

Y5 Medium-Term Immersion Plan – Learning Sequence 1

Week	1	2	3	4	5	6	7	8	9	10	11	12
Number and place value	<ul style="list-style-type: none"> count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 5N1 read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit, relating to prior learning 5N2/3a read Roman numerals to 1000 (M) and recognise years written in Roman numerals 5N3b round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 and connect to estimation when calculating or when using measuring instruments 5N4 apply understanding of the number system to decimal numbers and fractions they have met so far interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero 5N5 recognise and describe linear number sequences including those involving fractions and describe the term to term rule solve number problems and practical problems that involve all of the above 5N6 											
Fractions (including decimals)	<ul style="list-style-type: none"> read and write decimal numbers as fractions [e.g. $0.71 = \frac{71}{100}$] 5F6a recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 5F6b round decimals with two decimal places to the nearest whole number and to one decimal place 5F7 read, write, order and compare numbers with up to three decimal places 5F8 											
Multiplication and division	<ul style="list-style-type: none"> multiply and divide numbers mentally drawing upon known facts 5C6a multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 e.g. multiply and divide by powers of 10 in scale drawings and multiply and divide by powers of a 1000 in converting between units such as kilometres and metres 5C6b 											
Addition and subtraction	<ul style="list-style-type: none"> add and subtract numbers mentally with increasingly large numbers 5C1 <ul style="list-style-type: none"> know when and how to use jottings to support conservation of number calculate what must be added to any 4 digit number to make the next multiple of 1000 e.g. $4087 + \square\square\square = 5000$ practise mental calculations with increasingly large numbers to aid fluency (e.g. $12\ 462 - 2\ 300 = 10\ 162$) add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) including extending through 5C2 <ul style="list-style-type: none"> varying the place value e.g. $23456 + 637 + 7503$ or $642.7 + 75.69 + 6200.09$ varying number of times 0 is used as a placeholder e.g. $70056 - 2399$ solving missing number calculations (knowing when they can and cannot use the inverse operation e.g. $3490 + \square\square\square = 4286$ or $52901 - \square\square\square\square = 49244$) applying to a variety of contexts including measurement use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy 5C3 solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 5C4 											
Measurement	<ul style="list-style-type: none"> convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) 5M5 						<ul style="list-style-type: none"> calculate and compare the area of rectangles (including squares) using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes 5M7b estimate volume [e.g. using 1 cm³ blocks to build cuboids(including cubes)] and capacity[e.g. using water] 5M8 					
Multiplication and division	<ul style="list-style-type: none"> multiply and divide numbers mentally drawing upon known facts 5C6a identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers 5C5a know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers 5C5b establish whether a number up to 100 is prime and recall prime numbers up to 19 5C5c recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) 5C5d use understanding of factors, multiples, primes and square and cube numbers to construct equivalence statements (e.g. $4 \times 35 = 2 \times 2 \times 35$; $3 \times 270 = 3 \times 3 \times 9 \times 10 = 9^2 \times 10$) use and explain the equals sign to indicate equivalence, including in missing number problems (e.g. $13 + 24 = 12 + 25$; $33 = 5 \times \square$) multiply numbers up to 4 digits by a one digit number using a formal written method, using concrete resources 5C7a <ol style="list-style-type: none"> HTO x O with no exchange HTO x O with exchange of ones to tens HTO x O with exchange of tens into hundreds HTO x O with exchange of ones into tens and tens into hundreds As above with a greater number of digits multiplied by a single digit divide numbers up to 4 digits by a one-digit number using the formal written method of short division (whole number remainders only) using concrete resources 5C7b <ol style="list-style-type: none"> HTO ÷ O no exchange and no remainder HTO ÷ O no exchange with whole number remainder HTO ÷ O with exchange of hundreds into tens HTO ÷ O with exchange of tens into ones HTO ÷ O with exchange with whole number remainder Where there are zeros in the quotient e.g. $816 \div 4=204$ With a greater number of digits to be divided by a single digit solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes 5C8a solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 5C8b 											

Y5 Medium-Term Immersion Plan – Learning Sequence 2

Week	1	2	3	4	5	6	7	8	9	10	11	12
Addition and subtraction	<ul style="list-style-type: none"> add and subtract numbers mentally with increasingly large numbers 5C1 <ul style="list-style-type: none"> know when and how to use jottings to support conservation of number practise mental calculations with increasingly large numbers to aid fluency (e.g. $12\ 462 - 2\ 300 = 10\ 162$) add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) including extending through 5C2 <ul style="list-style-type: none"> varying the place value e.g. $23456 + 637 + 7503$ or $642.7 + 75.69 + 6200.09$ varying number of times 0 is used as a placeholder e.g. $70056 - 2399$ solving missing number calculations (knowing when they can and cannot use the inverse operation e.g. $3490 + \square\square\square = 4286$ or $52901 - \square\square\square\square = 49244$) applying to a variety of contexts including measurement use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy 5C3 solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 5C4 											
	Multiplication and division	<ul style="list-style-type: none"> identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers 5C5a multiply and divide numbers mentally drawing upon known facts 5C6a multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 e.g. <i>multiply and divide by powers of 10 in scale drawings and multiply and divide by powers of a 1000 in converting between units such as kilometres and metres</i> 5C6b multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers 5C7a divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context 5C7b <ul style="list-style-type: none"> where remainder is a whole number where remainder is expressed as a fraction of the divisor where remainder is expressed as a simplified fraction solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates 5C8c 										
Fractions (including decimals and percentages)		<ul style="list-style-type: none"> count forwards and backwards with whole numbers, decimals and fractions including bridging zero, for example on a number line recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [e.g. $2/5 + 4/5 = 6/5 = 11/5$] 5F2a identify, name and write equivalent fractions of a given fraction, represented visually, including tenths, hundredths and thousandths 5F2b compare and order fractions whose denominators are all multiples of the same number using the number line and other models 5F3 connect multiplication by a fraction to using fractions as operators (fractions of), and to division develop understanding of fractions as numbers, measures and operators by finding fractions of numbers and quantities add and subtract fractions with the same denominator and multiples of the same number 5F4 add and subtract tenths, and one-digit whole numbers and tenths, decimals with different numbers of decimal places, and derive complements of 1 (e.g. $0.83 + 0.17 = 1$) multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 5F5 read and write decimal numbers as fractions [e.g. $0.71 = 71/100$] 5F6a round decimals with two decimal places to the nearest whole number and to one decimal place 5F7 										
	Measurement	<ul style="list-style-type: none"> solve problems involving converting between units of time 5M4 convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) 5M5 use all four operations to solve problems involving measure [e.g. a. money, b. length, c. mass, d. volume,] using decimal notation including scaling 5M9a,b,c,d 										
Statistics		<ul style="list-style-type: none"> complete, read and interpret information in tables, including timetables 5S1 solve comparison, sum and difference problems using information presented in a line graph 5S2 begin to decide which representations of data are most appropriate and reason why 										
	Properties of shape	<ul style="list-style-type: none"> use the properties of rectangles to deduce related facts and find missing lengths and angles 5G2a distinguish between regular and irregular polygons based on reasoning about equal sides and angles 5G2b identify 3-D shapes, including cubes and other cuboids, from 2-D representations 5G3b use conventional markings for parallel lines and right angles use the term diagonal and make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles 5G4a identify: <ul style="list-style-type: none"> angles at a point and one whole turn (total 360°) angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) other multiples of 90° 5G4b draw given angles, and measure them in degrees ($^\circ$) 5G4c increase accuracy when drawing lines with a ruler and set square to the nearest millimetre, and measuring angles with a protractor use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems 										
Geometry		<ul style="list-style-type: none"> 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 (using conventions of coordinates in the first quadrant and for reflections in lines that are parallel to the axes) 5P2 										
	Position and direction											

Y5 Medium-Term Immersion Plan– Learning Sequence 3

Week	1	2	3	4	5	6	7	8	9	10	11	12
Number and place value	<ul style="list-style-type: none"> count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 5N1 read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit 5N2/3a read Roman numerals to 1000 (M) and recognise years written in Roman numerals 5N3b round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 5N4 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero 5N5 recognise and describe linear number sequences including those involving fractions and describe the term to term rule solve number problems and practical problems that involve all of the above 5N6 											
	<ul style="list-style-type: none"> multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 5F5 solve problems involving number up to three decimal places 5F10 recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator 100, and as a decimal 5F11 solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25 5F12 											
Fractions (including decimals and percentages)	<ul style="list-style-type: none"> add and subtract numbers mentally with increasingly large numbers 5C1 use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy 5C3 solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 5C4 multiply and divide numbers mentally drawing upon known facts 5C6a multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 5C6b multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers 5C7a divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context 5C7b <ol style="list-style-type: none"> where remainder is a whole number where remainder is expressed as a fraction of the divisor where remainder is expressed as a simplified fraction where the remainder is expressed as a decimal number solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes 5C8a solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 5C8b solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates 5C8c begin to investigate the impact of brackets on calculation e.g. $4+3 \times 2$ could equal $4+(3 \times 2)$ or $(4+3) \times 2$ 											
	<ul style="list-style-type: none"> understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints 5M6 measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres 5M7a calculate and compare the area of rectangles (including squares) using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes 5M7b use all four operations to solve problems involving measure [e.g. length, mass, volume, money] using decimal notation including scaling 5M9abcd 											
Addition, subtraction, multiplication and division												
Measurement												
	<ul style="list-style-type: none"> use the properties of rectangles to deduce related facts and find missing lengths and angles 5G2a distinguish between regular and irregular polygons based on reasoning about equal sides and angles 5G2b use conventional markings for parallel lines and right angles use the term diagonal and make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles 5G4a identify: <ul style="list-style-type: none"> angles at a point and one whole turn (total 360°) angles at a point on a straight line and ½ a turn (total 180°) other multiples of 90° 5G4b draw given angles, and measure them in degrees (°) 5G4c increase accuracy when drawing lines with a ruler to the nearest millimetre, and measuring with a protractor 											
Geometry												