
















Maths Learning Organiser

Year 4



 <p>Yearly Progression:</p>	<p>Autumn 1</p> <p>Number: Place Value</p> <p>Number: Addition and Subtraction</p>	<p>Autumn 2</p> <p>Measurement: Area</p> <p>Number: Multiplication and Division A</p>	<p>Spring 1</p> <p>Number: Multiplication and division B</p> <p>Measurement: Length and Perimeter</p>	<p>Spring 2</p> <p>Number: Fractions</p> <p>Number: Decimals A</p>	<p>Summer 1</p> <p>Number: Decimals B</p> <p>Measurement: Money</p> <p>Measurement: Time</p>	<p>Summer 2</p> <p>Geometry: Shapes</p> <p>Statistics</p> <p>Geometry: Position and direction</p>			
<p>Home Learning:</p>		<p>To find out home to access the Home Learning section from, please watch our YouTube video link.</p> <p>Home learning lessons follow the White Rose, Lesson by Lesson Progression like in school. Please click below to see, https://whiterosemaths.com/resources/primary-resources/primary-sols/</p> <p>For weekly home learning please click the link below, and then chose the correct unit of work for the term.</p> <p>https://whiterosemaths.com/homelearning/year-4/</p> 							
<p>Links to Wider Curriculum</p>	<p>Science - linking with outside space to generate graphs and data, quadrat sampling. (Pictograms/ Ven diagrams/ Bar charts) Using thermometers for reading negative numbers for temperature</p> <p>Use of the outside space to find the perimeter and area of a section of land e.g., how would we calculate the amount of fencing needed to enclose our playground.</p> <p>Geography – use of the David Weatherly Geography and History question stems.</p> <p>Art – using geometric shapes, tessellations, rotations, and reflections and repeating patterns.</p> <p>Music – calculating how many beats relate to a specific note e.g., quaver (half a beat), crochet (1beat)</p>								
<p>Number Talk Key Skills</p>	<table border="0"> <tr> <td data-bbox="322 812 613 1383"> <p><u>Instigator</u></p>  <p>I think because</p> <p>I know that</p> <p>I noticed</p> <p>Today, we are talking about...</p> </td> <td data-bbox="613 812 943 1383"> <p><u>Contributor</u></p>  <p>I agree/disagree with ... because...</p> <p>I like your idea but....</p> </td> <td data-bbox="943 812 1205 1383"> <p><u>Prober</u></p>  <p>What do you think</p> <p>I think differently because...</p> </td> <td data-bbox="1205 812 1480 1383"> <p><u>Summariser</u></p>  <p>We talked about....</p> <p>We found that....</p> <p>We agreed that....</p> </td> </tr> </table>				<p><u>Instigator</u></p>  <p>I think because</p> <p>I know that</p> <p>I noticed</p> <p>Today, we are talking about...</p>	<p><u>Contributor</u></p>  <p>I agree/disagree with ... because...</p> <p>I like your idea but....</p>	<p><u>Prober</u></p>  <p>What do you think</p> <p>I think differently because...</p>	<p><u>Summariser</u></p>  <p>We talked about....</p> <p>We found that....</p> <p>We agreed that....</p>	<p>Facts for free- making links between number facts and number bonds.</p> <p>Draw on simple conclusions from understanding of work.</p> <p>Predict what might come next.</p> <p>Use manipulatives and images to explain and give reasons.</p> <p>Justify using work examples.</p> <p>What went well? Even better if...</p> <p>Use and choose suitable manipulatives and visual representatives including the bar model.</p>
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Number: Addition and Subtraction

National Curriculum

- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Teaching Spine

- 1.22 – Composition and calculation: 1000 and four-digit numbers
- 1.23 Composition and calculation: tenths
- 1.24 Composition and calculation: hundredths and thousandths
- 1.25 Addition and subtraction: money



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

Column addition and column subtraction. Finding the difference. Mental calculations using number lines.

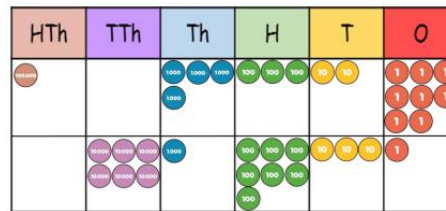


$$\begin{array}{r} 652 \\ - 207 \\ \hline 445 \end{array}$$

1,378

2,148

?

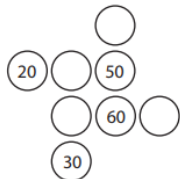


1	0	4	3	2	8
+	6	1	7	3	1
1	6	6	0	5	9

1

Examples of Greater Depth...

Complete this diagram so that the three numbers in each row and column add up to 140.



Now create your own diagram with a total of 250.

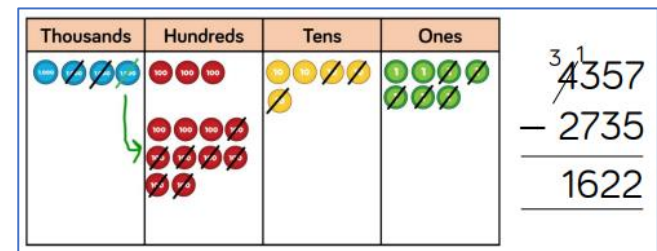
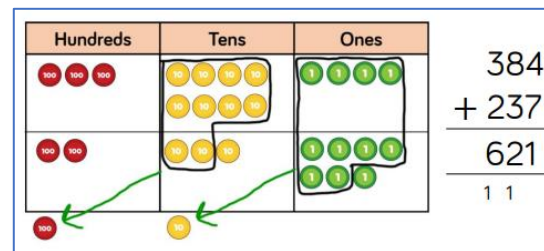
Write $>$, $=$ or $<$ in each of the circles to make the number sentence correct.

$$1023 + 24 + 24 \bigcirc 1023 + 48$$

$$1232 - 232 \bigcirc 1355 - 252$$

$$1237 - 68 + 32 \bigcirc 1242 - 69 + 31$$

Important Images...



Number: Multiplication and Division

National Curriculum

- recall multiplication and division facts for multiplication tables up to 12×12
- ☑ use place value, known and derived facts to multiply and divide mentally, including:
 - multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- ☑ recognise and use factor pairs and commutativity in mental calculations
- ☑ multiply two-digit and three-digit numbers by a one-digit number using formal written
- layout
- ☑ solve problems involving multiplying and adding, including using the distributive law
- to multiply two-digit numbers by one digit, integer scaling problems and harder
- correspondence problems such as n objects are connected to m objects

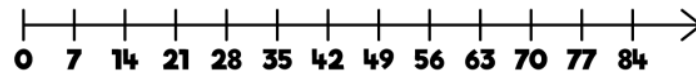
Teaching Spine

- 2.10 Connecting multiplication and division, and the distributive law
- 2.11 Times tables: 11 and 12
- 2.12 Division with remainders
- 2.13 Calculation: multiplying and dividing by 10 or 100
- 2.14 Multiplication: partitioning leading to short multiplication
- 2.15 Division: portioning leading to short division
- 2.16 Multiplicative contexts: area and perimeter 1
- 2.17 Structures: using measures and comparison to Understand scaling.



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

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Hundreds	Tens	Ones

	H	T	O
	2	4	5
x			4
	9	8	0
		1	2

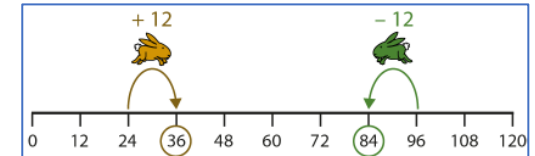
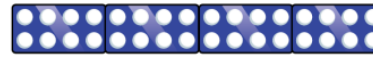
$245 \times 4 = 980$

Examples of Greater Depth...

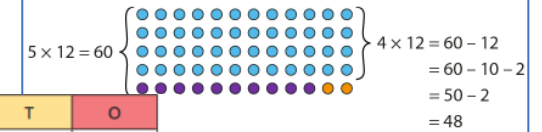
True or false? $7 \times 6 = 7 \times 3 \times 2$ $7 \times 6 = 7 \times 3 + 3$ Explain your reasoning

Multiply a number by itself and then make one factor one more and the other one less. What happens to the product? E.g. $4 \times 4 = 16$ $6 \times 6 = 36$ $5 \times 3 = 15$ $7 \times 5 = 35$
What do you notice? Will this always happen?

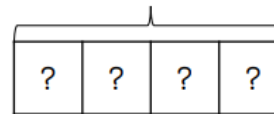
Important Images...



Finding adjacent multiples – array:



844



H	T	O
100 100	10	1
100 100	10	1
100 100	10	1
100 100	10	1

Number: Fractions

National Curriculum

- recognise and show, using diagrams, families of common equivalent fractions
- \square count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
- \square solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
- \square add and subtract fractions with the same denominator
- \square recognise and write decimal equivalents of any number of tenths or hundredths
- \square recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
- \square find the effect of dividing a one- or two-digit number by 10 and 100, identifying the

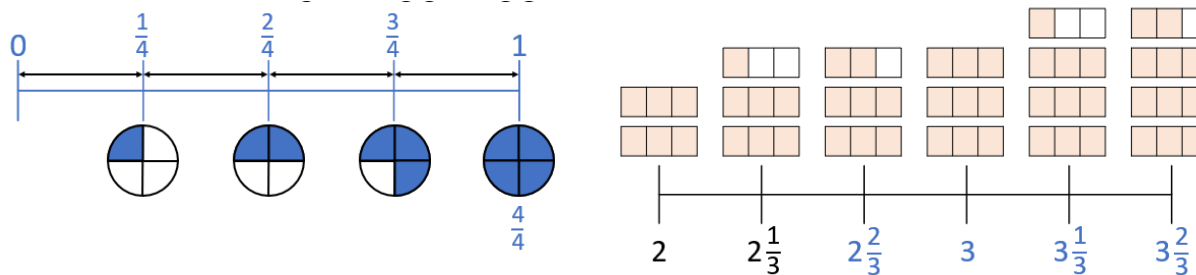
Teaching Spine

- 3.5 Working across one whole: improper fractions and mixed numbers
- 3.6 Multiplying whole numbers and fractions

- value of the digits in the answer as ones, tenths and hundredths
- \square round decimals with one decimal place to the nearest whole number
- \square compare numbers with the same number of decimal places up to two decimal places
- \square solve simple measure and money problems involving fractions and decimals to two
- decimal places.

Efficient Methods that we will use...

Fraction wall



Examples of Greater Depth...

Two paper strips are ripped. Identify which original paper strip is longer.

Explain your answer.



True or false?

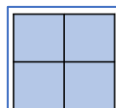
$$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$$

$$\frac{1}{5} + \frac{2}{5} = \frac{3}{10}$$

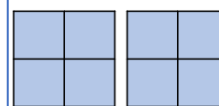
$$\frac{1}{5} + \frac{2}{5} = \frac{6}{10}$$

Explain your reasoning.

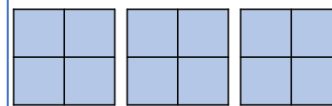
Important Images...



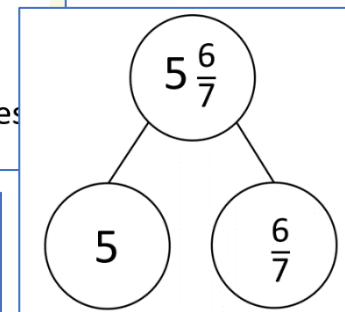
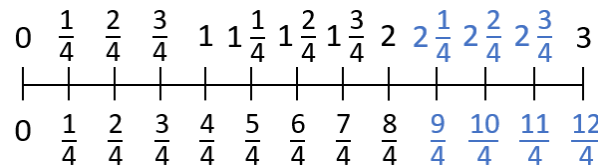
$$\frac{4}{4} = 1 \text{ whole}$$



$$\frac{8}{4} = 2 \text{ wholes}$$



$$\frac{12}{4} = 3 \text{ wholes}$$



Precision Maths:

- Counting in multiples of 2-12
- Times tables from 2 – 12
- Multiply and divided numbers by 10and 100
- Recognising the place value of each digit in a four digit number.
- Round numbers to the nearest 10, 100 and 1000.
- Number bonds to 10
- 10 more, 10 less, 100 more, 100 less.
- Read and write and convert time between analogue and digital 12- and 24-hour clocks
- Recognise and write decimal equivalentents.
- Convert between units of measure e.g., Kg to M, hour to minute