MATHS

Mr Rawlinson

Year 4 & Maths Co-ordinator

AGENDA

Skills to practise at home

Mastery

The National Curriculum (the four operations)

Resources

What do we want?

SKILLS TO PRACTISE AT HOME

Time

Money

Rulers

Cutting out

Multiplication Tables

Number Bonds

“Real life”

Positive attitude!

MASTERY

FLUENCY

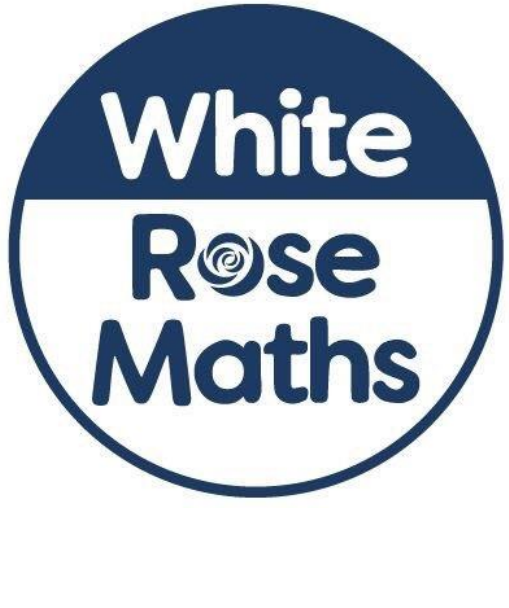
- Solving calculations efficiently

REASONING

- Applying what they know

PROBLEM SOLVING

- Linking learning



WHITE ROSE MATHS

What it is not:

- Learning only one particular method
- Long lists of repeated calculations
- Making things harder by using bigger numbers
- A few word problems after lots of simple calculations
- The better mathematicians do the harder questions

What it is:

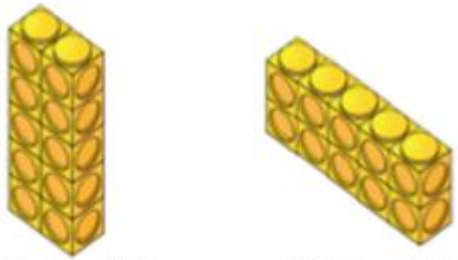
- Using resources without stigma
- Based on a solid understanding of number and place value
- Learning methods that solve calculations efficiently
- Applying learning to a range of contexts
- Seeing problems in a range of different ways
- Being able to discuss, defend and explain your answers

WHITE ROSE MATHS

Concrete

Use arrays to illustrate commutativity counters and other objects can also be used.

$2 \times 5 = 5 \times 2$



2 lots of 5

5 lots of 2

Pictorial

Abstract

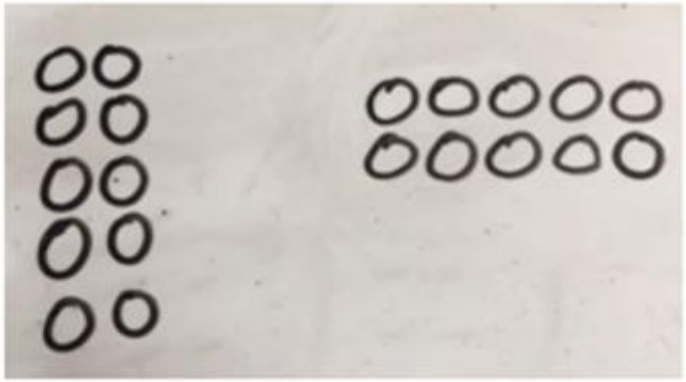
WHITE ROSE MATHS

Concrete

Pictorial

Abstract

Children to represent the arrays pictorially.



WHITE ROSE MATHS

Concrete

Pictorial

Children to be able to use an array to write a range of calculations e.g.

$10 = 2 \times 5$
$5 \times 2 = 10$
$2 + 2 + 2 + 2 + 2 = 10$
$10 = 5 + 5$

Abstract

WHITE ROSE MATHS

I can add numbers with up to four digits using formal column methods

- Use counters and a place value grid to calculate 242 + 213
- Use counters and a place value grid to calculate 3,242 + 2,213

1,000s	100s	10s	1s
			
			

Now calculate 3,242 + 213 in the same way.
What is the same and what is different?

I can add numbers with up to four digits using formal column methods

- Work out the missing numbers.

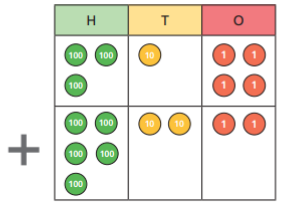
	Th	H	T	O
	4	___	6	___
+	2	5	___	1
	___	7	8	9

WHITE ROSE MATHS

Add two 4-digit numbers – no exchange

1 Calculate 314 + 522

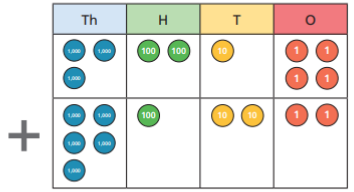
Use the place value chart to help you.



314 + 522 = ☐

2 **a)** Calculate 3,214 + 5,122

Use the place value chart to help you.



3,214 + 5,122 = ☐

b) Now calculate 3,214 + 122 in the same way.

3,214 + 122 = ☐

c) What do you notice about your answers to part a) and part b)?

3 Complete the calculations.

a) 4,122 + 2,605 = ☐

b) 3,709 + 4,160 = ☐

c) 247 + 1,032 = ☐

d) 3,007 + 560 = ☐

4 Alex is calculating 5,702 + 125

		Th	H	T	O	
		5	7	0	2	
	+	1	2	5		
		6	9	5	2	

Do you agree with Alex? _____

Explain your answer.

_____

_____

Complete the calculation.

5,702 + 125 = ☐

he distance from Scotland to France is 1,550 km.

he distance from France to Spain is 1,002 km.

eddy is travelling from Scotland to France and then rance to Spain.

ow far will he travel in total?

hitney and Jack are playing a game.

hitney has 1,323 points.

ck has 230 points more than Whitney.

ow many points do they have altogether?

7 Fill in the missing digits.

		Th	H	T	O	
		3	☐	2	☐	
	+	☐	4	☐	6	
		8	7	9	6	

8 Complete the calculation.

2,415 + 5,142 = ☐

What do you notice about the numbers in the question?

How does this affect the answer?

_____

_____

Think of some more calculations like this.

Try them out with a partner.

WHITE ROSE MATHS

Explain your answer.

How do you know?

Convince me.

Why?

What do you notice about…

What links…

I know this is true because…

The thing I noticed was…

I realised this couldn’t be right because…

When I saw this it made me think about…

I already knew… so this helped me work out…

THE NATIONAL CURRICULUM

	EYFS/Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition	Combine two parts to make a whole (part-part-whole model) Start at the bigger number and count on using cubes Re-group to make 10 using tens frame	Add three single digits Use Base 10 to combine two numbers	Column method (re-grouping) Use place value counters (up to three digits)	Column method (re-grouping) Use place value counters (up to four digits)	Column method (re-grouping) Use place value counters (adding decimals)	Column method (re-grouping) Use place value counters (adding decimals) Abstract methods
Subtraction	Take away ones Count back Find the difference Part-part-whole model Make 10 using tens frame	Count back Find the difference Part-part-whole model Make 10 Use Base 10	Column method (re-grouping) Use place value counters (up to three digits)	Column method (re-grouping) Use place value counters (up to four digits)	Column method (re-grouping) Start using place value counters (subtracting decimals with same number of decimal places) Abstract method for integers	Column method (re-grouping) Start using place value counters (subtracting decimals with different number of decimal places) Abstract methods

THE NATIONAL CURRICULUM

	EYFS/Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication	Recognise and make equal groups Doubling Count in multiples Use manipulatives	Arrays showing commutative multiplication	Arrays Two digits x one digit (using Base 10)	Column method (using place value counters) Two digits x one digit Three digits x one digit	Column method Abstract	Column method Abstract (up to four digits x 2 digits)
Division	Share objects into groups Division as grouping Use manipulatives	Division as grouping Division with arrays (linking to multiplication) Repeated subtraction	Division with a remainder (using manipulatives, multiplication facts and repeated subtraction) Two digits ÷ one digit (using manipulatives)	Division with a remainder Short division (up to three digits ÷ one digit concrete and pictorial)	Short division (up to four digits ÷ 1 digit including remainders)	Short division Long division (with manipulatives up to four digits ÷ 2 digits) Include exchange into tenths and hundredths columns

RESOURCES

Hit the Button

Topmarks Maths

Maths 3-5/4-6 (apps)

Y2+ Times Tables Rock Stars

WHAT DO WE WANT?

To create mathematicians who don’t just do maths but understand it.

Confident
Fluent
Resilient
Independent
Accurate

THANK YOU