. This takes the form of whole class discussions and is evident in practice tasks. We use resources such as 'I see reasoning', 'Convince me' cards and 'Rapid Reasoning'.

Q1 Look at the number sentences below.

$370 + \square = 770$

$531 + \square = 571$

$623 + \square = 627$

a Complete the three missing numbers. 1 mark

b Add the three missing numbers together. What is their total? 1 mark

Q2

A:	B:
$\begin{array}{r} 649 \\ + 215 \\ \hline 854 \end{array}$	$\begin{array}{r} 573 \\ + 296 \\ \hline 869 \end{array}$

Q3 **64p 36p 46p 14p 40p**

Tick the statement(s) that describes these calculations.

BOTH calculations are correct.

Calculation A is incorrect.

Calculation B is incorrect.

Show two ways to make £1 using these amounts.

Lesson Structure

KS1

Number Sense	Retrieval – <i>Flashback 4 WR</i>	New Learning	Hinge question	Practice Group and individual work
15 minutes	10 minutes	Approx - 40 minutes		

Year 3 - Follow KS1 structure until the end of Term 3 - Review.

Daily Arithmetic	Retrieval – <i>Flashback 4 WR</i>	New Learning	Hinge question	Practice Group and individual work
10 minutes	10 minutes	Approx - 40 minutes		

Learning Journeys - [See Guidance](#)

The ideas for our independent practice activities (learning journeys) are based upon the work of Emma McCrea from the book Making Every Maths Lesson Count, and Make It Stick: The Science of Successful Learning by Peter C Brown, Henry L Roediger and Mark A McDaniel.

Our goal, with practice is for students to achieve fluency by maximising depth and longevity, so they are able to calculate accurately (find correct solutions), efficiently (using the correct strategies) and flexibly (adapting strategy and transferring across contexts).

By depth, we mean that students move beyond procedures, building conceptual understanding and making links between mathematical concepts. If we can enable them to do this, they will be better able to reason and solve problems.

Teachers plan one main 'Learning Journey' for the majority of the class. There is then an activity plan for those who can't yet access the main journey due to a gap in understanding and an extension for those that are ready to go to a greater depth. Within this practice, we also use deliberate interruptions to boost longevity of learning by causing the children to retrieve within the practice session itself.

Feedback

Rationale

It is only when children make mistakes that learning becomes possible. The key purpose of feedback and marking is to promote learning. Feedback is an integral part of our assessment procedures. It enables us to:

- Use (errors) mistakes as a learning opportunity
- Challenge and deepen our mathematical thinking and understanding
- Celebrate different methods
- Inform planning and teaching next steps

Feedback Procedures

- Indicate with support or independent work
- All teachers go through any independent practice with the children during that lesson using purple pen
- LO and SC to be referred to at the beginning and end of every lesson

Consolidating Factual Fluency



The children can consolidate their understanding and factual fluency through **Numbots**, both at home and at school. All children in the school have access to this highly engaging platform.

Times **Tables Rockstars** is a platform all children can use in KS2 to further develop their speedy recall of multiplication and division facts. We also use Times Tables Rockstars to monitor and track factual fluency of multiplication and division facts.

Supporting children working significantly below

Our summative assessments help teachers identify children who are working significantly below ARE. These children then have tailored support and scaffolding within sessions. We use the Doodlemaths baselines to help identify specific gaps and as another means to monitor progress.



Working Walls

Working walls share key vocabulary and are a reference for recent and current concepts taught. They should include clear representations and models as well as key sentence stems.

