	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals, Ratio and Percentages	Measures	Geometry	Statistics
Y4 Autumn	**Recognise the place value of each digit in a 4-digit number (1000s, 100s, 10s, and 1s); order and compare numbers** with up to 4 digits.	Know bonds to the next 100. **Example:** 54 + 46 653 + 47	Use the distributive law to **multiply 2-digit numbers by a 1-digit number using formal written layout** or mental methods. **Example:** 4 × 65 94 × 7	Find unit fractions of amounts. **Example:** $\frac{1}{4}$ of 24 $\frac{1}{8}$ of 32	**Read, write and convert time between analogue and digital 12-hour clocks.** **Example:** 6:05 = five minutes past six		Use mathematical reasoning to answer a question by collecting, displaying and interpreting data in a frequency table and bar chart, choosing an appropriate scale.
	Begin to place 4-digit numbers on number lines and **round** these **to the nearest 10, 100 or 1000.** **Example:** 4782 rounds to 4780, 4800, 5000	Use place value and number facts to **add numbers with up to 4 digits,** including fluency in adding any pair of 2-digit numbers. **Example:** 147 + 36 4286 + 199	**Use** table facts and **commutativity** to perform multiplications involving multiples of 10. **Example:** 40 × 6 300 × 8	Begin to **recognise and show families of common equivalent fractions.**	**Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.** **Example:** 1 minute 23 seconds = 83 seconds 231 minutes = 3 hours 51 minutes		
		Use counting up to subtract numbers with up to 3 digits crossing one multiple of 100. **Example:** 134 – 88 809 – 742	**Recall multiplication and division facts for multiplication tables**, for 2, 5, 10, 3, 4, 8, 6 and 9 times tables.	Count in fractions, expressing each fraction in its simplest form.	Read scales to the nearest 100 g and draw a bar chart where one step represents 100.		

		Choose a method to subtract that is appropriate to the numbers in the calculation. **Example:** 456 – 199 134 – 88 134 – 6	Use the distributive law to **multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout** (grid). **Example:** 3 × 34 7 × 145	**Recognise and write decimal and fraction equivalents of tenths and a $\frac{1}{2}$.**	Solve simple measures problems and **convert between different units of measure** – mm, cm, m; ml, l; g, kg. **Example:** 0·7 L = □ ml Write 1250 g in kilograms.		
		Solve addition and subtraction problems for numbers with up to 3-digits, including **in contexts** of word problems, **deciding which written or mental operations and methods to use and why.** **Example:** 354 + 205 402 – 378	Double and halve 3-digit numbers using partitioning and be able to describe, explain and predict patterns. **Example:** Halve 684. Write a doubles chain past 1000 and write about the pattern in the units digits.	**Find the effect of dividing a 1-digit or 2-digit number by 10**, and recognise that the first place after the decimal point is a tenth. **Example:** 5 ÷ 10 = 5/10 = 0·5 36 ÷ 10 = 36/10 = 3·6		
		Use column addition to add 3-digit numbers; begin to add 4-digit numbers.	Begin to **use place value and known and derived facts to divide numbers** above tables facts. **Example:** 56 ÷ 4 176 ÷ 8			
		Use expanded **column subtraction to subtract** 3-digit numbers. **Example:** 376 – 263 838 – 556	Work systematically and predict patterns.			

		Use logical thinking to look for patterns in numbers.					

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Y4 Spring	**Count** on and back **in multiples of 6, 7, 9, 25 and 1000** and work systematically, predicting and explaining patterns.	**Add and subtract** 1s, 10s or 100s from **numbers with up to 4 digits** crossing multiples of 10, 100, or 1000. **Example:** 8417 + 66 3460 – 403	**Recognise and use factor pairs and commutativity in mental calculations**, to solve multiplications and divisions involving 2-digit and 3-digit multiples of 10. **Example:** 4 × 60 240 ÷ 6	**Recognise and show families of common equivalent fractions** and begin to compare fractions with non-like denominators.	Begin to convert between metric units of length, e.g. kilometres to metres, and solve problems involving different measures. **Example:** Fred has run 645 m of a 2 km race when he slips. How far does he have to go?	**Identify acute and obtuse angles and compare and order angles up to 2 right angles by size.**	
	Place 4-digit numbers on number lines, **recognise the place value of each digit and round these to the nearest 10, 100 or 1000.** **Example:** 7236 rounds to 7240, 7200, 7000	Use counting up subtraction to subtract 3-digit numbers and 4-digit numbers from multiples of 1000 and describe and explain patterns in digit sums. **Example:** 1000 – 347 4000 – 2693	**Recall multiplication and division facts for multiplication tables**, for 2, 3, 4, 5, 6, 7, 8, 9 and 10 times tables.	Begin to multiply and divide numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid and **identify the value of the digits in the answer as ones, tenths and hundredths.**	**Estimate, compare and calculate different measures**, including solving simple money problems involving decimals to 2 decimal places. **Example:** The Smiths have £30 to buy games. They buy 6 jigsaws, each costing £4·39. Roughly how much would that be?	Draw shapes with given properties and explain reasoning. **Example:** Acute/obtuse angles Parallel sides	
	Explain and justify reasoning about what happens when numbers are multiplied and divided by 10. **Example:**	Use compact column subtraction to subtract 3-digit numbers. **Example:** 642 – 326 951 – 647	Use doubling and halving to multiply and divide by 4, and to multiply by 5 and 20. **Example:**	**Solve simple problems involving fractions and** find **non-unit fractions** of amounts **where the answer is a whole number.**	Solve simple problems involving finding the perimeter of rectilinear shapes. **Example:** 8 + 4 + 8 + 4 = 24 cm or	**Identify lines of symmetry in 2D shapes presented in different orientations.**	

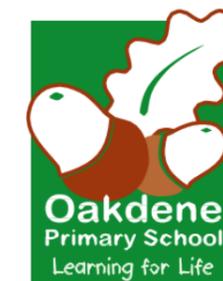|					
Explain rules and patterns when dividing 2-digit numbers and 3-digit multiples of 10 × 10.		636 ÷ 4 246 × 20	Example: 3 of 48 4 of 30	double 12 = 24 cm 9 + 11 + 9 + 11 = 40 cm or 18 cm + 22 cm = 40 cm	
Add amounts of money mentally using place value and number facts.	Read and interpret addition word problems. **Add 2 numbers with up to 4 digits using the formal written method of columnar addition,** including answers that are greater than 10 000. **Example:** 3416 + 756 2370 + 7630	**Multiply 2-digit and 3-digit numbers by a 1-digit number using a formal written layout** (vertical algorithm – ladder). **Example:** 3 × 154 6 × 257 Notice patterns; make and test predictions. **Example:** 234 × 9 456 × 9 Predict and explain the patterns.	Compare two 1-place decimals, place on a line and **round decimals with 1 decimal place to the nearest whole number.** **Example:** 3·05 < 3·45 < 3·54 < 3·7 5·9 rounds to 6	**Read, write and convert time between analogue and digital 12- and 24-hour clocks.** **Example:** 1 o'clock = 13:00 3:45 pm = 15:45 = quarter to 4 in the afternoon	**Complete a simple symmetric figure with respect to a specific line of symmetry.**
	Use column addition to add several 2-digit numbers. **Example:** 24 + 76 + 58	**Use place value and known and derived facts to divide** numbers above table facts.			
	Investigate and reason methodically and systematically.				

		Add and subtract numbers with up to 4 digits using formal columnar addition and subtraction methods. **Example:** 603 + 526 4001 – 3675					
		Identify the calculation(s) needed to solve a word problem. **Example:** Amy wins 4214 points in a game. She finds 6 trophies worth 250 points each. What is her new score?					
		Solve addition and subtraction 2-step problems in context. **Example:** 345 people were on a ride. If 128 get off and 143 get on, how many are on the ride now?					

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Y4 Summer	Find 1, 10, 100 and **1000 more or less than a given number.** Example: 5720 – 1000 8065 + 10	Confidently **add numbers with up to 4 digits** using place value and number facts, including fluency in adding any pairs of 2-digit numbers. **Example:** 38 + 45 2649 + 741	**Use place value and known and derived facts to multiply 2-digit and 3-digit numbers by a 1-digit number (including multiplying by 0 and 1)** and to multiply three 1-digit numbers. **Example:** 199 × 3 2 × 3 × 5	Use equivalent fractions to simplify and compare fractions with non-like denominators. **Example:** $^4/_6 = {}^2/_3$ $^8/_{10} = {}^4/_5$	Convert between **different** metric **units of measure**, e.g. km to m; solve problems involving different measures. **Example:** True or false? Five 200 g weights are the same as 1 kg.	**Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.**	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
	Count backwards through zero to include negative numbers; use knowledge of factors and reasoning to solve problems. **Example:** You have £30 in your bank and then spend £50 on your bank card. How much money is left in your bank?	When appropriate, use counting up to **subtract numbers with up to 4 digits.** **Example:** 2001 – 1865 4010 – 2968	Use a written method to multiply amounts of money by 1-digit numbers. **Example:** 4 × £4·67 7 × £3·27	Find non-unit fractions of amounts and **solve problems involving harder fractions to calculate quantities.** **Example:** $^4/_5$ of 85 $^7/_9$ of 18	**Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.** **Example:** 6 + 6 + 6 + 6 = 24 cm / 4 × 6 = 24 cm	**Describe positions on a 2D grid as coordinates in the first quadrant.**	**Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.**
	Order and compare numbers beyond 1000. **Example:** 3421 > 2167 4892 < 9173	Use counting up and subtraction to find change or solve money problems. **Example:** £10 – £4·25 £38·54 – £15·75	**Estimate and use inverse operations to check answer to a** multiplication or division **calculation.** **Example:**	Recognise that tenths and hundredths arise when dividing by 10 and 100; multiply decimal numbers by 10 and 100, understanding that this involves a shift of the	Solve problems involving money. **Example:** $^4/_5$ of £30 6 × £6·05	**Describe movements between positions as translations of a unit left/right and up/down.**	

		76 ÷ 4 = □, □ × 4 = 76 78 ÷ 3 = □, □ × 3 = 78	digits on a place-value grid. **Example:** 213 ÷ 100 = 2·13 12·3 ÷ 10 = 2·13				
	Identify, represent and estimate numbers using different representations.	**Add numbers with up to 4 digits using the formal written method of columnar addition.** **Example:** 3861 + 4513	**Multiply 2- and 3-digit numbers by a 1-digit number using formal written layout** where appropriate. **Example:** 294 × 6 648 × 7	**Count up and down in** tenths and **hundredths.**	**Find the area of rectilinear shapes.**	**Plot specified points and draw sides to complete a given polygon.**	
	Solve number and practical problems with increasingly large positive numbers. **Example:** It is approximately 4591 km from Istanbul to Delhi, and 1770 km from Delhi to Chennai. Abdul travels from Istanbul to Chennai, via Delhi. How far does he travel altogether?	**Subtract numbers with up to 4 digits using the formal written method** of expanded or compact columnar subtraction. **Example:** 7842 – 3498 6347 – 5192	Multiply 2-digit numbers by 2-digit numbers using the distributive law (grid method).	**Compare numbers with up to 2 decimal places, identify the value of the digits as ones, tenths and hundredths, and round decimal numbers to the nearest whole.**			
	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.	**Use inverse operations to check answers to a calculation.**	**Use place value and known and derived facts to divide** larger numbers (answers up to 50) **including dividing by 1.** **Example:** 83 ÷ 3 432 ÷ 8	**Solve simple measure and money problems using fractions and decimals to 2 decimal places.** **Example:** One shampoo bottle contains			

				400 ml and another contains 0·3 L. Which holds more? By how much?			
		Use logical reasoning to create additions of 4-digit numbers to a given total. **Example:** Write 4-digit + 4-digit column additions that equal 10 000.	Use doubling and halving to **multiply and divide mentally**. **Example:** 45 × 6 432 ÷ 8	**Add and subtract 0·1 and 0·01.** **Example:** 6·9 + 0·1 9·17 – 0·01			
			Recall multiplication and division facts for multiplication tables up to 12 × 12 and describe patterns in the tables.	**Recognise and write decimal** and fraction **equivalents of tenths, hundredths, $^1/_4$, $^1/_2$ and $^3/_4$.** **Example:** $^3/_4 = 0·75$ $1·3 = 1\,^3/_{10}$			
			Solve problems involving multiplying and adding, including integer scaling and correspondence. **Example:** The area is of a rectangle is 24 cm2. Enlarge the rectangle by a factor of 2 and find its new area.	Write additions of fractions with different denominators with a total of 1. **Example:** $^1/_2 + \,^3/_6$ $^1/_4 + \,^4/_8 + \,^2/_8$			
			Sustain a line of enquiry; make and test a hypothesis. **Example:** Multiply 356 by 3 (1068);	**Add and subtract fractions with the same denominator,** including totals greater than 1.			

			find the digital root of 1068 (6). The digital root of 356 is 5. Multiply 5 by 3 (15); find the digital root of 15 (6). Notice a pattern in the digital roots.	**Example:** $^3/_8 + {}^2/_8$ $^3/_5 + {}^4/_5$			
			Look for patterns and write rules. **Example:** 11 × 34 = 374, 37 = 34 + 3 11 × 47 = 517, 51 = 47 + 4 (The original 2-digit number plus the 10s digit of that number.)				