




# Maths Learning Organiser





## Year 3



 <b>Yearly Progression:</b>	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
	Number: Place Value  Number: Addition and Subtraction	Number: Addition and Subtraction  Number: Multiplication and Division A	Number: Multiplication and Division B  Measurement: Length & Perimeter	Number: Fractions A  Measurement: Mass & Capacity  Assess and teach learning gaps	Number: Fractions B  Measurement: Money  Measurement: Time	Geometry: Shape  Statistics  Consolidate

<b>Home Learning:</b>		<p><b>To find out home to access the Home Learning section from, please watch our <a href="#">YouTube</a> video link.</b>                  Home learning lessons follow the White Rose, Lesson by Lesson Progression like in school. Please click below to see,  <a href="https://whiterosemaths.com/resources/primary-resources/primary-sols/">https://whiterosemaths.com/resources/primary-resources/primary-sols/</a></p> <p>For weekly home learning please click the link below, and then chose the correct unit of work for the term.  <a href="https://whiterosemaths.com/homelearning/year-3/">https://whiterosemaths.com/homelearning/year-3/</a></p>	
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| <b>Links to Wider Curriculum:</b> | <ul style="list-style-type: none"> <li>• Geography/ Science- Statistics</li> <li>• Real-life problems (science, geography, design and technology) – Fractions</li> </ul> |
|-----------------------------------|--|

<b>Number Talk Key Skills</b>	<p style="text-align: center;"><u>Instigator</u></p>  <p>I think ..... because                  I know that ...                  I noticed .....                  Today, we are talking about...</p>	<p style="text-align: center;"><u>Contributor</u></p>  <p>I agree/disagree with ... because...                  I like your idea but....</p>	<p style="text-align: center;"><u>Prober</u></p>  <p>What do you think ....?                  I think differently because...</p>	<p style="text-align: center;"><u>Summariser</u></p>  <p>We talked about....                  We found that...                  We agreed that....</p>	<p>Facts for free- making links between number facts and number bonds.                  Draw on simple conclusions from understanding of work.                  Predict what might come next.                  Use manipulatives and images to explain and give reasons.                  Justify using work examples.</p>
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# Number, Addition and Subtraction

## National Curriculum Objectives

- Add and subtract numbers mentally, including:
  - a three-digit number and 1s
  - a three-digit number and 10s
  - a three-digit number and 100s
- Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction
- Estimate the answer to a calculation and use inverse operations to check answers
- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

## Teaching Spine



**1.17 Composition and calculation: 100 and bridging 100**

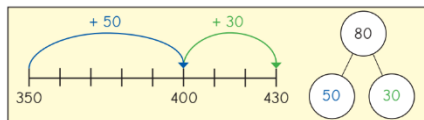
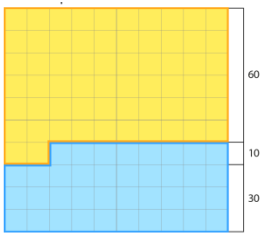
**1.18 Composition and calculation: three-digit numbers**

**1.19 Securing mental strategies: calculation up to 999**

**1.20 Algorithms: column addition**

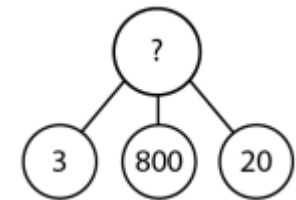
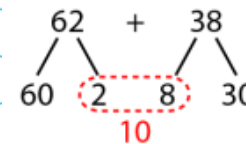
**1.21 Algorithms: column subtraction**

## Efficient Methods that we will use... (Please see calculation policy)



	H	T	O
	1	0	7
+	4	0	1
<hr/>			

	H	T	O
	7	6	9
-	1	4	7
<hr/>			



## Examples of Greater Depth

'Flo and Jim are answering a problem: Danny has read 62 pages of the class book, Jack has read 43. How many more pages has Danny read than Jack? Flo does the calculation  $62 + 43$ . Jim does the calculation  $62 - 43$ . Who is correct? Explain how you know.'

'For positive integers are the following statements always, sometimes or never true? The sum of 2 odd numbers is even. The sum of 3 odd numbers is even. Adding 5 to a number ending in 6 will sum to a number ending in 1. Adding 8 to a number ending in 2 will always sum to a multiple of 10. Explain why in each case.'

## Images

Hundreds	Tens	Ones

Hundreds	Tens	Ones

Hundreds	Tens	Ones

# Number: Multiplication and Division

## National Curriculum Objectives

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

## Teaching Spine



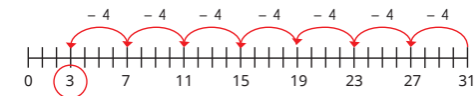
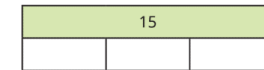
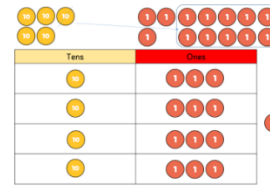
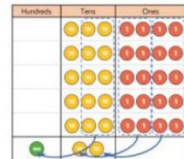
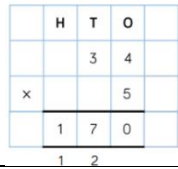
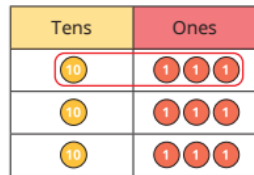
Year 3

**2.7 Times tables: 2, 4 and 8, and the relationship between them**

**2.8 Times tables: 3, 6 and 9, and the relationship between them**

**2.9 Times tables: 7 and patterns within/across times tables**

## Efficient Methods that we will use...(Please see calculation policy)



## Examples of Greater Depth

'Roger has 96 patio slabs. Using all of the slabs find three different ways that he can arrange the slabs to form a rectangular patio.'

Sophie and Ravi have saved some money. Altogether they have saved £35.

'What is the relationship between these calculations?  $2 \times 3$   $4 \times 3$   $2 \times 30$   $4 \times 30$   $20 \times 3$   $40 \times 3$   $20 \times 3 \times 10$   $40 \times 3 \times 10$  Children should use their knowledge of place value to mentally calculate by multiples of 10.'

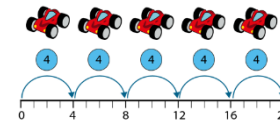
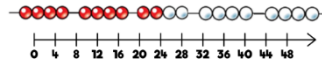
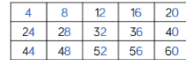
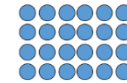
Sophie has saved £4 more than Ravi.

How much have they each saved? Sam and Tom share this money equally. Divide the coins into two equal groups.

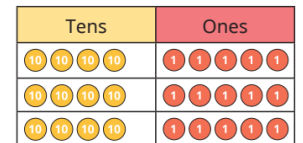
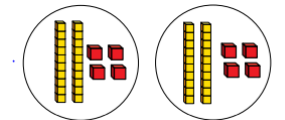
Could three friends share the money equally? Explain your reasoning.



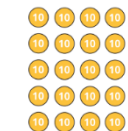
## Important Images...



There are 20 wheels.  
 $5 \times 4 = 20$   
 $4 \times 5 = 20$



$\times 4 =$



$\times 40 =$

# Fractions

## National Curriculum Objectives

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example,  $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ ]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above

## Teaching Spine



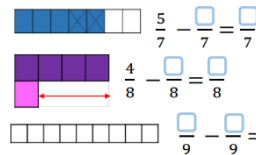
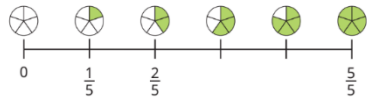
**3.1 Preparing for fractions: the part-whole relationship**

**3.2 Unit fractions: identifying, representing and comparing**

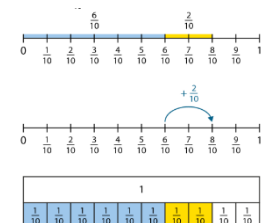
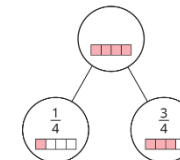
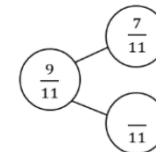
**3.3 Non-unit fractions: identifying, representing and comparing**

**3.4 Adding and subtracting within one whole**

## Efficient Methods that we will use...



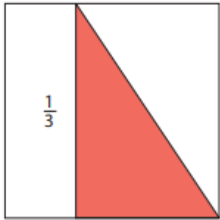
$$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$$



## Examples of Greater Depth

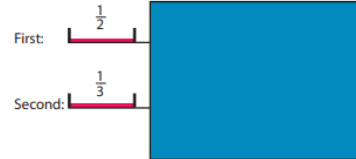
What fraction of the square is shaded?

Explain your reasoning.

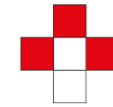
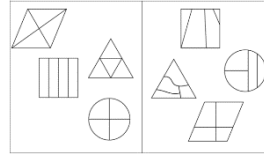


Only a fraction of each line is shown. The rest is hidden behind the blue screen. Explain your reasoning.

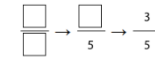
Explain your reasoning.



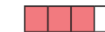
## Important Images



*'The whole has been divided into five equal parts.'*  
*'Three of the parts have been shaded.'*



What fraction of each bar model is shaded?



How do you know?

## Precision Maths:

1, 10, 100 more or less

Adding and subtracting ones to a 3-digit number

Doubles and Halves

Doubles and Halves

Adding and subtracting multiples of 10

Time – o'clock, half past, quarter past and quarter to

Bonds to 10, 20, 100

Recognising 3 digit numbers

Finding 1, 10 and 100 more or less

Bridging through 10 and 100

Counting backwards in 1s (141, 140, 139) and 10s (e.g. 454, 444, 434)

3 and 4 times tables

Understand the concept of tenths as fractions and as decimals.