Friday 17ᵗʰ October 2025

Maths Parent workshop

Maths Lead: Mrs Tinson
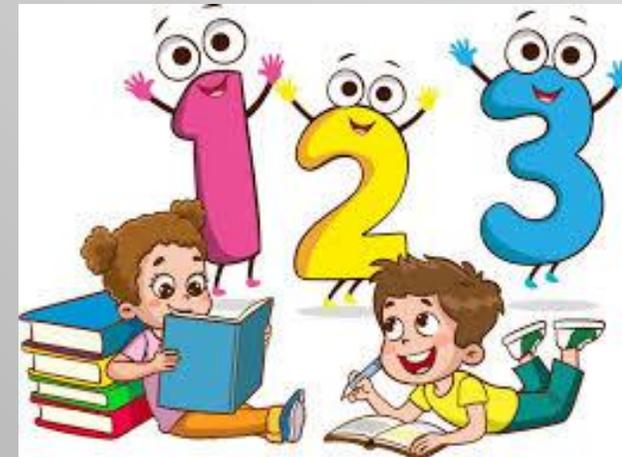
Maths at Red Oaks

- Teaching for mastery approach
- White Rose maths
- Mastering number/Number sense
- TTRS/Numbots
- Active maths/Orienteering
- 2 minute maths Pre-teach
- Cross trust competitions
- Method videos on Dojo
- Weekly homework in Y6
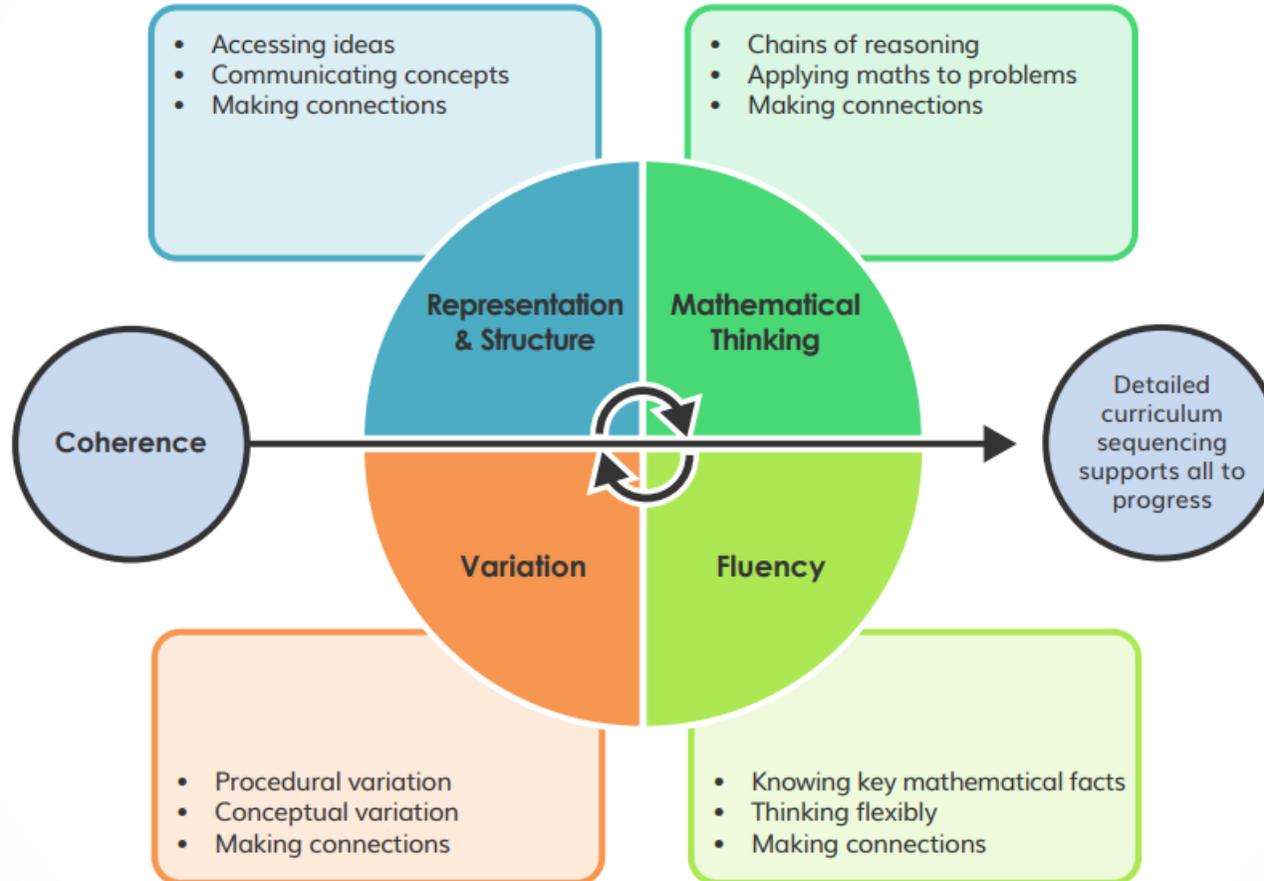- Multiplication check focus- Year 4

Teaching for mastery

- Mathematics teaching for mastery assumes everyone can learn and enjoy mathematics.
- At Red Oaks all children are known as Mathematicians

- Mathematical learning behaviours are developed such that pupils focus and engage fully as learners who reason and seek to make connections.
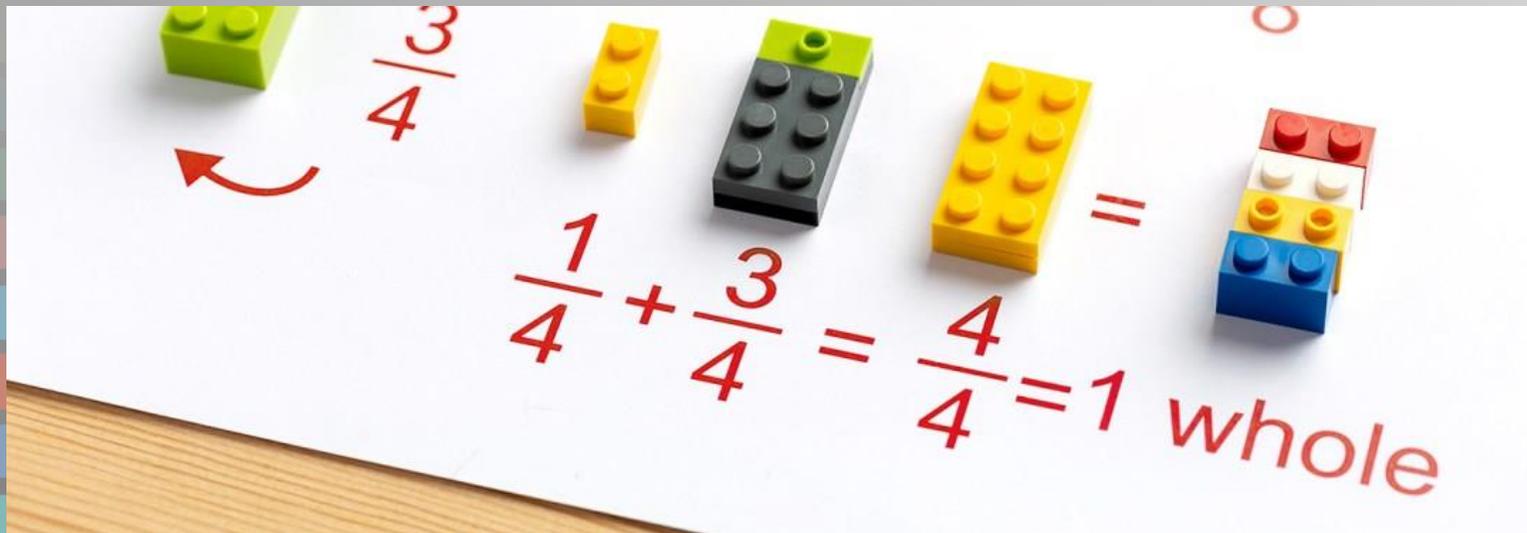
5 big ideas

Teaching for Mastery
Five Big Ideas

- Accessing ideas
- Communicating concepts
- Making connections

- Chains of reasoning
- Applying maths to problems
- Making connections

Coherence

Representation & Structure

Mathematical Thinking

Variation

Fluency

Detailed curriculum sequencing supports all to progress

- Procedural variation
- Conceptual variation
- Making connections

- Knowing key mathematical facts
- Thinking flexibly
- Making connections

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

•Lesson design links to prior learning to ensure all can access the new learning and identifies carefully-sequenced steps in progression to build secure understanding.

•Examples, representations and models are carefully selected to expose the structure of mathematical concepts and emphasise connections, enabling pupils to develop a deep knowledge of mathematics.
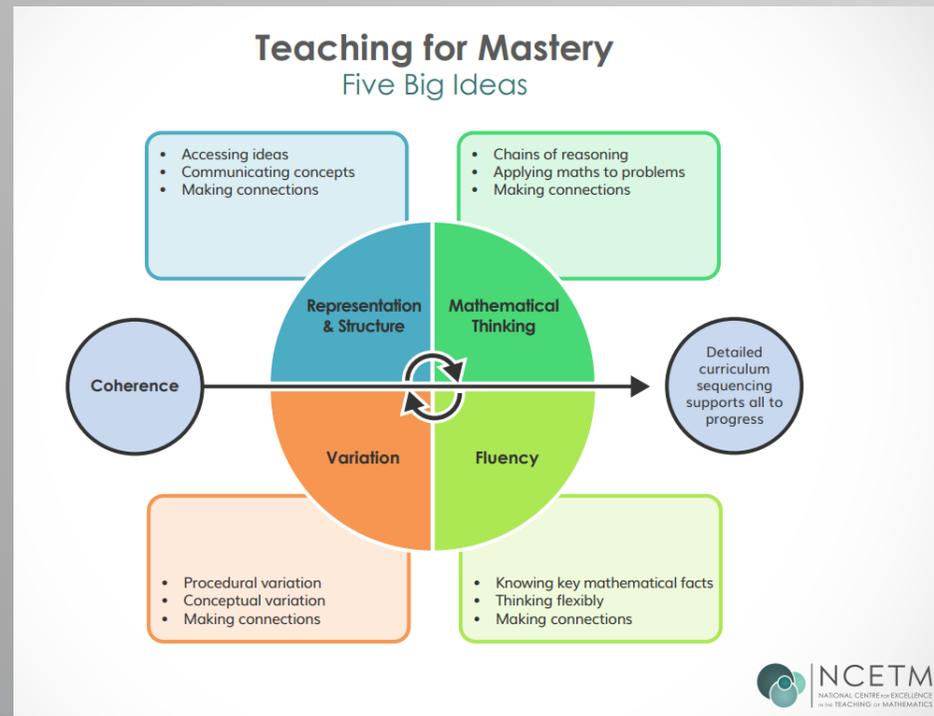
In the classroom

•Pupils are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.

•In a typical lesson, the teacher leads back-and-forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling pupils to think, reason and apply their knowledge to solve problems.

•Use of precise mathematical language enables all pupils to communicate their reasoning and thinking effectively.

•Significant time is spent developing deep understanding of the key ideas that are needed to underpin future learning.

In terms of the Five Big Ideas in teaching for mastery, coherence strongly links to variation, where learning is built in small but connected steps. This happens within a lesson, across lessons, and across years. It's not about one task that will support children's learning, but considering the sequence of tasks and the links that are made over time.

Teaching for Mastery
Five Big Ideas

- Accessing ideas
- Communicating concepts
- Making connections

- Chains of reasoning
- Applying maths to problems
- Making connections

Representation & Structure

Mathematical Thinking

Coherence

Detailed curriculum sequencing supports all to progress

Variation

Fluency

- Procedural variation
- Conceptual variation
- Making connections

- Knowing key mathematical facts
- Thinking flexibly
- Making connections

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

Maths at Red Oaks

- White Rose maths
- Mastering number/Number sense
- TTRS/Numbots
- Active maths/Orienteering
- 2 minute maths Pre-teach
- Cross trust competitions
- Method videos on Dojo
- Weekly homework in Y6
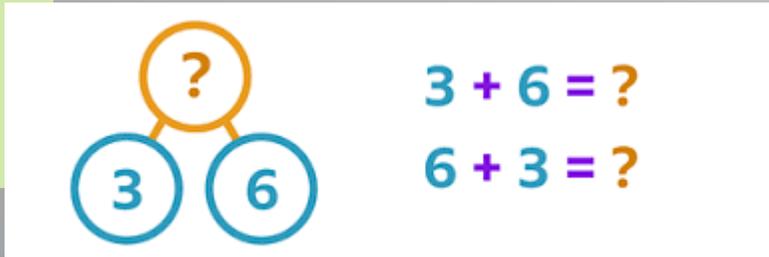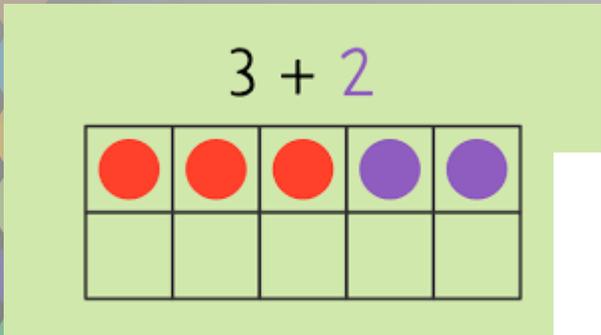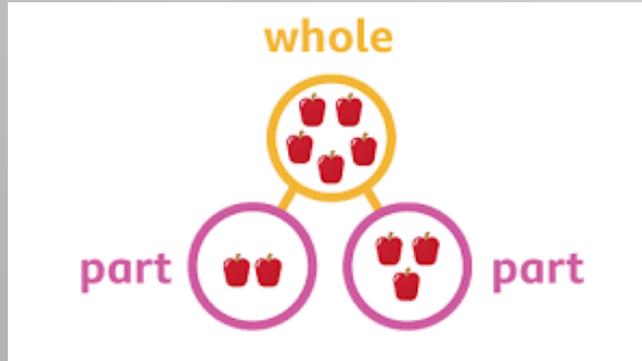- Multiplication check focus- Year 4
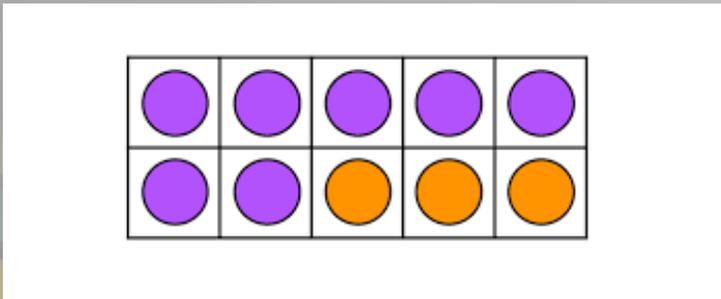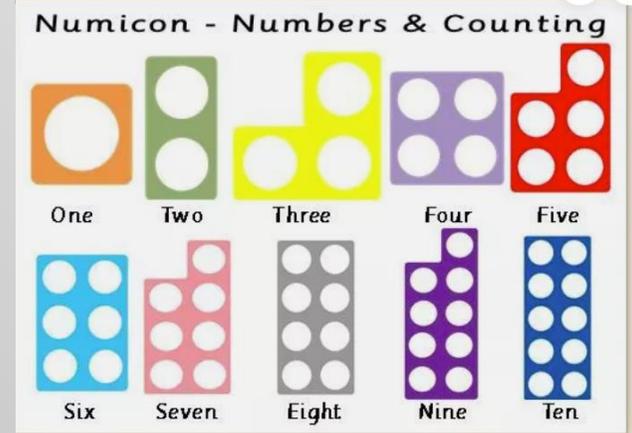
How we teach Maths at Red Oaks

- CPA approach- concrete, pictorial and abstract
- Facilitate this with the White Rose maths scheme of learning
- Focuses on representations, manipulatives to help and develop the children's understanding about the structure of the maths- this is the mastery approach

Using practical concrete resources to support their fluency and understanding

Numicon - Numbers & Counting

One Two Three Four Five
Six Seven Eight Nine Ten

3 + 2

whole

part   part

3 + 6 = ?
6 + 3 = ?

?
3   6

Whole
?
5   3
Part

The Park
Academies
Trust

White Rose maths says:

You'll notice that we spend lots of time building strong number skills in Key Stage 1, Key Stage 2 and early secondary years. These essential core skills lay a solid foundation for more complicated learning later on.

What does White Rose maths look like?

Blocks of learning

For each year group, the scheme of learning includes an overview of the maths that your child should be learning at any point in the year.

Each year is split into three terms (autumn, spring and summer), and each term comprises individual blocks of learning about a particular topic.

Reception

The Park Academies Trust

	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	Getting to know you		Match, sort and compare FREE TRIAL VIEW		Talk about measure and patterns VIEW		It's me 1, 2, 3 VIEW		Circles and triangles VIEW	1, 2, 3, 4, 5 VIEW		Shapes with 4 sides VIEW
Spring	Alive in 5 VIEW		Mass and capacity VIEW	Growing 6, 7, 8 VIEW		Length, height and time VIEW		Building 9 and 10 VIEW		Explore 3-D shapes VIEW		
Summer	To 20 and beyond VIEW		How many now? VIEW	Manipulate, compose and decompose VIEW		Sharing and grouping VIEW						

Year 1

	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 (within 10) FREE TRIAL VIEW					Number Addition and subtraction (within 10) VIEW					Geometry Shape VIEW	Consolidation
Spring	Number Place value (within 20) VIEW		Number Addition and subtraction (within 20) VIEW		Number Place value (within 50) VIEW		Measurement Length and height VIEW		Measurement Mass and volume VIEW			
Summer	Number Multiplication and division VIEW		Number Fractions VIEW		Geometry Position and direction	Number Place value (within 100) VIEW		Measurement Money VIEW	Measurement Time VIEW			Consolidation

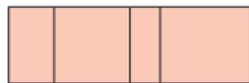So the Year 4 overview looks like the picture, and Autumn Block 2, for example, focuses on addition and subtraction.
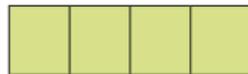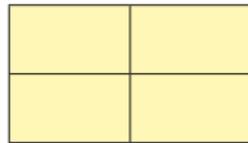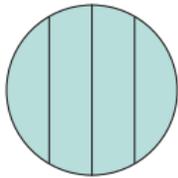
The 'small steps'
We've divided each block of knowledge into a series of small learning steps. Together, these small steps cover all the curriculum content that your child needs to know.

Brain science tells us that your child will remember more by learning maths in small, related chunks. We also used the best available research to map out the crucial learning steps that will help your child to understand what they are learning clearly.
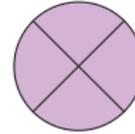
White Rose maths

Understand the whole

White Rose MATHS

1 Tick the shapes that show equal parts.
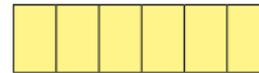

2 Complete the sentences for each shape.

a)

The whole is divided into ☐ equal parts.

Each part is worth $\frac{1}{☐}$

b)

The whole is divided into ☐ equal parts.

Each part is worth $\frac{1}{☐}$

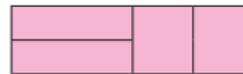c)

The whole is divided into ☐ equal parts.

Each part is worth $\frac{1}{☐}$

d)

The whole is divided into ☐ equal parts.

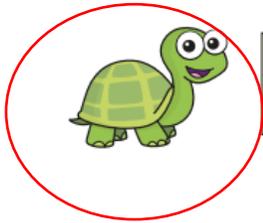Each part is worth $\frac{1}{☐}$

What do you notice about your answers?

White Rose maths

The Park Academies

3 Tiny is counting forwards in sixths.

$1\frac{4}{6}$ $1\frac{5}{6}$ $2\frac{1}{6}$ $2\frac{2}{6}$ $2\frac{3}{6}$

What mistake has Tiny made?

4 Complete the number tracks.

a)

| $\frac{6}{8}$ | $\frac{7}{8}$ | 1 | | | |

b)

| $1\frac{2}{5}$ | $1\frac{1}{5}$ | 1 | | | |

c)

| $1\frac{5}{9}$ | $1\frac{7}{9}$ | 2 | | | |

d)

| $3\frac{3}{5}$ | $3\frac{1}{5}$ | $2\frac{4}{5}$ | | | |

5 The grid is made up of three number tracks.

Work out the missing numbers.

| | | $3\frac{2}{5}$ | $3\frac{4}{5}$ |

$3\frac{1}{3}$

| 3 | | |

6 Dani is counting forward in $\frac{2}{9}$s from 3

Tom is counting backwards in $\frac{3}{9}$s from 5

a) What numbers will they both say?

_____

_____

b) How many integers less than 10 will Dani and Tom each say?

Dani ☐

Tom ☐

© White Rose Education 2022

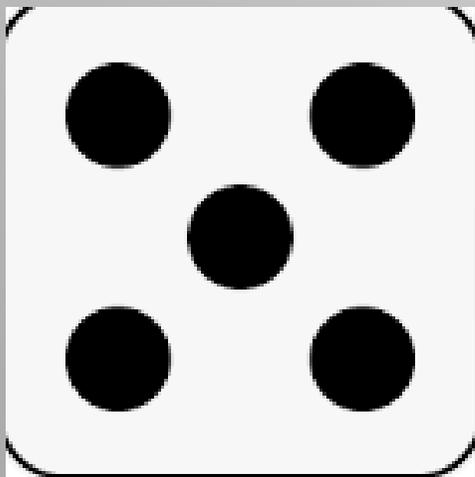# Helping your child with maths (it's more fun than you think!)

Many people think they "can't do maths", but with exciting new teaching approaches, we're proving day by day that every child really can love and succeed in maths! What's more, we want to make it as easy as possible for you to support your child's learning, so here are some helpful tips from our fantastic team.

Subitising

TALK - Oracy

Oracy is the ability to express your thoughts and ideas fluently through speech. In the maths classroom, it means children articulating their mathematical thinking and reasoning. Through discussion, children develop deeper understanding of the maths they are learning. Oracy is important in the maths classroom, as it gives children the chance to explore and verbalise their ideas, and to develop their thinking. It also gives teachers the chance to assess what children know and understand.

Get the free workbooks

Autumn Block 1

Place value (within 10)

Autumn Block 2

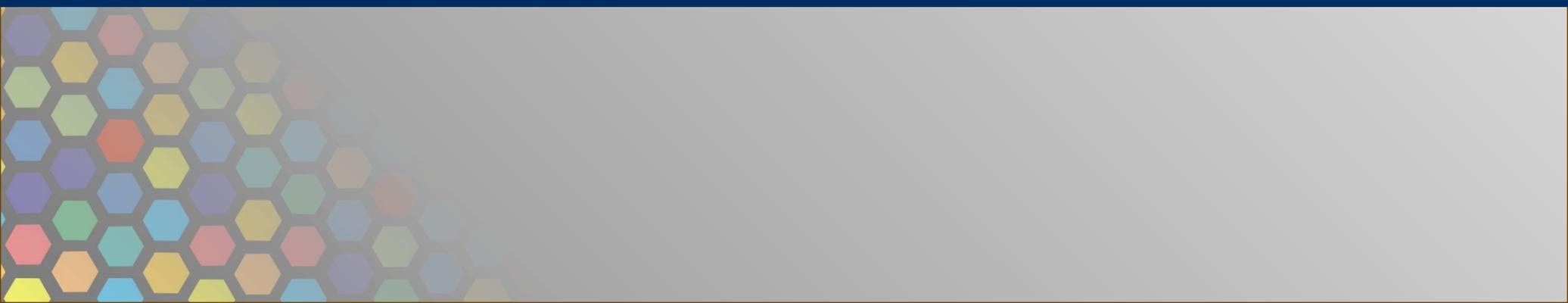**Addition and subtraction (within 10)**

Autumn Block 3

Shape

Autumn Block 4

Place value (within 20)

Spring Block 1

Addition and subtraction (within 20)

Support at home- how can you help?

White Rose EDUCATION

Oxford Owl is a FREE website built to support you with your child's learning. You'll find age-specific reading and maths tips and activities, free eBooks, and lots of fun ideas to really bring your child's learning to life.

https://home.oxfordowl.co.uk/maths/

www.oxfordowl.co.uk

The Park Academies Trust

RED OAK PRIMARY SCHOOL
Aspire Achieve

1-minute MATHS

- Subitising
- + Addition
- − Subtraction
- × Multiplication
- ÷ Division

TIMES TABLES ROCK STARS

NUMBOTS

Mastering number
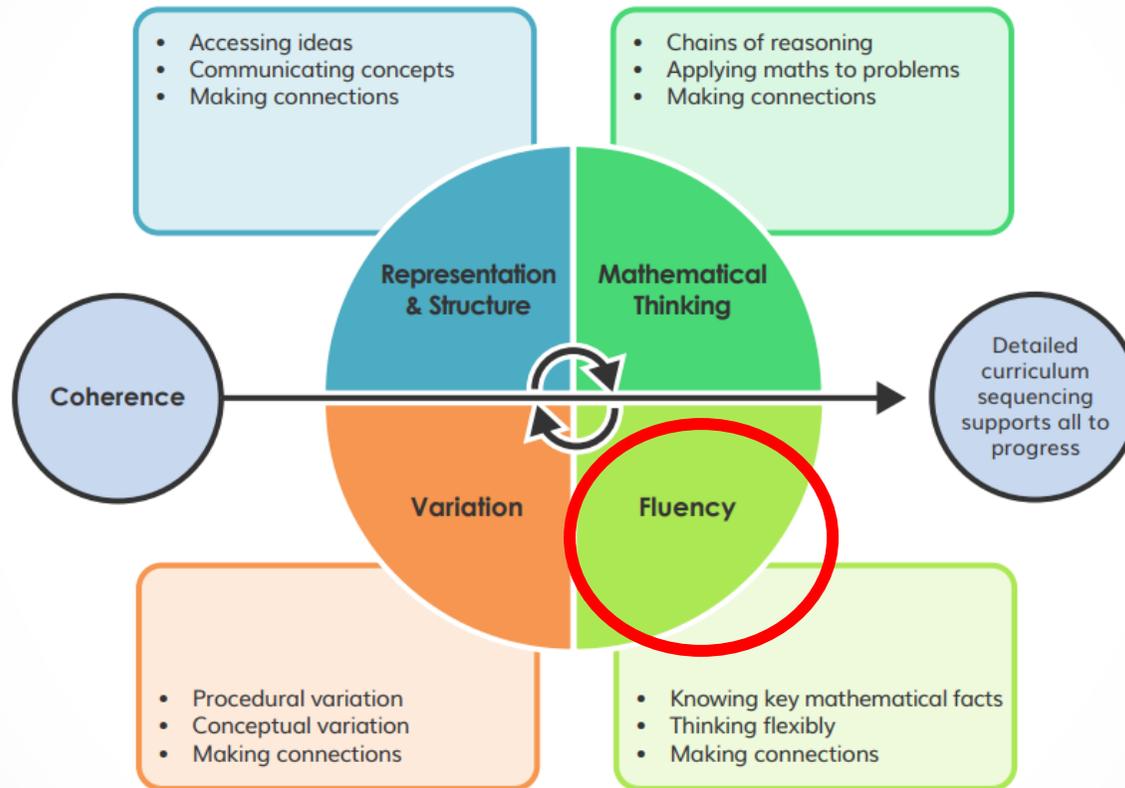
Mastering Number at Red Oaks Primary School

At Red Oaks Primary School we are actively participating in the NCETM Mastering Number Work Group.
Reception teacher leader:
Year 1 teacher leader:
Year 2 teacher leader:
Maths subject leader:

Over time through our Mastering Number sessions our pupils will:

- Develop fluency in calculation and a flexibility with number that exemplifies good number sense.
- Be able to clearly communicate their mathematical ideas.
- Make good progress towards the Early Learning Goals and Year Group Expectations
- Demonstrate a willingness to 'have a go'

FEATURES OF OUR MASTERING NUMBER SESSIONS

Our Mastering Number sessions

- are inclusive with all children securing the same learning point in an interactive and engaging manner.
- enable all children to develop number sense and secure core knowledge. This is similar to supporting pupils with phonics knowledge!
- are about accessible learning which enables all children to have a firm understanding.

For all of our pupils to develop depth in understanding we want all of our children to:

- become mathematically observant
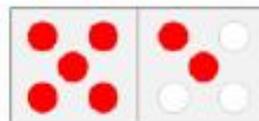- look for relationships
- explain their thinking

What you will see in some of our Mastering Number sessions

- Activities which are accessible and enable all children to become more confident and competent and are carefully linked to the content of the session.
- They are being supported to acquire key facts and skills they can use more efficiently which they will use in their maths lessons. These skills will be referred to and modelled in our maths lessons.
- Quick finishers will work on related / connected facts rather than challenge. This does not mean that our children are not challenged! They are focussed on the key learning.

Don't count.

Say the amount.

_7_ is made of 5 and _2_

NCETM
NATIONAL CENTRE for EXCELLENCE
in the TEACHING of MATHEMATICS

Principles underpinning Mastering Number at our school:

- Developing fluency makes more pupils better able to access the maths in the main lesson easier to learn for more pupils. We do this by making connections between Mastering Number sessions and main lessons.

- Developing our children's mindset to look for mathematical relationships will aid development and support connections We do this by drawing pupils' attention to the relationships so that they can connect with prior learning.

- Building confidence will enable more pupils to make progress We do this by focussing on enabling all pupils to really understand a small step in learning.

Our Mastering Number sessions include:

- A daily session of 10 to 15 minutes in addition to their daily maths lesson 4 times a week to pupils in YR, Y1 and Y2 These happen M, T, T, F
- We draw pupils' attention to the right part – important in terms of structure.
  This enables us to draw attention and focus on the key learning step for the session.
- We scaffold understanding by using different manipulatives to expose the same structures.
  This enables pupils to develop a more secure understanding of core mathematical structures. Seeing the same concept using a different manipulative often leads to pupils making their own connections thus deepening understanding.
- Conceptual variation - transfer the same mathematics
  When our pupils transfer their learning in a well thought out different context, they become confident and make connections in learning.
- Linking the action and the thought – manipulatives secure understanding but are then visualised.

Vocabulary progression

Place value

White Rose MATHS

Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
amount, backwards, collection, count, few, fewer (than), forwards, how many, largest, lot(s), more (than), number, numeral, same, smallest, subitise	after, before, different, represent, zero	compare, count on, digit, fewest, greater than, greatest, less than, most, one(s), order, partition, represent, ten(s), ordinal numbers (first, second, third, etc)	exchange, interval, least, multiple, value,	ascending, descending, hundred(s), part, whole	place holder, Roman, numeral, round, thousands	hundred, thousand(s), integer, negative number, millions, power of 10, ten thousand	ten million

Fraction, decimals and percentages

Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		equal parts, half, quarter, whole	numerator, denominator, equivalent, unit fraction, non-unit fraction, third, two-quarters, three-quarters	scale, compare, convert	decimal equivalent, decimal place, decimal point, hundredths, improper, fractions, mixed, numbers, proper fractions, round, tenths	common denominator, fractional part, percentage, thousandth	simplify, simplest form, recurring

Measure (mass, capacity and temperature)

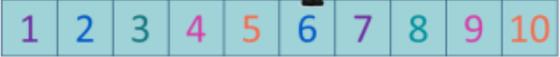| Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
big, bigger, large, little, small, smaller	balanced, balancing scales, empty, float, full, heavier, heaviest, heavy, least, less, light, lighter, lightest, mass, more, most, narrow, sink, tall, thin, weight, wide,	capacity, container, non-standard, volume	celsius, circular scales, degrees, grams, kilograms, litres, millilitres, temperature, thermometer	convert		cubic, centimetres, imperial metric, pints, pounds,	formula, gallon, ounces, tonnes

Addition

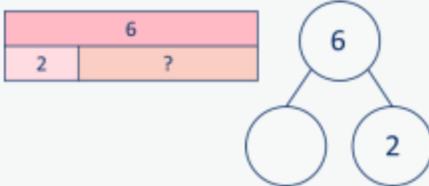| Nursery	• Begin to have an understanding of numbers to 5 • We recommend focusing on noticing and representing small quantities, perceptual subitising and counting.	
Progression of skills	**Key representations**	
Subitise to 3 Instantly see how many.	How many do you see?	
Count how many Begin to count objects using 1-1 correspondence.	How many are there? 1 2 3 4 5	Count out … from a larger group. E.g. Collect 3 beanbags for a game.
Make numbers to 5 Start by showing 1, 2 and 3 using fingers.	Show me…	Begin to link numerals to quantities.
Add 1 more Through stories, songs and rhymes.	How many do I have now?	

Calculation policy

Addition

Reception	• Have a deep understanding of numbers to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts.
Progression of skills	**Key representations**
Conceptually subitise to 5 Notice the parts that make up the whole.	What do you see? How do you see it?
1 more Continue to link to stories, songs and rhymes.	1 more than ... is ...
Notice the composition of numbers within 10 Link to stories, songs and rhymes.	How many...? How many...? How many altogether? How many ways can you make...?

©White Rose Education 2024

Addition

Progression of skills	Key representations		
Bonds within 10 Include bonds for each number within 10 Encourage children to notice patterns.	... is made of ... and ... ... and ... make ...	... can be partitioned into ... and ...	... plus ... is equal to ... $6 + 0 = 6$ $5 + 1 = 6$ $4 + 2 = 6$ $3 + 3 = 6$ $2 + 4 = 6$ $1 + 5 = 6$ $0 + 6 = 6$
Related facts within 20 Make links to known facts.	I know that ... and ... = ... so ... and ... = ...	... more than ... is ... so ... more than ... is ...	What patterns do you notice? $5 + 2 = 7$ $15 + 2 = 17$ $7 = 5 + 2$ $17 = 15 + 2$
Missing numbers Make links to known facts.	How many more do you need to make ...?	If ... is the whole and ... is a part, the other part must be...	... plus ... is equal to ... $2 + \square = 6$ $6 = 2 + \square$

Addition

Year 2	• Recall and use addition facts to 20 fluently, and derive and use related facts up to 100
	• Add numbers using concrete objects, pictorial representations, and mentally, including:
	• a two-digit number and 1s
	• a two-digit number and 10s
	• 2 two-digit numbers
	• adding 3 one-digit numbers
	• Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Progression of skills	Key representations		
Add ones to any number (related facts) Make links to known facts.	I know that … and … = … so … and … = … 	… more than … is … so … more than … is … 	What do you notice? Can you continue the pattern? $5 + 2 = 7$ $15 + 2 = 17$ $25 + 2 = 27…$
Add three 1-digit numbers Prompt children to understand that addition can be done in any order and to make links to known facts.	… and … are a bond to 10 $10 + … = …$ 	Double … + … = … 	What do you notice? Which addition is the easiest to calculate? $8 + 9 + 1 =$ $8 + 1 + 9 =$ $9 + 1 + 8 =$

	• Add numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds.
	• Add numbers with up to three digits, using formal written methods of columnar addition.
	• Add fractions with the same denominator within 1 whole.
	• Calculate the time taken by particular events or tasks.

Progression of skills	Key representations		
Add 1s, 10s or 100s to a 3-digit number Emphasis on mental strategies including number bonds and related facts. Prompt children to notice which digit changes.	The ones/tens/hundreds column will increase by … $444 + 5 =$ $444 + 50 =$ $444 + 500 =$	 $777 + 2 =$ $777 + 20 =$ $777 + 200 =$	What patterns do you notice? $235 + 3 =$ $235 + 30 =$ $235 + 300 =$ $604 + 20 =$ $604 + 50 =$ $604 + 90 =$ $111 + \boxed{} = 118$ $111 + \boxed{} = 181$ $111 + \boxed{} = 811$
Add two numbers (no exchange) Mental strategies and introduction of formal written method.	… ones + … ones = … ones … tens + … tens = … tens … hundreds + … hundreds = … hundreds 		

The Park Academies Trust

Addition

The Park Academies Trust

Year 4	• Add numbers with up to 4 digits using a formal written method. • Solve simple measure and money problems involving fractions and decimals to 2 decimal places. • Add fractions with the same denominator.
Progression of skills	**Key representations**

| **Add 1s, 10s and 100s to a 4-digit number**

Emphasis on mental strategies including number bonds and related facts. Prompt children to notice which digit changes. | The ones/tens/hundreds/thousands column will increase by …

| Thousands | Hundreds | Tens | Ones |
1,000 1,000 1,000	100 100 100 100	10 10	1 1 1 1 1 1 1 | $3,425 + 3 =$ $3,425 + 300 =$ $3,425 + 30 =$ $3,425 + 3,000 =$	What patterns do you notice? $2,350 + 3 =$ $2,350 + 30 =$ $2,350 + 300 =$ $2,350 + 3,000 =$ $6,040 + 200 =$ $6,040 + 500 =$ $2,211 + \boxed{} = 2,251$ $6,040 + 900 =$ $2,211 + \boxed{} = 2,215$ $2,211 + \boxed{} = 2,511$

Add up to two 4-digit numbers Formal written method with up to 3 exchanges. Encourage children to estimate and use inverse operations to check answers to calculations.	There are … ones/tens/hundreds so I do/do not need to make an exchange. I can exchange 10 … for 1 …

Addition

Year 5	• Add whole numbers with more than 4 digits, including using formal written methods. • Add numbers mentally with increasingly large numbers. • Add decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 • Add fractions with the same denominator, and denominators that are multiples of the same number.
Progression of skills	**Key representations**

Add using mental strategies Add 1s, 10s, 100s, etc. to any number. Use number bonds and related facts.	$48,650 + 300 =$ $48,650 + 30,000 =$ $48,650 + 30 =$	To add …, I can add … then subtract … $+100$ $+99$ -1 6,458 6,557 6,558

Add whole numbers with more than 4 digits Encourage children to estimate and use inverse operations to check answers to calculations.	I can exchange 10 … for 1 … 2 6 5 7 4 + 1 6 2 3 1 4 2 8 0 5 4 2 8 0 5	

Addition

Year 6	• Add larger numbers, using the formal written method of columnar addition. • Use their knowledge of the order of operations to carry out calculations involving the 4 operations. • Calculate intervals across zero. • Add fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
Progression of skills	**Key representations**
Add integers up to 10 million Encourage children to estimate and use inverse operations to check answers to calculations.	
Add decimals with up to 3 decimal places Progress to numbers with digits in different place value columns. Encourage children to check that they have lined up the columns correctly.	I do/do not need to make an exchange because …

Look out for all this on the new school website

Any questions always ask- we are here to work with you as a team

Next year in 2026 another workshop involving working with your child- date to be confirmed and will be sent out