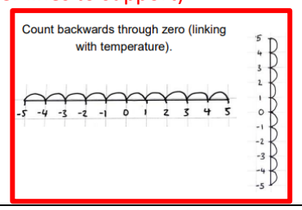
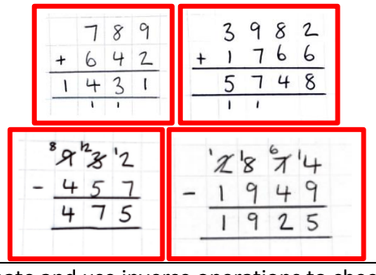
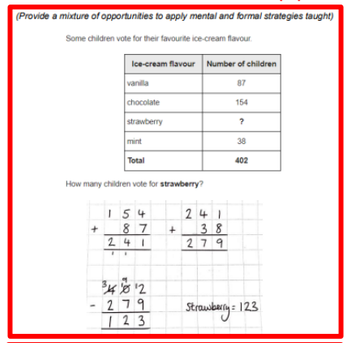
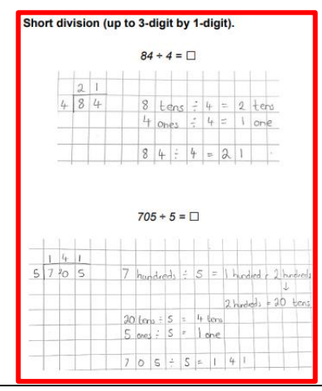
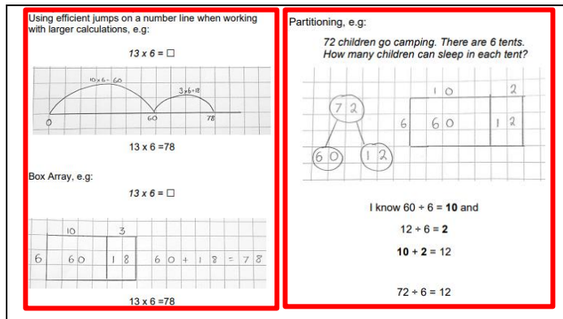
Year 4 Maths Milestones

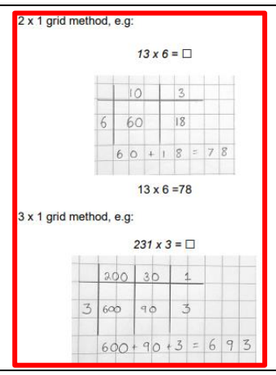
Milestone 1	Milestone 2	Milestone 3	End of year
Number: Number and place value			
Key Number Facts: Know the sequence of counting in multiples of 25.			
		4.9 Count in multiples of 6, 7, 9, 25 and 1000 from zero.	
4.1 Y3: Find 10 or 100 more or less than any given number. 4.1 Find 1000 more or less than any given number			
4.1 Count backwards through zero to include negative numbers. (using number lines to support) 			4.13 Count backwards through zero to include negative numbers.
4.1 Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). Partition numbers flexibly	4.5/4.7 Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones).		
4.1 Order and compare number beyond 1000.	4.7 Order and compare numbers beyond 1000.	4.10 Order and compare numbers beyond 1000.	
4.1 Identify, represent, and estimate numbers using different representations. Estimate the position of numbers on a number line (3-digit numbers) Position and compare numbers on a number line (3-digit numbers)		4.10 Identify, represent and estimate numbers using different representations	
4.1 Round any number to the nearest 10, 100, 1000.	4.7 Round any number to the nearest 10, 100 or 1000. (use number lines to support)	4.10 Round any number to the nearest 10,100 and 1000.	
4.1 Solve number and practical problems that involve all of the above and with increasingly large positive numbers. Secure key facts about 1000 and 10000 including number bonds and fractions of amounts. Use a range of mental strategies when adding and subtracting numbers (including using place value/partitioning, complements to 100, bridging through 100, rounding and adjusting) Use unstructured number lines and part-part-whole models to record mental calculations.		4.10 Solve number and practical problems that involve an understanding of place value and with increasingly large positive numbers. Recall related facts to 1000 • Fluently use addition/subtraction facts using multiples of 10 to 100 • Fluently use addition/subtraction families of acts using multiples of 50 • Partition numbers flexibly using part-part-whole diagrams Recall related facts to 10,000 • Add/take 10s, 100s and 1000s from a number, including numbers close to multiples of 10, 100, 1000 • Identify ½, 2/4, ¼, ¾ and 1/10 of 1000 compared to 10,000 Solve missing number problems using known facts.	

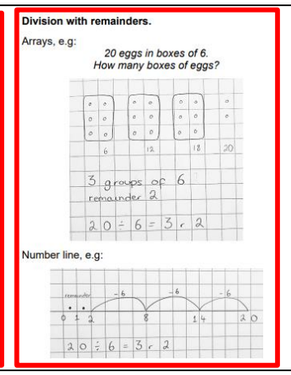
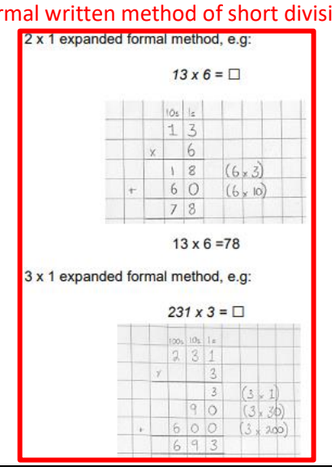
Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value			
Number: Addition and subtraction **Key Number Facts:** Know or derive all the complements to 10,000 using multiples of 1000 and related subtraction facts $x + y = 10{,}000$; $x = ?$ and $y = ?$ 1 + 9 = 10 (Year 1) 10 + 90 = 100 (Year 2) 100 + 900 = 1000 (Year 3) 1000 + 9000 = 10,000 (Year 4) Mentally add and subtract numbers with up to 2 digits reliably			
4.1 Y2: Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. 4.1 Y3: Read and write numbers to at least 1000 in numerals and in words.			
4.1 Y3: Add and subtract numbers mentally including: o a three-digit number and ones o a three-digit number and tens o a three-digit number and hundreds.			
	4.7 Add and subtract numbers with up to 4 digits using formal written methods and subtraction where appropriate. Add numbers using formally written methods Subtract numbers using formally written methods Identify when to use mental strategies or a formal written methods 	4.10 Add and subtract numbers with up to four digits using the formal written methods of columnar addition and subtraction where appropriate.	4.13 Add and subtract with numbers up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.
4.1 Estimate and use inverse operations to check answers to a calculation.	4.7 Estimate and use inverse operations to check answers to a calculation.		4.13 Estimate and use inverse operations to check answers to a calculation.
4.1 Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	4.7 Solve addition and subtraction two-step problems in context, deciding which operations and methods to use and why.		4.13 Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

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<td>Decide which methods to use and why
Solve missing number problems
Solve addition and subtraction two-step problems



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<tr><td colspan="4">Number: Multiplication and division</td></tr>
<tr><td colspan="4">Key Number Facts:
Know the 6x, 7x, 9x, 11x, and 12x tables and the related division facts
Know that…
500 x 2 = 1000 1000 ÷ 2 = 500
250 x 4 = 1000 1000 ÷ 4 = 250
200 x 5 = 1000 1000 ÷ 5 = 200</td></tr>
<tr>
<td>4.3 Recall and use multiplication and division facts for multiplication tables up to 12 x 12.
Confident in 2/5/10/3/4/8 times tables
Count in 6s/7s
Represent and use multiplication and division facts for the 6x and 7x table
Make links between times tables facts and have effective strategies for working out facts
Use division facts for the 6 and 7 multiplication tables</td>
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<td>4.9 Y3: Recall and use multiplication and division facts for the 3,4 and 8 multiplication tables.
4.9 Recall multiplication and division facts for multiplication tables up to 12 x 12.
4.11 Recall multiplication and division facts for multiplication tables up to 12 x 12.
Confident in 2/5/10/3/4/8/6/7 times tables
Represent and use multiplication and division facts for the 11x and 12x table
Make links between times tables facts and have effective strategies for working out facts
Use division facts for the 11 and 12 multiplication tables</td>
<td>4.14 Recall multiplication and division facts for multiplication tables up to 12 x 12.

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<td>4.3 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</td>
<td></td>
<td>4.9 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.
Multiply three numbers together
Use the grid method for multiplication (Tu x U then HTU x U)
Divide by 1
Use place value, known and derived facts to multiply and divide mentally (e.g 240 ÷ 6 =)
4.11 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.</td>
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<td>4.3 Recognise and use factor pairs and commutativity in mental calculations.</td>
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<td>4.9 Recognise and use factor pairs and commutativity in mental calculations.</td>
<td>4.14 Recognise and use factor pairs and commutativity in mental calculations.</td>
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<td colspan="3"></td>
<td>4.14 Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
Multiply a 2-digit number by a one-digit number using formal written layout
Multiply a 3-digit number by a one-digit number using formal written layout
Use the formal written method of short division

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<tr>
<td>4.3 Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and</td>
<td></td>
<td>4.9 Solve problems involving multiplication and adding including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and</td>
<td>4.14 Solve problems involving multiplying and adding, including using distributive law to multiply two-digit numbers by one-digit, integer scaling problems and</td>
</tr>
</table>

harder correspondence problems such as n objects are connected to m objects. Solve problems involving the 6 and 7 multiplication tables Solve problems with remainders involving the 6 and 7 multiplication tables		harder correspondence problems such as n objects are connected to m objects. Solve problems, including missing box and word problems, involving division within 12x12 tables facts Solve multiplication problems using known facts 4.11 Solve problems involving multiplication 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. Solve problems involving multiplication and division, knowing when to solve mentally or with jottings. Solve problems involving division with remainders, knowing whether to round up or down	harder correspondence problems such as n objects are connected to m objects. Solve a range of problems involving multiplication and division
Number: Fractions (including decimals) **Key Number Facts:** $100 \div 10 = 10$ $1000 \div 10 = 100$ $10 \div 10 = 1$ $1 \div 10 = \frac{1}{10}$ $1 \div 10 = \frac{1}{10} = 0.1$ $2 \div 10 = \frac{2}{10} = 0.2$ $3 \div 10 = \frac{3}{10} = 0.3$ $4 \div 10 = \frac{4}{10} = 0.4$ $5 \div 10 = \frac{5}{10} = 0.5$ $6 \div 10 = \frac{6}{10} = 0.6$ $7 \div 10 = \frac{7}{10} = 0.7$ $8 \div 10 = \frac{8}{10} = 0.8$ $9 \div 10 = \frac{9}{10} = 0.9$ $10 \div 10 = \frac{10}{10} = 1.0$ $\frac{1}{4} = 0.25$ $\frac{1}{2} = 0.5$ $\frac{3}{4} = 0.75$			
4.4 Recognise and show, using diagrams, families of common equivalent fractions. Count in fractional steps: 1/2, 1/4, 1/3, (revision) 1/5, 1/10 (new) Being to see equivalence between fractions on number lines/bar models Solve problems by counting in fractional steps Recognise families of equivalent fractions Compare fractions and identify equivalence	4.6 Recognise and show using diagrams, families of common equivalent fractions.		4.14 Recognise and show using diagrams, families of common equivalent fractions.
4.4 Y3: Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing one-digit numbers or quantities by 10. (Link fraction and decimal notation) 4.4 Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.	4.5 Count up and down in hundredths; recognising that hundredths arise from dividing an object by hundred and dividing tenths by ten. Count in fractional steps including 1/10 and 1/100 4.6 Count up and down in hundredths; recognising that hundredths arise from dividing an object by hundred and dividing tenths by ten. Count in tenths beyond a whole Add and subtract tenths Count up in hundredths (including above 100/100) Add and subtract hundredths Count in fractional steps with any unit fraction (e.g. 1/6)	4.9 Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten. 4.11 Y3: Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing one-digit numbers or quantities by 10.	
	4.6 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.	4.9 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. Calculate quantities of amounts using non-unit fractions	4.14 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.

		Complete missing numbers for fraction equivalence e.g. ¼ of 24 = ½ of ? Use fraction notation in problems to divide quantities where the answer is a whole number	
4.4 Add and subtract fractions with the same denominator. (including word problems)	4.6 Add and subtract fractions with the same denominator. Solve problems adding and subtracting multiples of unit fractions		
4.4 Recognise and write decimal equivalents of any number of tenths or hundredths.	4.6 Recognise and write decimal equivalents to 1/4, 1/2 and 3/4		4.14 Recognise and write decimal equivalents of any number of tenths or hundredths. 4.14 Recognise and write decimal equivalents to 1/4, 1/2, 3/4
4.4 Find the effect of dividing a one-or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	4.6 Find the effect of dividing a one -or two- digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	4.9 Find the effect of dividing a one-or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. I can find the effect of dividing by 10 (linked to finding a tenth) 4.11 Find the effect of dividing a one-or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. 10x as many/smaller 100x as many/smaller	4.14 Find the effect of dividing a one or two-digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths.
4.4 Round decimals with one decimal place to the nearest whole number.	4.6 Round decimals with one decimal place to the nearest whole number.		4.16 Round decimals with one decimal place to the nearest whole number.
			4.16 Compare numbers with the same number of decimal place (up to two decimal places)
			4.15/4.16 solve simple measure and money problems involving fractions and decimals to two decimal places. Compare difference in length using combinations of fractions and decimals
Measurement			
Key Number Facts: £5.00 x 2 = £10.00 £50 x 2 = £100 £500 x 2 = £1000 £2.50 x 4 = £10.00 £25 x 4 = £100 £250 x 4 = £1000 £2.00 x 5 = £10.00 £20 x 5 = £100 £200 x 5 = £1000 10cm = $\frac{1}{10}$ m 1cm = $\frac{1}{100}$ m 100g = $\frac{1}{10}$ kg 1.1 kg = 1kg 100g = 1kg + $\frac{1}{10}$ kg 48 hours = 2 days 120 minutes = 2 hours 90 minutes = 1 $\frac{1}{2}$ hours			
4.2 Convert between different units of measure e.g. kilometre to metre. Begin to derive: 1000m = 1km, therefore 500m = ½ km, 250m = ¼ km, 750km = ¾ km, 100m = 1/10 km. Convert between mm/cm, cm/m, km/m (place value charts to support)	4.5 Convert between different units of measure (e.g. kilometres to metres, hours to minutes).		4.16 Convert between different units of measure (e.g. kilometres to metres).
4.2 Y3: Measure, compare, add and subtract lengths (m/cm/mm). Recall and represent key facts in the context of length Know: 100cm = 1m, 10cm = 1/10m so 50cm = 5/10m = half a metre or 0.5m, 150cm = 1.5m	4.5 Y3: Measure, compare, add and subtract lengths (mm/cm/m/km); mass (kg/g). Recall key facts for length (1/2, ¼, ¾, 1/5, 1/10, 1/100 of 1cm, 1m, 1km)		

	Accurately read scales to solve problems involving length Solve problems involving adding and subtracting length Recall key facts for mass Know 1000g = 1kg; derive 500g = ½ kg, 250g = ¼ kg, 750g = ¾ kg, 100g = 1/10 kg, 10g = 1/100 kg Accurately read scales to solve problems involving mass		
4.2 Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m Measure and calculate perimeter Solve problems relating to perimeter			4.16 Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.
4.4 Find the area of rectilinear shapes by counting squares.		4.12 Find the area of rectilinear shapes by counting squares. Find the area of rectilinear shapes using grid lines Compare areas of rectilinear shapes Reason and calculate areas of shapes Find the area of rectilinear shapes where grid lines have been removed inside the shape Find the area of rectilinear shapes where half squares are part of the shape.	
4.2 Y3: add and subtract amounts of money to give change, using both £ and p in practical contexts. Subtract to find change (from £1, £5 and £10)			
4.2 Estimate, compare and calculate different measures, including money in pounds and pence. Recall key facts in the context of money (Know 100p = £1; 2 x 50p = £1; 10 x 10p = £1; 5 x 20p = £1, 20 x 5p = £1, 50 x 2p = £1) Find totals using different combinations of coins Add three amounts of money, including whole numbers to £1000 and pounds/pence.			4.15 Estimate, compare and calculate different measures, including money in pounds and pence. Know equivalence for all coins Know half, quarter and three quarters of £1, £10, £100, £1000 Multi-step problem solving involving four operations 4.16 Estimate, compare and calculate with different measures (length)
	4.5 Y3: Estimate and read time within increased accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock. Use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight. 4.5 Read, write and convert time between analogue and digital 12- and 24-hour clocks. Recall key facts for time: 1/2, ¼ and ¾ of 1 hour and 1 minute; hours in a day/half a day Tell the time to the nearest minute Write and convert time between analogue and digital clocks		4.15 Read, write and convert time between analogue and digital 12 and 24- hour clocks. Draw hands on a clock Read time on a digital 12-hour clock Convert time between 12- and 24-hour clock
	4.5/4.8 Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.		4.15 Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days Calculate intervals of time, using a number line to support, to solve a range of multi-step problems, including reading and interpreting local bus and train timetables
	4.8 Y3: Tell and write the time from an analogue clock, including using roman numerals from I to XII, and 12-hour and 24-hour clocks.		

	Read and write the time from an analogue clock.		
	4.8 Y3: Compare durations of events, for example to calculate the time taken by particular events or tasks. Calculate durations of time, including bridging through 60		
Geometry: Properties of shape			
4.4 Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and sizes.	4.6 Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Compare and classify quadrilaterals	4.12 Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Compare and classify using Venn and Carroll diagrams Compare the size of angles within a shape Identify regular and irregular polygons	
4.4 Identify acute and obtuse angles and compare and order angles up to two right angles by size.	4.6 Identify acute and obtuse angles and compare and order up to two right angles by size. Compare angles in different 2-D shapes	4.12 Identify acute and obtuse angles and compare and order angles up to two right angles by size. Compare angles using smaller/larger than right angles/straight lines	
	4.6 Identify lines of symmetry in 2- D shapes presented in different orientations.		
4.4 Complete a simple symmetric figure with respect to a specific line of symmetry.			
Geometry: Position and direction			
4.4 Describe positions on a 2-D grid as co-ordinates in the first quadrant.	4.6 Describe positions on a 2-D grid as co-ordinates in the first quadrant. Describe positions of triangles on a grid		
	4.6 Describe movements between positions as translations of a given unit to the left / right and up/down.		
		4.12 Plot specified points and draw sides to complete a given polygon. Use coordinates to draw polygons Identify coordinates for vertices	
Statistics			
		4.10 Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	4.13 Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
		4.10 Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	4.13 Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.