Termly assessment	Number and Place Value (NPV)	Addition and Subtraction (AS)	Multiplication and Division (MD)	Fractions, Decimals, Ratio and Percentages (FDRP)	Measures (MEA)	Geometry (GEO)	Statistics (STA)	Algebra (ALG)
	Read, write, order and compare numbers up to 1 000 000 and determine the value of each digit. **Example:** 405 297 > 450 279 570 523 > 507 203 909 250 < 990 250	Choose and use an appropriate method to add whole numbers with up to 5 digits. **Example:** 86 342 + 75 218 34 608 + 2021 23 509 + 48 253	**Multiply multi-digit numbers up to 4 digits by numbers between 10 and 40 using the formal written method of long multiplication.** **Example:** 6537 × 12 18 × 2035 1748 × 39	Convert decimals (up to 3 places) to fractions and vice versa using thousandths, hundredths and tenths. **Example:** $12{\cdot}87 = 1\,^{87}/_{100}$ $0{\cdot}078 = 7\,^{8}/_{1000}$ $^{54}/_{100} = 0{\cdot}54$	**Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate.** **Example:** 4000 ml = 4 L 0·36 m = 36 cm 450 g = 0·45 kg	**Recognise, describe and build simple 3D shapes, including making nets.** **Example:** Cube: 6 faces, 12 edges, 8 vertices, faces are squares Cylinder: 3 faces, 2 edges, 0 vertices, faces are two circles and a rectangle		Use letters to represent missing numbers in number sentences. **Example:** $14 - b = 9$. What is the value of b? $c + c = 8$. What is the value of c?
	Use negative numbers in context, and calculate intervals across zero and give generalisations to describe what happens when adding and subtracting with positive and negative numbers. **Example:** What is the difference between –3 and 2? Which is higher, –16 or –23?	Choose and use an appropriate mental or written method, including column addition and subtraction, to add and subtract decimal numbers with 1, 2 or 3 decimal places, including in the context of measures and money. **Example:** 63·25 + 3·75 54·2 + 6·9 7·92 + 16·35	Use short multiplication to multiply numbers with up to 4 digits, including amounts of money, by 1-digit numbers and solve word problems involving multiplication including two-step problems and finding change. **Example:** 6 × £23·45 2042 × 4 5 × 1317	**Identify the value of each digit in numbers with up to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers to up to 3 decimal places**; use this knowledge to compare and order numbers, and round numbers, with up to 3 decimal places. **Example:** 3·924 has nine tenths, two hundredths, four thousandths 4·325 kg = 4325 g 4·584 < 4·587	**Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places.** **Example:** 1991 m = 1991 km 650 ml = 0·65 L 0·073 kg = 73 g			**Find pairs of numbers that satisfy an equation with two unknowns.** **Example:** $a + b + 32 = 39$. Work out the possible pairs of numbers that a and b could be. $c \times d = c + d + 5$. Work out the possible pairs of numbers that c and d could be. $j \times k \div 2 = j + k$. Work out the possible pairs of numbers that j and k could be.
		Use knowledge of the order of operations to carry out calculations involving the four operations. **Example:** 3 × (117 – 95) $45 - d = 21$. What is d?	**Use knowledge of the order of operations to carry out calculations involving the four operations.** **Example:** 3 × (117 – 95) $12 \times k = 96$. What is k?	**Compare and order fractions, including fractions > 1.** **Example:** Order from smallest to largest: $^{7}/_{8}$, $^{1}/_{2}$, $^{3}/_{4}$ Which is greater, $^{4}/_{9}$ or $^{2}/_{3}$? $^{4}/_{7} < {}^{9}/_{14}$	Begin to **convert between miles and kilometres.** **Example:** 5 miles = 8 km 45 miles = 72 km 180 miles = 288 km			**Enumerate possibilities of combinations of two variables.** **Example:** $a + b + 19 = 28$ and $a \times b = 14$. Work out the possible pairs of numbers that a and b could be. $16 - m - n = 10$. Work out the possible pairs of numbers that m and n could be. $24 \div c = d + 1$. Work out the possible pairs of numbers that c and d could be.
		Use knowledge of the order of operations and brackets **to carry out** multi-step **calculations involving** addition, subtraction, multiplication and division. **Example:** 45 – 16 ÷ 4 24 × 3 – 2 £100 – 3 × £26	**Use knowledge of the order of operations** and brackets **to carry out** multi-step **calculations** involving addition, subtraction, multiplication and division. **Example:** 45 – 16 ÷ 4 24 × 3 – 2 £100 – 3 × £26	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. **Example:** $^{14}/_{4} = 3\,^{1}/_{2}$ $^{16}/_{6} = 2\,^{2}/_{3}$ $^{2}/_{4}$, $^{8}/_{16}$, $^{4}/_{8} = {}^{1}/_{2}$	**Recognise that shapes with the same areas can have different perimeters and vice versa**; begin to measure area and perimeter. **Example:** Perimeter = 7 cm + 5 cm + 7 cm + 5 cm = 24 cm Area = 7 cm × 5 cm = 35 cm^2 Perimeter = 6 cm + 6 cm + 6 cm + 6 cm = 24 cm Area = 6 cm × 6 cm = 36 cm^2 Perimeter = 9 cm + 4 cm + 9 cm + 4 cm = 26 cm Area = 9 cm × 4 cm = 36 cm^2			

Y6 Autumn		Choose and use an appropriate method to subtract whole numbers with up to 5 digits. **Example:** 45 000 – 2695 36 628 – 1455 54 839 – 28 405	**Divide numbers up to 4 digits** by numbers up to 12 **using the formal written method of short division, where appropriate interpret remainders according to the context** and use reasoning to find a solution. **Example:** 5278 ÷ 3 4887 ÷ 6 9246 ÷ 8	Use equivalence to add and subtract proper fractions and mixed numbers with related or unrelated denominators, and spot and test a rule. **Example:** $^1/_2 + {}^1/_3$ $^1/_6 + {}^1/_5$ $^1/_2 - {}^1/_4$	**Recognise when it is possible to use formulae for area and volume of shapes.** **Example:** The formula for the area of a triangle is $A = 12\ b \times h$ The formula for the area of a parallelogram is $A = b \times h$ The formula for the volume of a cuboid is $V = L \times W \times H$			
				Convert improper fractions to mixed numbers; convert mixed numbers to improper fractions. **Example:** $^9/_2 = 4^1/_2$ $^6/_4 = 1^2/_4 = 1^1/_2$ $^{29}/_{12} = 2^5/_{12}$	**Calculate the area of parallelograms and triangles.** **Example:** Parallelogram: base = 15 cm, height = 8 cm. A = 120 cm^2			
				Find non-unit fractions of amounts. **Example:** $^2/_7$ of 42 $^2/_5$ of 60 $^5/_9$ of 54	**Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units (for example, mm^3 and km^3).** **Example:** 5 cm × 4 cm × 6 cm = 120 cm^3 3 m × 10 m × 3 m = 90 m^3			
				Express a remainder after division as a fraction, simplifying where possible. **Example:** 3523 ÷ 6 = 587 r 1 = $587^1/_6$ 3525 ÷ 6 = 587 r 3 = $587^3/_6$ or $587^1/_2$				
				Use knowledge of equivalence between fractions and percentages and mental strategies to solve problems involving the calculation of percentages, including amounts of money and other measures. **Example:** $^1/_4$ m = 0.75 m = 75% of a metre 10% of £12 = $^1/_{10}$ of £12 = £1·20				
				Solve problems involving the calculation of percentages and the use of percentages for comparison. **Example:** Davinder has been asked to reduce the price of CDs by 10%. How much will a CD costing £12 be reduced by?				
				Multiply fractions less than 1 by whole numbers. **Example:** $2 \times {}^2/_3$ $2 \times {}^5/_6$ $4 \times {}^2/_5$				

				Divide proper fractions by whole numbers. **Example:** $^{1}/_{3} \div 2$ $^{3}/_{5} \div 2$ $^{2}/_{3} \div 4$				
	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. **Example:** 7 233 563 3 811 642 6 582 684	Choose and use an appropriate method, including column addition, to add whole numbers with up to 7 digits, and identify patterns in the number of steps required to generate palindromic numbers. **Example:** 2 347 256 + 1 238 584 462 308 + 5090 48 673 + 49 999	Use appropriate strategies to multiply and divide mentally, including by multiples of 10, 100 and 1000.	**Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction.** **Example:** $1 \div 4 = {}^{1}/_{4} = 0{\cdot}25$ $7 \div 10 = {}^{7}/_{10} = 0{\cdot}7$ $3 \div 8 = {}^{3}/_{8} = 0{\cdot}375$	**Solve problems involving the calculation and conversion of units of measure.** **Example:** 1 m 52 cm = 1520 mm 1000 kg = 1 tonne A reel holds 250 m of cable. How many reels are needed to make 1 km of cable?	**Draw 2D shapes using given dimensions and angles.** **Example:** Use a ruler and a protractor to draw a square with 7 cm sides. Draw a right-angled triangle with base 8 cm and height 6 cm and work out what the two missing angles are.	**Interpret and construct pie charts and use these to solve problems.** **Example:** Show the data where 50 people were asked their favourite classic children's book. Construct a pie chart and use it to find out which is the most popular book.	**Use simple formulae.** **Example:** $V = L \times W \times H$ What does $3n - 1$ mean?
	Round any whole number to a required degree of accuracy. **Example:** 3 497 992 rounded to the nearest million is 3 000 000. 9 646 101 rounded to the nearest million is 10 000 000.	Choose and use an appropriate method, including counting up, to add and subtract numbers with up to 2 decimal places, including in the context of measures and money and finding change, and use mathematical reasoning to investigate and solve problems. **Example:** 0·92 + 0·3 16·53 – 9·87 47·48 – 10·16	**Perform mental calculations, including with mixed operations and large numbers.** **Example:** $3 \times 26 - 15$ $c + 6 = 22$. What is c ? $64 \div (4 + 4)$	Compare and order numbers with 1, 2 or 3 decimal places. **Example:** Write in order: 2·874, 2·78 and 2·87. Write numbers between 8·24 and 8·25. Which is further, 4·056 km or 4·506 km?	**Convert between miles and kilometres.** **Example:** 50 miles = 80 km 30 km = 18·75 miles 54 miles = 86·4 km	**Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.**	**Interpret and construct line graphs and use these to solve problems.** **Example:** Show a distance/time line graph showing a cyclist's journey from London to Brighton (54 miles). How long did it take this rider to cycle from London to Brighton? How long did it take to do the first 10 miles?	Continue, **generate and describe linear number sequences.** **Example:** $2 \times n + 1 = 3, 5, 7, 9, \ldots, 17, 19, 21$ $3 \times n = 3, 6, 9, 12, \ldots, 24, 27, 30$ $5 \times n + 1 = 6, 11, 16, 21, \ldots, 41, 46, 51$
	Solve number and practical problems involving place value, comparison and rounding of integers. **Example:** 3500 + 6040 57 905 – 4999 5 583 532 rounded to the nearest million is 6 000 000.	Choose and use an appropriate method to subtract whole numbers with up to 7 digits. **Example:** 6 728 243 – 4 372 178 23 000 – 5 1 234 000 – 1999	**Multiply multi-digit numbers up to 4 digits by a 1- or 2-digit whole number using the formal written method of long multiplication.** **Example:** 6742 × 23 13 × 5278 22 × 4327	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts, and use mental strategies to solve problems involving simple percentages of amounts. **Example:** $^{1}/_{4}$ m = 0·75 m = 75% of a metre 10% of £12 = $^{1}/_{10}$ of £12 = £1·20 $^{90}/_{250} = 90 \div 250 = 0{\cdot}36$		**Compare and classify geometric shapes based on their properties and sizes and use mathematical reasoning to find unknown angles in any triangles, quadrilaterals, and regular polygons.** **Example:** Angles in a regular pentagon add up to 540° Angles in a regular hexagon add up to 720° Angles in a regular octagon add up to 1080°	Read and interpret a range of tables, graphs, pictograms and bar charts and answer questions relating to data displayed in these. **Example:** Show a bar chart of the heights of children in a class. How many children are between one point two metres and one point two nine metres?	
		Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	**Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.** **Example:** 472 ÷ 13 (30 × 13 = 390 and 40 × 13 = 520, so the answer will be between 30 and 40.) How many days might there be in 4936 hours? (200 × 24 = 4800, so just over 200 days.)	Multiply pairs of unit fractions by reading the × sign as 'of'. **Example:** $^{1}/_{2} \times {}^{1}/_{5}$ $^{1}/_{4} \times {}^{1}/_{3}$ $^{1}/_{3} \times {}^{1}/_{7}$		**Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.** **Example:** Angles on a straight line add up to 180°. The given angles are 70° + 45° = 115°. The missing angle is 180° – 115° = 65°.	**Calculate and interpret the mean as an average.** **Example:** Number of goals scored: 4, 7, 9, 5, 7, 8, 6, 2 Mean number of goals = (4 + 7 + 9 + 5 + 7 + 8 + 6 + 2) ÷ 8 = 48 ÷ 8 = 6	
Y6 Spring		**Solve problems involving addition, subtraction, multiplication and division.** **Example:** $3 \times 26 - 15$ $(28 - 15) + 9$ $(6{\cdot}4 - 4{\cdot}2) \div 2$	**Solve problems involving addition, subtraction, multiplication and division.** **Example:** $3 \times 26 - 15$ $(28 - 15) + 9$ $(6{\cdot}4 - 4{\cdot}2) \div 2$	Multiply unit fractions by non-unit fractions, writing the answer in its simplest form. **Example:** $^{1}/_{2} \times {}^{2}/_{3}$ $^{1}/_{4} \times {}^{2}/_{3}$ $^{1}/_{3} \times {}^{3}/_{10}$		**Describe positions on the full coordinate grid (all four quadrants).** **Example:** Draw and join these points: A (1, –1), B (5, –1), C (1, –5). Reflect this triangle in the y-axis and write the new coordinates. What do you notice?		

			Use short multiplication to multiply 4-digit amounts of money by 1-digit numbers, and use estimation to check answers. **Example:** £12·78 × 4 £28·39 × 6 £42·91 × 9	Use mental strategies to multiply 2-digit numbers with one decimal place by 1-digit whole numbers. **Example:** 4·2 × 6 4 × 6·8 5 × 3·7		**Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.** **Example:** Plot the points (–6, 5), (–4, 3), (–2, 5), (–2, –1), (–4, –3), (–6, –1), and join them. Add the same number to the *x* -coordinates to slide the hexagon across, or to the *y* -coordinates slide the shape up.		
			Use short division to divide 4-digit numbers by 1-digit numbers, including those which leave a remainder; spot patterns, make and test general rules, and check when an answer does not fit the predicted pattern. **Example:** 4532 ÷ 4, 6382 ÷ 7, 5247 ÷ 3, 4783 ÷ 5 Which will have an answer of less than 1000? Can you tell just by looking which one will definitely have remainder?	**Multiply 1- and 2-digit numbers with up to 2 decimal places by whole numbers.** **Example:** 0·07 × 6 4·26 × 3 £48·76 × 3				
			Identify common factors, common multiples and prime numbers. **Example:** What are the common factors of 24 and 30? What is the smallest prime number?	**Use written division methods in cases where the answer has up to 2 decimal places.** **Example:** 1266 ÷ 8 = 158 r 2 = $158^{8}/_{8}$ or $158^{1}/_{4}$ = 158.25				
			Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, making an estimate using multiples of 10 or 100 of the divisor, **and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.** **Example:** 4936 ÷ 24 1392 ÷ 32 4560 ÷ 23	**Solve problems which require answers to be rounded to specified degrees of accuracy.** **Example:** 5242 eggs = $218^{5}/_{12}$ boxes of 24. Make up 218 full boxes.				
				Solve problems involving simple ratios, i.e. unequal sharing and grouping using knowledge of fractions and multiples. **Example:** The ratio of blue tiles to orange tiles is 3:5. There are 16 tiles altogether. How many are orange?				

Y6 Summer	**Solve number and practical problems** that involve place value in large numbers, rounding, comparison and negative numbers. **Example:** 57 905 – 4999 682 421 rounded to the nearest ten thousand is 680 000.	Consolidate adding and subtracting whole numbers with more than 4 digits, including using column addition and subtraction. **Example:** 53 407 – 21 999 39 264 + 51 703 + 9810 13 872 – 11 219	Use appropriate strategies to multiply and divide mentally, including by multiples of 10, 100 and 1000, and solve scaling problems and problems involving rate. **Example:** 3·45 × 10 243 ÷ 1000 86 × 5	**Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places**; round decimal numbers to the nearest tenth and whole number. **Example:** Which is greater, 7·845 or 7·425? 0.73 > 0.694	Solve problems using standard units; read scales with accuracy. **Example:** A jug contains 450 ml of water. If 150 ml is added, how much water is in the jug now? 24 mm + 29 mm + 30 mm 550 g – 200 g	**Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons**; find missing angles at a point, vertically opposite, or on a straight line. **Example:** Rectangles are quadrilaterals with two sets of equal sides and four right angles.	**Calculate and interpret the mean as an average.** **Example:** Lengths of caterpillars: 3·1 cm, 3·6 cm, 3·4 cm, 3·7 cm, 2·8 cm, 3·2 cm Mean length: (3·1 + 3·6 + 3·4 + 3·7 + 2·8 + 3·2) ÷ 6 = 19·8 ÷ 8 = 3·3 cm	**Express missing number problems algebraically** and identify appropriate methods in order to solve them. **Example:** 34 + a = 79. What is the value of a ?
	Use negative numbers in context, and calculate intervals across zero. **Example:** What is the difference in temperature between 6°C and –3°C?	Consolidate adding and subtracting numbers mentally with increasingly larger numbers. **Example:** 8429 + 34 966 982 384 – 600 10	**Multiply multi-digit numbers up to 4 digits by a 2-digit whole number using the formal written method of long multiplication** and solve problems involving multiplication of money and measures. **Example:** 23 × 4238 3452 × 24	Add several decimal numbers using mental or written addition. **Example:** 6·39 + 2·14 + 8·7 + 23·4 38·65 + 7·89 + 3·25 7·5 + 3·9 + 2·8	Consolidate using 12 and 24-hour clocks; use counting up to calculate time intervals and count on and back in hours and minutes, bridging the hour, to find start and finish times; use timetables. **Example:** How many days and weeks are in two and a half months?	Consolidate classifying angles as acute, right, obtuse or reflex. **Example:** 23° = acute 90° = right angle 151° = obtuse 252° = reflex	Read, **interpret and construct** tables, bar charts, pictograms, **pie charts and line graphs and use these to solve problems.** **Example:** Show a bar chart of the heights of children in a class. How many children are between one point two metres and one point two nine metres?	Solve mathematical puzzles and justify their reasoning; spot patterns and make and test predictions. **Example:** Make as many different squares of four dominoes as you can where all four sides add up to the same total.
	Round any whole number to a required degree of accuracy. **Example:** 38 905 rounded to the nearest thousand is 39 000.	**Solve addition and subtraction multi-step problems in contexts,** including money, **deciding which operations and methods to use and why.** **Example:** 23·47 – 20·3 6·39 + 2·14 + 8·7 + 23·4 £16·88 + £3·47	Multiply 2-, 3-, and 4-digit numbers by numbers up to 12 using short multiplication or another appropriate formal written method and solve word problems involving multiplication of money and measures. **Example:** 3 × £15·48 8365 × 8 34·8 × 6	Subtract decimal numbers using mental or written counting up or other mental strategies. **Example:** 23·47 – 20·3 43·81 – 17·9 35·25 – 18·63	Measure areas and perimeters; understand that area is a measurement of covering and is measured in square units and that perimeter is a length measured in mm, cm, m or km, for example; recognise that shapes with the same areas can have different perimeters and vice versa. **Example:** Length = 12 cm, width = 7 cm Perimeter = 2l + 2w. Double 12 is 24, double 7 is 14, 14 + 24 = 38 cm Area = l × w. 7 cm × 12 cm = 84 cm^2	Find pairs of numbers that satisfy an equation with two unknowns and list in order the possibilities of combinations of two variables. **Example:** a × b = 24. Work out the possible pairs of numbers that a and b could be.		
	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. **Example:** 4 372 195 < 7 816 039 7 652 771 < 7 653 672	**Solve problems involving addition, subtraction, multiplication and division.** **Example:** 3 × 26 – 15 (28 – 15) + 9 (6·4 – 4·2) ÷ 2	**Solve problems involving addition, subtraction, multiplication and division.** **Example:** 3 × 26 – 15 (6·4 – 4·2) ÷ 2	**Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.** **Example:** $^{14}/_{4} = 3^{1}/_{2}$ $^{16}/_{6} = 2^{2}/_{3}$ $^{2}/_{4}$, $^{8}/_{16}$, $^{4}/_{8} = {}^{1}/_{2}$	Calculate the area of rectangles, parallelograms and triangles. **Example:** Rectangle: Length = 6 cm, width = 7 cm. Area = 6 cm × 7 cm = 42 cm^2	Identify, **illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.**		
		Use knowledge of the order of operations, including using brackets, **to carry out calculations involving the four operations.** **Example:** 3 × (117 – 95) (3 × 4) + 16 45 – d = 21. What is d ?	**Use knowledge of the order of operations,** including using brackets, **to carry out calculations involving the four operations.** **Example:** 3 × (117 – 95) (3 × 4) + 16	Use knowledge of equivalence to compare and order fractions. **Example:** $^{2}/_{3} < {}^{5}/_{6}$ $^{7}/_{10} < {}^{4}/_{5}$ $^{3}/_{4}$, $^{9}/_{12}$, $^{30}/_{40} = {}^{3}/_{4}$	**Calculate, estimate and compare volumes of cubes and cuboids.** **Example:** 6 cm × 7 cm × 11 cm = 462 cm^3 12 cm × 8 cm × 3 cm = 288 cm^3	Identify coordinates on the full coordinate grid; find missing coordinates for a vertex on a polygon or line. **Example:** A parallelogram has given points A : (–5,3), B : (2,3), C : (–8,5). What are the coordinates of point D ?		
		Perform mental calculations, including with mixed operations and large numbers, and use inverse operations to solve missing number problems. **Example:** 3 × 26 – 15 c + 6 = 22. What is c ?	**Perform mental calculations, including with mixed operations and large numbers, and use inverse operations to solve missing number problems.** **Example**: 3 × 26 – 15 c + 6 = 22. What is c ? 64 ÷ (4 + 4)	**Add and subtract fractions, with different denominators and mixed numbers, using the concept of equivalent fractions.** **Example:** $^{1}/_{6} + {}^{1}/_{9}$ $^{5}/_{6} - {}^{3}/_{8}$ $^{2}/_{3} + {}^{3}/_{5}$				

		Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, making approximations, and interpret remainders as whole number remainders, fractions (simplifying where possible or writing the fractional part of the answer as a decimal where the equivalent is known) **or by rounding as appropriate for the context.** **Example:** 5242 ÷ 24 3759 ÷ 28 764 ÷ 16	**Solve problems involving the calculation of percentages and the use of percentages for comparison.** **Example:** 20% of 360 A laptop costs £500. In a sale there is 30% off that price. How much will the laptop cost?				
		Know all multiplication and division facts up to 12 × 12; **identify common factors, common multiples and prime numbers.** **Example:** What are the common factors of 54, 72 and 48? What is the lowest common multiple of 2, 4 and 5?	**Divide proper fractions by whole numbers.** **Example:** 34 ÷ 2 $^1/_4 \div 4$ $^1/_6 \div 3$				
		Use a systematic approach to solve problems involving multiplication and division. **Example:** A playground is to be 1728 m^2. It needs to be rectangular in shape and one side must measure between 20 and 30 m. Each side must be a whole number of metres to make efficient use of the 1 m fence panels. Find the possible dimensions of the playground and then compare these to find the most costefficient size in terms of how many fence panels are needed.	**Multiply simple pairs of proper fractions writing the answer in its simplest form**; understand that if two numbers less than 1 are multiplied, the answer is smaller than either. **Example:** $^3/_4 \times {}^1/_2$ $^2/_3 \times {}^1/_2$ $^2/_3 \times {}^1/_4$				
		Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division where appropriate, estimating answers and **interpreting remainders according to the context**, including money problems that require answers to be rounded. **Example:** 744 ÷ 6 8838 ÷ 6 1/8 of £86·40	**Solve problems involving the relative sizes of twovquantities where missing values can be found by using integer multiplication and division facts.** **Example:** 8 apples cost £1. 16 apples cost £2. How many apples cost £1·50?				
			Associate a fraction with division to find an unknown number using inverse operations. **Example:** $^{88}/_m = 4$. What is m ? $^w/_3 = 12$. What is w ?				

				Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. **Example:** 360 cats are tested. 90 of the cats prefer wet cat food to dry cat food. 90 out of 360 = 90 360 = 1 4 = 25% of cats				
				Multiply decimals by whole numbers by multiplying by $^{10}/_{100}$ to make whole number calculations then dividing by $^{10}/_{100}$ to find the answer. **Example:** 23 × 46·2 16 × 39·2 24 × 5·26				
				Solve problems involving similar shapes where the scale factor is known or can be found. **Example:** A model car is $^{1}/_{5}$ the size of a real car. If the length of the model car is 86 cm, what is the length of the real car?				

Post SATs investigation

Use mathematical reasoning to investigate and solve problems involving doubling numbers into the millions.

Example:

A wise man told an Emperor that he would like some rice. He asked the Emperor if he could have a grain of rice for the first square of a chessboard, then two grains of rice for the second square, then four grains of rice on the third square and to keep doubling for each square of the chessboard. How much rice is on the 9th square? How much is on the tenth square? How many grains of rice does the wise man get?

Understand Pythagoras' theorem about the lengths of sides in a right-angled triangle and test the rule.

Example:

Pythagoras' theorem states that for any right-angled triangle, the square of the length of the longest side, c, is equal to the sum of the squares of the two shorter sides, a and b. ($a^2 + b^2 = c^2$). Draw a right-angled triangle and measure the lengths of the three sides. Then draw and cut out three squares, one of each length, to show that the area of the largest square equals the total area of the smaller two squares.

Expected 'floor' standard for end of Year 6: 85% of children expected to meet this target