



Mathematics Skills Progression



Strand	Year Three	Stage Four	Stage Five	Stage Six						
Problem Solving	<p>Begin to adopt a systematic approach or suggested model to solve a problem.</p>	<p>Deconstruct a maths problem and find the important information needed to solve it.</p>	<p>Solve addition and subtraction two step problems in context deciding which operations and methods to use and why involving whole numbers, simple decimals and fractions</p> <p>PS5/PS20/PS25</p>	<p>Solve a multiplication and division one/two-step problem involving numbers, problems, using number facts, place value, money, measures, time to 2dp.</p> <p>PS20/PS25</p>	<p>Solve addition and subtraction multi-step problems in context deciding which operations and methods to use and why involving fractions, percentages, and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and those fractions with a denominator of a multiple of 10 or 25, using a calculator where appropriate.</p> <p>PS6/PS21/PS27</p>	<p>Solve problems involving addition, subtraction, multiplication and division and a combination of these including understanding the meaning of the equals sign.</p> <p>PS14/PS21</p>	<p>Solve addition and subtraction multi-step problems in context deciding which operations and methods to use and why. Involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</p> <p>PS7/PS22</p>	<p>Solve problems involving similar shapes where the scale factor is known or can be found.</p> <p>PS17/PS22</p>		
	<p>Use prior mathematical knowledge to solve problems</p> <p>e.g. buy a number of items for 10p with 2p</p>	<p>Identify a range of different approaches that can be used to solve a problem.</p> <p>e.g. find ways of making 25p with silver coins working systematically</p>	<p>Apply a range of appropriate approaches to systematically solve problems</p> <p>e.g. plan a menu for the café keeping to a given budget</p> <p>PS5/PS20</p>	<p>Solve simple multiplication and division problems including simple scaling by simple fractions.</p> <p>PS24/PS25</p> <p>Solve simple problems which require knowing simple percentage and decimals and simple conversion of units of measure.</p>	<p>Solve problems involving multiplication and division using knowledge of factors and multiples, squares and cubes</p> <p>PS13/PS21</p> <p>Use rounding to check answers to calculations and determine, in the context of problems, levels of accuracy.</p> <p>IOC4</p>	<p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates, percentages and decimal notation.</p> <p>PS15/PS21/PS26</p>	<p>Solve problems involving addition, subtraction, multiplication and division.</p> <p>PS8/PS16/PS22</p>	<p>Solve problems involving fractions, decimals and percentages, conversion of units of measure, scaling etc.</p>	<p>Solve problems involving the calculation of percentages, e.g. of measures and such as 15% of 360</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p> <p>IOC5/IOC8</p>	<p>Solve problems involving the calculation and conversion of units of measure using decimal notation up to 3dp where appropriate.</p> <p>MAC9/CON10/PS22</p>
	<p>Solve problems including missing number problems, using number facts, place value and more complex addition and subtraction</p> <p>PS4/EQ5/PS19</p>	<p>Solve problems including missing numbers involving multiplication and division, including positive integer scaling problems and correspondence problems in which 'n' objects are connected to 'm' objects.</p> <p>PS11/EQ6/PS23</p>	<p>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.</p> <p>PS12/PS20</p>	<p>Choose and use appropriate calculations/units of measure when solving number, measure and time problems, including timetables in 24 hour clock and calendars with ease.</p>	<p>Choose and use appropriate calculation strategies when solving mixed number, measure and time problems, including durations of time in hours and minutes.</p>	<p>Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including problems involving similar shapes where the scale factor is known or can be found.</p> <p>MAC/PS267</p>	<p>Use a range of calculation strategies to solve Year 5, measure and time problems with ease. Check answers to make sure they are reasonable.</p>	<p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p> <p>Use simple formulae</p> <p>F2</p>		
Communicating	<p>Use and interpret diagrams with increasing independence</p> <p>Explain a problem in my own words</p>	<p>Organise work systematically, begin to pose questions in order to clarify the problem.</p>	<p>Organise my work effectively so that it can be followed by others. I can clarify a problem independently.</p>	<p>Explore patterns, properties and relationships.</p>	<p>Explore reasoning and conclusions using words, symbols and diagrams as appropriate.</p>	<p>Understand the relationship between operations to identify an effective strategy to solve a problem.</p>	<p>Explain using maths language how I solved a problem.</p>	<p>Plan a line of enquiry.</p> <p>Make a reasoned prediction.</p>		
	<p>Explain what has been done verbally and where appropriate in writing</p> <p>Explain why an answer is or is not correct</p>	<p>Explain what has done and record in writing where appropriate using key statements.</p> <p>(e.g. It must be...because...)</p>	<p>Respond to probing questions giving valid reasons for choices made.</p> <p>e.g. Why do you think that...</p>	<p>Propose a general statement involving numbers or shapes, and identify an example that either supports (True) or disproves (False) the statement.</p>	<p>Give examples to either support (True) or disprove (False) the statement.</p>	<p>Give reasons why the examples either support (True) or disprove (False) the statement.</p>	<p>Use specific mathematical vocabulary in my explanations</p> <p>e.g. factor, prime, product.</p>	<p>Use an increasing range of mathematical vocabulary and terminology to support work.</p>		
	<p>Use known number facts and inverse to check own work.</p>	<p>Use a variety of methods to check my own work.</p>	<p>Use a variety of effective methods to check my own and others' work.</p>	<p>Begin to present my work in a clear and organised way.</p>	<p>Present work in a clear and organised way.</p>	<p>Present work in a clear and organised way and explain my work using accurate mathematical language.</p>	<p>Present information and results in a clear and organised way that supports reasoning.</p>	<p>Draw conclusion and give explanations for reasoning using words and symbols.</p>		
Reasoning	<p>Explain why an answer is correct</p> <p>e.g. I think the answer is 12 because it is the next multiple of 3</p>	<p>Find examples that meet simple general statements.</p> <p>e.g. Every multiple of 4 is a multiple of 2</p>	<p>Identify and use patterns, relationships and properties of numbers and shapes; investigate a statement involving numbers, and know when I have tested an appropriate number of examples.</p>	<p>Explore and identify patterns, properties and relationships.</p>	<p>Represent and interpret sequences, patterns and relationships involving numbers and shapes.</p>	<p>Explain reasoning and give simple conclusions to problem solving.</p>	<p>Provide evidence to prove /disprove a prediction.</p>			
	<p>Respond to questions about patterns and their relationships.</p> <p>e.g. What if...?, How could you test...?, Can you predict...?</p>	<p>Identify and use patterns, relationships to make a simple general statement.</p> <p>e.g. I think that...All will...because</p>	<p>Show an understanding of general statements that are 'true', by find examples that are both true and false (counter examples)</p> <p>e.g. Every multiple of 4 is a multiple of 2 because...</p>	<p>Propose a general statement involving numbers or shapes.</p>	<p>Propose and test a general statement involving numbers and shapes.</p>	<p>Suggest a Hypothesis.</p>	<p>Suggest and test a Hypothesis.</p> <p>Provide a range of evidence to support the outcome of tests.</p>	<p>Provide evidence to support the outcome of the test.</p> <p>Generate sequences and describe the general term.</p>		
				<p>Identify an example that either supports (True) or disproves (False) the statement.</p>	<p>Identify examples that either support (True) or disprove (False) the statement.</p>	<p>Construct and use simple expressions and formulae in words.</p>	<p>Construct and use simple expressions and formulae in words then symbols.</p>	<p>Construct and use increasingly complex expressions and formulae.</p>		

Number and Place Value	Read, write, order, count, and compare numbers to 1000 in numerals and words. CN3/RW3	Count from 0 in multiples of 4, 8, 50 and 100. CN5	Read, write, count and order numbers to beyond 1000 and know the value of the digits. CN4	Read, write, count and order numbers to 100,000 and know the value of the digits. C9	Read, write, count, order and compare numbers to 100,000+ and know the value of the digits. Count in a range of multiples. CN6/RW6/UPV5	Read, write, count, order and compare numbers to 1 million and know the value of the digits. CN7/RW8/UPV7	Multiply/divide whole numbers and decimals by 10/100/1000.	
		Compare numbers with the same number of decimal place. CN5	Find 1000 more or less than a given number. C9					
		Find 10 or 100 more or less than a given number. CN6	Count in multiples of 6 and 7.	Count in multiples of 6, 7, 9, 25 and 1000. C8/MD6		Count forwards and backwards in steps of powers of ten from any given number up to 1 million. CN11/MD8	Count forwards and backwards with positive and negative whole numbers through zero.	Identify and count forwards and backwards in common multiples and prime numbers. P6
	Recognise the place value in each digit of a three digit number and partition in to multiples of 10, 10, 1 in a range of different ways. UPV2	Round three-digit and four-digit numbers to the nearest 10, 100, 1000 and give estimates for their sums.	Recognise the place value of each digit in a four-digit numbers, partition in to multiples of 100, 100, 10, 1 in a range of different ways. UPV3	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 units, tenths and hundreds. UPV4	Round six digit+ numbers to the nearest 10/100/1000/10,000/100,000. R3	Recognise and partition six digit numbers in to multiples of 10,000, 1000, 100, 10, 1 in a range of different ways.	Round any whole number to a required degree of accuracy. R5	Round decimals to 3 d.p and position them on a number line.
	Find 10 or 100 more or less than a given number to 1000+. CN6	Identify, estimate and represent numbers in different ways. IRE3	Identify factors and prime numbers for numbers to 50+. CN4	Identify pairs of factors for two-digit numbers. Showing an awareness of prime factors and composite (non-prime numbers). IRE4	Identify multiples, factors, square numbers and prime numbers to 100. Recognise and describe linear number sequences, including those involving fractions and decimals; e.g. 3, 3 1/2, 4, 4 1/2, ...	Recognise and describe number relationships including multiple, factor, square and cube numbers (including notation). Recognise and describe linear number sequences, and find the term-to-term rule in words e.g. add 1/2 PS/MAC17	Recognise the sequences of triangular numbers, square numbers and cube numbers, using appropriate notation; e.g. (2) (3). PS/MAC17	Recognise, understand and generate number sequences; e.g. Fibonacci Sequence.
	Count from 0 in multiples of 4,8,50 and 100. MD4	Use positive and negative numbers in context and position them on a number line. IOC2/10C6	Recognise negative numbers and continue positive/negative number sequences and find missing numbers. IOC3/10C7	Count backwards through zero to include negative numbers. C7	Count forwards and backwards with positive and negative whole numbers through zero. C10	Interpret negative numbers in context. S10	Use negative numbers and calculate intervals across zero. CN12	Interpret negative numbers in a range of contexts.
	Read Roman Numerals from I to XII.	Estimate the answer to a calculation and use the inverse operation to check answers. IOC2/10C6		Read, write and order Roman numerals to 100 (I to C) and know that over time the number system changed to include the concept of zero and place value. RW5	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. RW7			
	Mental Maths	Add and subtract numbers mentally e.g. a three-digit number and one A three-digit number and ten A three-digit number and hundreds MCS	Add and subtract mentally. A two-digit number and a single-digit number Two, two digit numbers MC12/P1	Add and subtract mentally pairs of two digit numbers. e.g. 47 +58, 91 – 35 Recognise and use factor pairs commutatively in mental calculations. MC11	Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1 and multiplying together three numbers. MC6	Add and subtract numbers mentally with increasingly large numbers and tenths and one-digit whole numbers and tenths. MC13	Multiply and divide numbers mentally drawing upon know number facts. Multiply integers and those involving decimals by 10/100/1000 MC14	Perform mental calculations involving mixed operations and large numbers. MC7/MC15
		Recall multiplication tables 2x, 4x, 5x and 10x.	Recall multiplication tables 2x, 4x, 5x and 10x, and corresponding division facts.					
	Addition & Subtraction	Add and subtract two-digit numbers that bridge 10s and 100s.	Add and subtract numbers up to three digits using formal written methods of column addition and subtraction. Use inverse to estimate and check answers to calculations. WM2	Add and subtract whole numbers with up to 4 digits using formal written methods of column addition and subtraction. WM3	Add and subtract three digits to 1dp using formal written methods of column addition and subtraction.	Add and subtract three digits to 2dp using formal written methods of column addition and subtraction. WM4	Solve addition and subtraction multi-step problems, deciding which operations and methods to use and why. PS7/PS22	Use knowledge of the order of operations to carry out calculations involving all four operations. MCR001
Add near multiples of 10 when adding two or three-digit number.		Identify and use addition and subtraction complements of 200. e.g. 150 + 50 = 200 200 – 150 = 50	Identify and use addition and subtraction complements of 500. e.g. 350 + 150 = 500 500 – 150 = 350	Identify and use addition and subtraction complements of 500+. e.g. 550 + 150 = 700 600 – 150 = 450	Identify and use addition and subtraction complements of 1000. e.g. 650 + 350 = 1000 1000 – 650 = 350	Calculate decimal complements. e.g. 6.8 + 3.2 = 10 10 – 6.8 = 3.2	Calculate decimal complements. (e.g. 63.8 + 36.2 = 100 100 – 63.8 = 36.2)	
Count from any given number in whole number and decimal steps.		Add using decimal notation up to 2 decimal places.	Extend counting beyond zero when counting backwards and relate numbers to their position on a number line.	Find the difference between a positive and a negative number or two negative numbers in context.	Add using negative numbers.	Add and subtract negative numbers.	Use inequalities. (e.g. -3 > -5, -5 < -3)	Calculate simple algebraic equations. (e.g. 2n + n = 9)

Multiplication & Division	Write and calculate statements for multiplication and division using multiplication tables, including two-digit numbers times one-digit numbers. Using mental and formal written methods.	Recall and use the multiplication and division facts for 4x, 5x, 3x, 6x multiplication tables, e.g. $36 \div 6 = 6$, $6 \times 6 = 36$ $72 \div 8 = 9$, $9 \times 8 = 72$	Recall and use the multiplication and division facts for 7x, 8x and 9x, (e.g. $63 \div 9 = 7$, $9 \times 7 = 63$)	Use knowledge of multiplication facts and corresponding division for 2x to 12x tables to multiply and divide.	Count forwards and backwards in steps of powers of ten from any given number up to 10 000.	Recognise and describe number relationships including multiple, factor, square and cube numbers, (including notation)	Multiply HTU x TU including problem solving and calculator methods.	Multiply HTU x TU including problem solving and calculator methods.
	Count from 0 in multiples of 4.8.50 and 100.	Recall the doubles of two-digit numbers and use these to calculate doubles of multiples of 10 and 100.	Multiply a decimal by 10, e.g. 42.9×10	Multiply and divide a decimal by 10, e.g. 42.9×10	Multiply a decimal to 2.d.p by 10 and 100 e.g. 36.23×10	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	Work out decimal calculations using related multiplication facts (e.g. $0.8 \times 7 = 5.6$)	Multiply decimals up to 2. D. p. by a one-digit number.
	Recall the doubles of all numbers to 100+. Use knowledge of halving to 'undo' doubling.							
Use Expanded Grid method to represent and solve multiplication problems.	Use the Grid method to multiply a two digit number by a one digit number.	Multiply/divide a two-digit and three-digit number by a one digit number using formal layout.	Multiply/ divide a four digit numbers by a two-digit number.	Extend methods to the multiplication of a two digit number by a two-digit number (e.g. 16×2)	Multiply/divide a four digit number by a one or two digit number using formal written method. (long multiplication and short division and interpret remainders appropriately)	Divide a four-digit number by a two-digit number using formal written method of short and long division and interpret remainders as whole number remainders.	Divide a four-digit number by a two-digit number where there is a remainder is a fraction or by rounding.	
Write and calculate statements for multiplication and division using multiplication tables, including two-digit numbers times one-digit numbers. Using mental progressing to formal written methods.		Identify factors and prime numbers for numbers to 50+.	Recognise and use factor pairs and commutativity in mental calculations.	Identify multiples and factors including finding all factor pairs of a number and common factors of two numbers	Know and use vocab of prime numbers, prime factors and composite (non-prime numbers). Establish whether a number up to 100 is a prime number and recall prime numbers up to 19.	Identify common factors, common multiples and prime numbers.	Express a two digit number as a product of prime factors. (e.g. understand that 48 can be expressed as $2 \times 2 \times 2 \times 3$ or 2 to the power of 4×3)	
Recall the halves of odd and even numbers to 50+ e.g. half of 27 is 13.5	Recall the halves of numbers to 100+ e.g. half of 36.5 is 18.25	Count in multiples of 6, 7, 9, 25 and 1000.	Multiply and divide integers by 10/100/1000.	Multiply and divide integers by 10/100/1000/10,000.	Multiply integers and those involving decimals by 10/100/1000	Multiply one-digit numbers up to 2 d.p. by whole numbers.	Recognise and use square and cube numbers and the notation for square and cubed numbers.	
Use Partitioning e.g. $28 \div 2 = 14$ $20 \div 2 = 10$ $8 \div 2 = 4$	Use knowledge of the doubles of two-digit numbers to derive the halves of multiples of 10 and 100. Use apparatus to model division calculations with remainders.	Derive and recall division facts for 2, 5, and 10 up to 1000+.	Identify the doubles and corresponding halves of two-digit numbers	Double and halve whole numbers e.g. double 126 is 62, half of 320 is 160	Multiply /halve decimals. e.g. $26.5 \times 3 = 79.5$	Work out decimal calculations using related division facts (e.g. $4.8 \div 6 = 0.8$.)	Work out decimal calculations to 2. D. p. using related division facts (e.g. $29.2 \div 8 = 3.65$)	
Written and Calculator Methods	Use Expanded Grid method to represent and solve multiplication problems.	Use the Grid method to multiply a two digit number by a one digit number.	I can use inverses in number problems (e.g. I think of a number, double it and add 5. The answer is 35. What is the number?).	Solve problems involving multiplying and adding including distributive law to multiply two digit numbers by one digit and integer scaling problems, and harder correspondence problems, such as 'n' objects are connected to 'm' objects.	Use the order of operations, including brackets.	Complete balancing equations with all four operations. (e.g. $700 \div 10 = 52 + P$)	Use the commutative e.g. $95 + 86 = 86 + 95$ associative e.g. $25 + 17 + 18 = (25 + 17) + 18$ and distributive e.g. $2(P + 2) = 2P + 4$ laws.	Use brackets and inverses effectively (e.g. $(24 + P) \div 6 = 5$)
	Add and subtract numbers up to three digits using formal written methods of column addition and subtraction	Add and subtract numbers up to three digits using the most appropriate method	Multiply and divide four and five digit numbers. Read a calculator display in the context of money. (e.g. 12.5 as £12.50)	Use formal written methods of short multiplication and short division with exact answers.	Multiply numbers up to 4 digits by a one or two digit number using formal written method including long multiplication for two-digit numbers.	Divide numbers up to 4 digits by a one digit number using formal written method of short division and interpret remainders appropriately for the context.	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.	Divide a four-digit number by a two-digit number using formal written method of short and long division and interpret remainders as whole number remainders.
					Use a calculator to calculate percentages	Use a calculator to find missing numbers including decimals.	Use a calculator to add/subtract/ multiply/divide whole numbers and decimals up to 2 places.	Use written division methods in cases where the answer has up to 2dp.

Fractions, Decimals, percentages	Read and write proper fractions, recognise that the denominator is the parts of the whole and the numerator as the number of parts.	Add and subtract fractions with the same denominator within one whole e.g. $4/6 + 1/6 = 5/6$ ASF1	Add and subtract a range of unit fractions with the same denominator. ASF2	Multiply fractions with the same denominator.	Add and subtract fractions with the same denominator and multiples of the same number. e.g. $5/7 + 4/7 = 9/7$ or 1 and $2/7$ ASF3	Multiply and divide fractions with the same denominator.	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. ASF5	Recall and use equivalences between fractions, decimals and percentages, including in different contexts. e.g. $1/4 = 25\% = 0.25$ E12
		Compare and order unit fractions and fractions of the same denominators. COMF1						
	Recognise, find and use fractions of a discrete set of objects, unit fractions and non-unit fractions with small denominators, (e.g. $1/2, 1/3, 1/4$ of 12 litres) RF4	Recognise and use fractions as numbers, unit fractions and non-unit fractions with small denominators RF6	Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. RF7	Convert simple improper fractions to mixed fractions, (e.g. $7/2 = 3\frac{1}{2}$).	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. E6	Recognise and convert mixed numbers and improper fractions and convert from one form to another and write the mathematical statements greater than 1 as mixed number. e.g. $25 \div 45 = 6\frac{5}{9} = 1\frac{11}{9}$ ASF4	Use common factors to simplify fractions: use common multiples to express fractions in the same denominator. P7/E10	Convert mixed and improper fractions with different denominators to decimals and percentages.
	Use diagrams to compare fractions and establish equivalents. Recognise simple equivalents. (Half of a £ is 50p)	Recognise and show using diagrams equivalent fractions with small denominators. e.g. $1/2 = 2/4$ E2	Recognise and show families of common equivalent fractions using diagrams. (e.g. $6/8$ and $3/4, 70/100$ and $7/10$) E3	Recognise and write decimal equivalents for $1/2, 1/4, 3/4$. E5	Compare and order fractions whose denominators are all multiples of the same number. COMF2	Multiply proper fractions and mixed numbers by whole numbers supported by materials and diagrams. e.g. $3/4 \times 3 = 9/4$ or 2 and $1/4$ or 9 and $1/4 \times 3 = 9$ and $3/4$ MDF1	Compare and order fractions, including fractions > 1. COMF3	Multiply simple pairs of proper fractions, writing the answer in its simplest form. MDF2
		Match simple equivalent decimals and fractions, half=0.5, quarter=0.25						Divide proper fractions by whole numbers. e.g. $1/3$ divided by 2 = $1/6$ MDF4
Count up and down in 10ths and find $1/10^{\text{th}}$ of a quantity. CF2	Count up and down in tenths and recognise that tenths arise from dividing an object into 10 equal parts and dividing one-digit numbers or quantities by 10. CF2/RF5	Recognise and write decimal equivalents of any number of tenths or hundredths. E4	Divide a one or two-digit number by 10 or 100, identifying the value of the digits in the answer as ones, tens and hundredths. UPV4/MDD1	Round decimals to two decimal places to the nearest whole number and to one decimal place. R4/RID2	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. UPV6/RF8/E8	Solve problems that require answers to be rounded to specified degrees of accuracy. R6/RID3	Identify the value of each digit in numbers given 3dp and multiply and divide numbers by 10, 100, 1000 giving answers up to three decimal places. UPV/CD37/MDD3/MDD4	
		Round decimals with one decimal place to the nearest whole number and count up and down in 100ths. R2/CF3/RID1	Compare numbers with the same number of decimal places (2dp) CNS/CD1	Read, order, compare and write decimal numbers as fraction. e.g. $0.71 = 71/100$ E7	Read, write, order and compare numbers with up to three decimal places. CD2	Multiply one-digit numbers up to 2 d.p. by whole numbers. MDF3/MDD2		
Use £ and p notation. e.g. $£2.10 + 31\text{p}$	Add and subtract amounts of money giving change using both £ and p. MAC15	Estimate, compare and calculate amounts of money giving change using both £ and p. CE7/MAC5	Find simple percentages e.g. 10%, 25%, 50%, 75% of quantities and percentages e.g. 30%, 60% of quantities (multiples of ten).	Recognise that the % symbol relates to number of parts per hundred. E8	Write percentages as a fraction with denominator 100, and as a decimal. E9	Solve problems involving the calculation of percentages (e.g. of measures, such as 15% of 360) and the use of percentages for comparison. RP2	Associate a fraction with division and calculate decimal fraction equivalents, (e.g. 0.375) for a simple fraction (for example $3/8$) MC16/E11/MDD5	
Algebra	Find missing numbers with HTU using addition and subtraction.	Find missing numbers with HTU using multiplication.	Find missing numbers with ThHTU including multiplication.	Complete balancing calculations including division. e.g. $18 \div \Delta = 120 \div 6$	Use symbols to represent an unknown number or variable e.g. $3n=30$ $n=10$	Express missing number problems algebraically.	Express missing number problems algebraically. EQ8	Find all possible combinations of two variables. EQ10
							Find pairs of numbers that satisfy number sentences involving two unknowns. e.g. $a + b = b + a$ EQ9	Recognise when it is possible to use formulae for area and volume of shapes. F3
	Continue a number-based sequence, e.g. factors or prime numbers	Recreate and generate a range of number sequences.	Recognise and continue a complex sequence. e.g. square or triangular-based numbers.	Continue simple fraction (e.g. halves and quarters) and decimal sequences (e.g. to one decimal place) and find missing numbers.	Identify complex patterns and make generalisations.	Identify patterns in numbers and make own rules. e.g. multiples of 4 are divisible by 2	Generate and describe linear number sequences. S4	Express generalisations using symbols and notation. F2
Ratio and Proportion	Confidently identify the proportion of a quantity, shape or fractions.	Solve problems involving proportions of quantities. e.g. increase the quantities in a recipe for 2 people to feed 4 people.	Solve problems involving proportions of quantities. e.g. increase the quantities in a recipe for 2 people to feed 6 people.	Reduce a ratio to simplest form and use it in problem solving by multiplying. E.g. given the ingredients in a recipe for 5 people, calculate the quantities needed for 8 people.	Solve problems involving similar shapes where the scale factor is known or can be found. RP3	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and divisions. RP1	Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. RP4	

Measures Capacity & Volume	Measure, compare, add and subtract volume/capacity (l/ml) MAC3 Read scales to the nearest divisions. e.g. 2, 5, 10 Interpret the divisions between the numbers on the scale. e.g. scale from 0 to 25 in intervals of 1 with a scale numbered in 5s	Read and record scales accurately, where appropriately to the nearest tenth of the unit. e.g. On a 0-1L scale with 200ml intervals recognise that half way between 400ml and 600ml is 500ml Interpret intervals and divisions on partially numbered scales and record readings accurately.	Measure, compare, add and subtract standard metric units and their abbreviations when estimating, measuring and recording capacity. e.g. ml, cl, dl, L CON3 CON6 CE7	Convert between units of measure in capacity and volume. e.g. ml, dl, l. Estimate, compare and calculate different measures including volume and capacity.	Convert between units of measure in capacity with ease. e.g. dl to L and vice versa CON8/CON11	Understand and use equivalent imperial/metric units. e.g. 1.76pt = 1ltr CON8/CON11	Understand and use equivalent imperial/metric units. e.g. 1.76pt = 1ltr CON9	Use, read, write and convert between standard units of measure in capacity, using decimal notation up to 3 decimal places. e.g. dl to L and vice versa CON9
Measures Time	Know the number of seconds in a minute and the number of days in each month, year and leap year. Use vocab such as o'clock, am/pm, morning afternoon, noon, midnight. TT6/CON2	Compare durations of events, e.g. calculate the time taken by a particular event or task CE5	Read, write, compare and convert time between analogue and digital 12 hour clocks. TT7/CON4	Read, write, compare and convert time between analogue and digital 12 and 24 hour clocks. Solve problems involving the conversion of hours to minutes, minutes to seconds, weeks to days etc. TT8/CON3/CON5	Solve problems involving the conversion of from hours to minutes, minutes to seconds, weeks to days. TT9/CON7	Solve a range of problems involving converting between units of time. TT9/CON7		
Statistics Processing and Representing Data	Solve one step and two step questions, e.g. How many more? How many fewer, using information contained within simple scaled pictograms, bar charts and tables. e.g. 2, 5, 10 units per cm SP1	Construct graphs with simple scales of one, two, five or 10 with increasing accuracy	Construct graphs and charts selecting own scales. e.g. scale of 2, 4 10	Use Venn/Carroll diagrams using two criteria such as 'multiples of 8' and 'multiples of 6'.	Construct a line graph.	Construct a frequency graph.	Formulate questions and collect the data needed to answer them	Design a survey to capture data from more than one source.
	Collect data and record it in a simple block graph/computer database, lists tables and charts.	Answer a question by identifying the data to be collected.	Gather information from a range of frequency tables, pictograms and bar and line graphs to represent the frequency of events and changes over time.	Collect discrete data e.g. record how many scores of 6 in fifty throws of the dice and record in a frequency table I can group data into equal class intervals	Collect data to support the testing of a hypothesis linked to the frequency of an event. (using a frequency table)	Choose a suitable class interval when collecting or representing data. e.g. The number of hours spent using computers	Construct tables for large sets of raw data, choosing suitable class intervals.	Design and use two-way tables.
		Talk about the data collected.	Use comparative language with confidence to talk about a range of charts, graphs and diagrams.	Understand 'certain', 'impossible', 'more likely', 'equally likely', 'fair', 'unfair' in probability.	Decide whether a probability can be estimated or calculated.	Describe and predict outcomes from data using the language of chance and likelihood.	Compare two probabilities to show likelihood. e.g. two spinners, which is more likely to give an even number	Determine whether a probability can be calculated or estimated.
Statistics Interpreting Data	Draw simple conclusions about data in a simple block graph/computer database and pose questions about the data.	Interpret and present data in tables, diagrams, tally charts pictograms and bar charts Venn/Carroll diagrams. ICP4 Interpret scales on bar and line graphs by reading the scale between the divisions. e.g. reading 22 on a scale labelled in 5s	Interpret and present discrete and continuous data using appropriate graphical methods including, bar charts and time graphs. IPC5	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. SP2	Complete, read and interpret information in tables, including timetables. e.g. a conversion table IPC6	Solve comparison, sum and difference problems using information presented in a line graph. SP3	Interpret and construct pie charts and line graphs and use to draw conclusions and solve problems IPC7 SP4	Create and interpret a range of data from a variety of representations and identify ways to extend the survey/investigation.
	Extract information from graphs and charts where the scale is in ones and twos and use this to solve simple problems.	Extract information from a range of scaled graphs and charts.	Compare information from more than graph or chart.	Calculate the median of a set of data	Use mode to compare two sets of data.	Use mode and range to compare two sets of data.	Understand, calculate and interpret the mean of a set of data as an average.	Compare two distributions using the range and one from the mode, mean, median. e.g. Find five numbers where the mode is 6 and the range is 8
	Draw simple conclusions for the data collected. e.g. How many more...?	Give reasons for conclusions.	Give reasons for variations.	Compare discrete and continuous data.	Identify the difference between a range of discrete and continuous data.	Compare data sets and respond to questions.	Draw conclusions from comparable data that may be misleading. e.g. data from two pie charts with different sample sizes.	