Year 5 Small Steps

Year 5			
Number and Place Value			
Vocabulary: Numbers to a million, Roman numerals to one thousand, powers of 10, digit, integer, equal to, more, less, greater than, fewer, less than, largest, greatest, least, most, estimate, approximately.			
Autumn 3-week block			
Step		**NC links**	**Notes:**
1	Roman numerals to 1000	Read Roman numerals to 1000 Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.	Applied throughout the year for writing the date in maths books.
2	Numbers to 10,000 Numbers to 100,000	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 Solve number problems and practical problems involving the above	
3	Numbers to 1,000,000		
4	Read and write numbers to 1,00,000		
5	Partition numbers to 1,000,000	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	
6	Compare and order numbers up to 100,000 Compare and order numbers up to 1,000,000	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	
7	Round to the nearest 10 100 and 1,000 (within 100,000)	Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000	
8	Round to the nearest 10 100 and 1,000 (within 1,000,000)		
9	Rounding within 1,000,000		
10	Application	solve number problems and practical problems that involve all of the above	

Year 5			
Addition and subtraction			
Vocabulary Place holder, inverse operations, rounding, estimation, approximate (formal method, Column, column addition and subtraction; regroup; efficient; estimate, bar model, exchange)			
Autumn 2-week block			
Step		**NC links**	**Notes:**
1	Add whole numbers with more than four digits	Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction) solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Taught additionally in arithmetic
2	Subtract numbers with more than four digits		
3	Checking answers: Rounding to check Using inverse operations	Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Can be taught as two separate lessons if needed.
4	Multi-step addition and subtraction Problems		

Year 5 Small Steps

5	Compare calculations	Add and subtract numbers mentally with increasingly large numbers	
6	Find missing numbers	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Taught additionally in arithmetic using inverse operations
Year 5			
Multiplication and Division			
Vocabulary: Common factor, prime number, composite number, prime factor, square number, cubed number; round up/down (factor pair, multiples, common multiple, product, remainder, divisor)			
Autumn 5-week block			
Step		**NC links**	**Notes:**
1	Multiples Common multiples	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers - establish whether a number up to 100 is prime and recall prime numbers up to 19 Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	Opportunities during tables stick sessions for consolidation
2	Factors Common factors Prime		Including identifying prime numbers
3	Squared and cubed numbers	Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	Taught additionally in arithmetic
4	Multiply and divide by 10 100 and 1,000	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	Taught additionally in arithmetic
5	Application	Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	
6	Multiply up to a 4-digit number by a 1-digit number	Multiply numbers up to four digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers	
7	Multiply a 2-digit number by a 2-digit Number		
8	Multiply a 3-digit and a 4-digit number by a 2-digit number		
9	Solve problems with multiplication		
10	Short division – 4 digit by 1-digit	Divide up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context	
11	Divide with remainders		
12	Solve problems with division	solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	
13	Solve scaling problems	solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Links to recipes etc as a pre-teach for Year 6.

Year 5 Small Steps

Year 5			
Fractions			
Vocabulary: Common denominator, thousandth; simplify, simplified; convert; equivalence (Proper fraction, improper fraction, mixed number)			
Autumn / spring 6-week block			
Step		**NC link**	**Notes:**
1	Find fractions equivalent to a unit fraction (recognise equivalent fractions)	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	
2	Find fractions equivalent to a non-unit fraction (recognise equivalent fractions)		
3	Convert improper fractions to mixed numbers	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number	
4	Convert mixed numbers to improper fractions		
5	Compare and order fractions less than 1	Compare and order fractions whose denominators are all multiples of the same number	
6	Compare and order fractions greater than 1	Compare and order fractions whose denominators are all multiples of the same number	
7	Add and subtract fractions with the same denominator (within and greater than 1)	Add and subtract fractions with the same denominator, and denominators that are multiples of the same number Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number	
8	Add fractions with a total greater than 1		
9	Add to a mixed number		
10	Add two mixed numbers		
11	Subtract fractions	Add and subtract fractions with the same denominator, and denominators that are multiples of the same number Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.	
12	Subtract from a mixed number		
13	Subtract from a mixed number – breaking the whole* **OPTIONAL STEP***		
14	Subtract two mixed numbers		
15	Multiply a fraction by an integer	Multiply fractions and mixed numbers by whole numbers, supported by materials and diagrams	
16	Multiply a mixed number by an integer		
17	Calculate a fraction of a quantity Fraction of an amount		
18	Finding the whole		
19	Application	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 (Y4)	

Year 5 Small Steps

Year 5			
Decimals and percentages			
Vocabulary: Integer, per cent, percentage, per hundred, tenth, hundredth, thousandth, place holder			
Spring 5-week block			
Step		**NC link**	**Notes:**
1	Decimals up to 2 decimal places	Read, write, order and compare numbers with up to 3 decimal places Read and write decimal numbers as fractions Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	
2	Equivalent fractions and decimals (tenths and hundredths)		
3	Thousandths as decimals		
4	Thousandths as fractions		
5	Equivalent fractions and decimals		
6	Order and compare decimals	Read, write, order and compare numbers with up to 3 decimal places	
7	Round to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal place	
8	Round to 1 decimal place		
9	Use and know facts to add and subtract within 1	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Solve problems involving number up to 3 decimal places	
10	Add decimals – same number of decimal places		These steps can be easily combined in pupils are secure in their place value
11	Add decimals – different number of decimal places		
12	Subtract decimals – same number of decimal places		
13	Subtract decimals – different number of decimal places		
14	Decimal sequences	Read, write, order and compare numbers with up to 3 decimal places	
15	Multiply and divide by 10, 100 and 1,000	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 Solve problems involving number up to 3 decimal places	
16	Problem sole with decimals – including missing values		
17	Understanding percentages	Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25	
18	Percentages as fractions and decimals		
19	Equivalent fractions, decimals and percentages – problem solving	Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25	
20	Problem solving- including scaled and money	use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	Make time to ensure percentages of amounts is secure in addition to these steps from prior

Year 5 Small Steps

			year groups learning.
Year 5			
Negative numbers			
Vocabulary: Negative number (count back through zero)			
Spring -2-week block			
Step		**NC link**	**Notes:**
1	Count through zero in 1s and multiples	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	
2	Compare and order negative numbers		
3	Find the difference		
4	Application		
Year 5			
Area and perimeter			
Vocabulary: Area, perimeter, polygons, compound shape, cm^2 (Km; rectilinear; area, square centimetres)			
Spring 2-week block			
Step		**NC link**	**Notes:**
1	Perimeter of rectangles and rectilinear shapes	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shapes use the properties of rectangles to deduce related facts and find missing lengths	
2	Perimeter of polygons		
3	Area of rectangles and compound shapes		
4	Estimate area		
5	Application		
Year 5			
Shape			
Vocabulary: Degrees, protractor, reflex angle (recap acute angle, right angle, obtuse angle); irregular polygon, dimensions; net.			
Summer 3-week block			
Step		**NC link**	**Notes:**
1	Understand, use, and estimate in degrees	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	
2	Classify angles		

3	Measure angles up to 180°	Draw given angles, and measure them in degrees (°)	
4	Draw lines and angles accurately		
5	Calculate angles on a straight line	Angles at a point on a straight line and half a turn (total 180°)	
6	Calculate angles around a point	Identify angles at a point and 1 whole turn (total 360°) and other multiples of 90	
7	Lengths and angles in shapes	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	
8	Regular and irregular polygons		
9	3-D shapes	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	
Year 5			
Position and direction			
Vocabulary: Reflection, reflect, translation (Coordinates, translation, first quadrant, x-axis, y-axis)			
Summer 2-week block			
Step		**NC link**	**Notes:**
1	Read and plot coordinates	Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	
2	Translation		
3	Translation with coordinates		
4	Lines of symmetry		
5	Reflections in both horizontal and vertical lines		
6	Application		
Year 5			
Converting units			
Vocabulary: imperial units, metric units, inches, lbs, pints			
Summer 2-week block			
Step		**NC link**	**Notes:**
1	Convert units of length	Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]	
2	Convert units of weight		
3	Convert between metric and imperial units	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	
4	Convert units of time	Solve problems involving converting between units of time	
5	Calculate and problem solve with timetables		

Year 5 Small Steps

Year 5			
Volume			
Vocabulary: volume, capacity, cm cubed/cubic cm			
Summer 1 week block			
Step		**NC link**	**Notes:**
1	Cubic centimetres	Estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity Estimate volume and capacity [for example, using water	
2	Compare volume		
3	Estimate volume and capacity		
4	Estimate capacity		
Year 5			
Statistics			
Vocabulary: (Continuous data, discrete data; line graph, x-axis, y-axis)			
Summer 2-week block			
Step		**NC link**	**Notes:**
1	Read and interpret line graphs	Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret information in tables, including timetables	
2	Draw line graphs		
3	Read and interpret tables	Complete, read and interpret information in tables, including timetables	
4	Two way tables		
5	Apply statistic knowledge to solve problems using information presented in tables and graphs		

Year 5 Small Steps

Year 5					
Basic Knowledge DELTA progression to MTC and beyond:					
Consolidate all X / ÷ to 12X12 Extend into basic skills: eg If 7X6=42 then what is 70X60?					
DELTA SSA end points:					
Place Value	Addition	Subtraction	Multiplication	Division	Fractions
700,000 + ☐ + 6,000 + 999 = 796,999	518,073 + 91,927 =	2,301 - 1,650 =	319 X 33	7 ⟌ 7056	$1\frac{3}{8} + \frac{3}{4} =$

Basic Knowledge and Basic Skills

Strand		NC links	Notes:
PV	Powers of 10	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	These objectives will come into other steps in the SDI sessions but use arithmetic time to consolidate.
PV	10,100,1000,10,000,100,000 more or less	Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	
A&S	Mental strategies	Add and subtract numbers mentally with increasingly large numbers	Take care to model this during arithmetic sessions.
M&D	Prime numbers	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	This is covered in SDI sessions but ensure pupils are confident identifying them in tables stick sessions etc.
M&D	Square numbers		
M&D	Cube numbers		
M&D	Multiply and divide by 10 100 and 1,000	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	Pupils should become confident in this before the end of the year.
M&D	Multiples of 10,100,1000	Multiply and divide whole numbers and those involving decimals by 0, 100 and 1,000 Multiply and divide numbers mentally, drawing upon known facts	
M&D	Efficient division	Divide up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context	Take care to model this during arithmetic sessions.
dec	Compliments to 1	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Solve problems involving number up to 3 decimal places	Apply number bonds to this – ensure pupils can see the patterns and relationships.
FDP	Recall equivalence	Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25	Opportunities needed to ensure this is consolidated if needed.