Y4 medium-term immersion plan - learning sequence 1

Week	1	2	3	4	5	6	7	8	9	10	11	12

Number and place value

- count in multiples of 6, 7, 9, 25 and **10, 100** and 1000 **4N1**
- order and compare numbers beyond 1000 **4N2a**
- find **10, 100** and 1000 more or less than a given number **4N2b**
- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) **4N3a**
- read Roman numerals to 100 (I to C) **4N3b**
- know that over time, the numeral system changed to include the concept of zero and place value **4N3b**
- compare number systems from history with ours
- identify, represent and estimate numbers using different representations **and concrete resources including measures and when comparing number systems 4N4a**
- round any number to the nearest 10, 100 or 1000 *and connect to estimation when calculating or when using measuring instruments* **4N4b**
- solve number and practical problems that involve all of the above and with increasingly large positive numbers **4N6**

(Weeks 4-6)
- count backwards through zero to include negative numbers **and relate to their use in real life 4N5**
- **order and compare numbers including negative numbers**

(Weeks 7-12)
- count in multiples of 6, 7, 9, 25 and **10, 100** and 1000 **4N1**
  - **relate counting in 6s to counting in 60s ready for converting units of time**

Multiplication and division

- **derive, use and be increasingly fluent when recalling** multiplication and division facts for multiplication tables up to 12 × 12 **(exploring the 6 and 9x tables and relating to the 3 x table)** **4C6a**
- **represent the multiplication tables using concrete resources and pictorial representations**
- **identify patterns and relationships within times tables (including rules for divisibility)**
- **use known facts to derive new facts and inverse facts**

Addition and subtraction

- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate **using concrete resources to represent and understanding of place value** **4C2**
- estimate and use inverse operations to check answers to a calculation **4C3**
- **add and subtract mentally using concrete resources and pictorial representations to support understanding and to include:**
  - **know when and how to use jottings to support conservation of number**
  - **calculate what must be added to any three digit number to make the next multiple of 100**
  - **add and subtract a pair of 2 digit numbers e.g. 38 + 86**
  - **add and subtract 3 digit multiples of 10 e.g. 620 – 380**
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why **(within known number competency) 4C4**

Geometry

- draw 2-d shapes with increasing accuracy
- compare, **identify** and classify geometric shapes, including quadrilaterals *(rhombus, parallelogram, trapezium and rectangle)* and triangles *(isosceles, scalene and equilateral),* based on their properties and sizes **4G2a**
- identify lines of symmetry in 2-D shapes presented in different orientations **(and in a variety of contexts)** **4G2b**
- complete a simple symmetric figure with respect to a specific line of symmetry *(including where the line of symmetry does not dissect the original shape)* **4G2c**
- identify acute and obtuse angles and compare and order angles up to two right angles by size *(not required to use a protractor)* **4G4**
- *use understanding of angle and lengths of side to decide whether 2d shapes are regular or irregular*
- *draw and construct symmetric patterns and shapes in different orientations and using different media*

Measurement

- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres **4M7a**

Statistics

- interpret and present discrete data using appropriate graphical methods, including bar charts **4S1**
- solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs **4S2**

Herts for Learning

Y4 medium-term immersion plan - learning sequence 2

	Week	1	2	3	4	5	6	7	8	9	10	11	12

Fractions (including decimals)

- count up and down in hundredths **and tenths including bridging through tenths and ones   4F1**
  - continue to relate counting in tenths to counting in known multiples e.g. relate counting in multiples of 6 to counting in multiples of 0.6
- recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten and **relate to pounds and pence and other decimal units of measurement   4F1**
  - link to place value
  - relate decimal notation to division of a whole number by ten and later 100
- compare and order unit fractions and fractions with the same denominators 3F3 *(continued from Y3)*
- recognise the place value of each digit to two decimal places
- add and subtract fractions with the same denominator **i.e. where the denominator is 10 or 100   4F4**
- recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ **and relate to money and decimal measures   4F6a**
- recognise and write decimal equivalents of any number of tenths or hundredths   **4F6b**
- compare numbers with the same number of decimal places up to two decimal places   **4F8**
  - order decimals with up to 2 decimal places
  - represent numbers with up to two decimal places in several ways including on a number line
- round decimals with one decimal place to the nearest whole number **and relate to rounding whole numbers, money and decimal measures   4F7**
- 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 ones, tenths and hundredths   **4F9**
- solve simple measure and money problems involving fractions and decimals to two decimal places   **4F10b**

Multiplication and division

- derive, use and be increasingly fluent when recalling multiplication and division facts for multiplication tables (6 x, *11x and 12x*) 4C6a
  - relate 12x, 6x, 3x and 4x tables identifying common multiples and making links to doubling
  - relate 12x and 6x tables to chronology e.g. count in multiples of 60
- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers   **4C6b**
  - *understand that multiplication can be done in any order when multiplying three numbers e.g. 2 x 3 x 4 = 3 x 4 x 2 = 4 x 3 x 2 = 24*
- recognise and use factor pairs and commutativity in mental calculations   **4C6c**
  - understand that multiplication is commutative but that division is not
- solve problems involving multiplying and adding, including using integer scaling problems and harder correspondence problems such as n objects are connected to m objects   **4C8**

Addition and subtraction

- add and subtract numbers with up to 4 digits **(including decimal tenths and hundredths)** using the formal written methods of columnar addition and subtraction where appropriate   **4C2**
  - relate this to money and measures using decimal notation
  - using concrete resources and pictorial representations to support understanding and communication
- estimate and use inverse operations to check answers to a calculation   **4C3**
- **add and subtract numbers mentally using concrete resources and pictorial representations to support understanding and to include;**
  - know when and how to use jottings to support conservation of number
  - calculate what must be added to any three digit number to make the next multiple of 100 and then any 4 digit number to make the next multiple of 1000 e.g. 4087 + ▢▢▢ = 5000
  - add and subtract a pair of 2 digit numbers e.g. 38 + 86
  - add and subtract 3 digit multiples of 10 e.g. 620 − 380
  - calculate what must be added to a decimal with units and tenths and then a unit with tenths and hundredths to make the next whole number e.g. 7.2 + ▢▢ = 8 and relate to money, decimal measures and knowledge of place value
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why **4C4**

(Week 9-11 column)
- **add and subtract numbers mentally using concrete resources and pictorial representations to support understanding and to include;**
  - **partitioning, counting on and back in minutes, and bridging through 60 when calculating time**

Measurement

- convert between different units of measure [e.g. kilometre to metre; hour to minute]   **4M5**
  - relate to understanding of place value
  - use decimal notation when recording money and understand how money looks on a calculator display
  - record metric measures using decimal notation
  - recognise decimal equivalents to 1/4; 1/2; 3/4 and relate to measure
- estimate, compare and calculate different measures, including money in pounds and pence   **4M1/2/9**
  - explore and use these strategies in a range of contexts including those that involve practical uses of measure
  - measure with increasing accuracy and record using decimal notation

(Week 9-11 column)
- read, write and convert time between analogue and digital 12 and 24-hour clocks **and recall with increasing fluency   4M4a/b**
- solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days **4M4c**

Statistics

- interpret and present discrete and continuous data using appropriate graphical methods - time graphs   **4S1**
  - use cross curricular links through subjects such as science, geography, history and PE when appropriate
  - begin to understand the difference between discrete and continuous data
- solve comparison, sum and difference problems using information presented in tables and other graphs *(e.g. graphs and tables relating to timed events)* **4S2**

Herts for Learning

Y4 medium-term immersion plan - learning sequence 3

Week	1	2	3	4	5	6	7	8	9	10	11	12

Geometry

- **draw 2-D shapes with increasing accuracy**
- **begin to identify simple nets 3-D shapes e.g. unfold packets which are cubes or cuboids**
- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes **4G2a**
- describe movements between positions as translations of a given unit to the left/right and up/down **4P2**
- describe positions on a 2-D grid as coordinates in the first quadrant **4P3a**
- plot specified points and draw sides to complete a given polygon **4P3b**
- identify lines of symmetry in 2-D shapes presented in different orientations (and in a variety of contexts) **4G2b**
- complete a simple symmetric figure with respect to a specific line of symmetry (including where the line of symmetry does not dissect the original shape) **4G2c**

Multiplication and division

- recall multiplication and division facts for multiplication tables up to 12 × 12 **4C6a**
  - reason and generalise through investigation rules for divisibility for multiplication tables
- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers **4C6b**
  - derive new facts from known facts with increasing fluency e.g. if 6 x 3 = 18 then 60 x 3 = 180 etc.
  - understand when it is and isn't possible to use the inverse operation to solve missing number questions e.g. 240 ÷□= 3
  - use known strategies e.g. partitioning before multiplying (distributive law) e.g. 36 x 4 = (30 x 4) + (6 x 4) = 120 + 24 = 144 ensuring the correct use of brackets
- recognise and use factor pairs and commutativity in mental calculations **4C6c**
  - *use understanding that multiplication can be done in any order e.g. 20 x 3 x 4 = 3 x 4 x 20 = 4 x 3 x 20 = 240 (associative law)*
- multiply two-digit and three-digit numbers by a one-digit number using formal written layout using concrete resources and pictorial representation to support understanding and communication **4C7**
  1. TO x O no exchange
  2. TO x O extra digit in the answer
  3. TO x O with exchange of ones into tens
  4. HTO x O with no exchange
  5. HTO x O with exchange of ones to tens
  6. HTO x O with exchange of tens into hundreds
  7. HTO x O with exchange of ones into tens and tens into hundreds
- *divide two-digit and three-digit numbers by a one-digit number where the answer is exact i.e. no remainders*
  1. TO ÷ O no exchange no remainder
  2. TO ÷ O with exchange no remainder
  3. HTO ÷ O no exchange and no remainder
  4. HTO ÷ O with exchange of hundreds into tens
  5. HTO ÷ O with exchange of tens into ones
  6. HTO ÷ O with exchange of hundreds into tens and tens into ones
  7. Where there are zeros in the quotient e.g. 816 ÷ 4=204
- solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems **e.g. making measurements 4 times longer or if one pack of sweets is £1.20 how much will sweets for 12 people cost?** and harder correspondence problems such as n objects are connected to m objects *e.g. numbers of choices of a meal on a menu or three cakes shared equally between 10 children* **4C8**

Fractions (including decimals)

- **order and compare fractions of quantities and shape in practical contexts**
- recognise and show, using diagrams, families of common equivalent fractions **4F2**
  - use concrete resources and pictorial representation to explore relationships between fraction families
  - use factors and multiples to recognise equivalent fractions and simplify where appropriate (e.g. $^6/_9 = ^2/_3$ or $^1/_4 = ^2/_8$)
- add and subtract fractions with the same denominator **4F4** including;
  - recall pairs of fractions with the same denominator that total 1
  - add and subtract pairs of fractions with the same denominator bridging through 1
  - in a variety of contexts
- round decimals with one decimal place to the nearest whole number and relate to rounding whole numbers, money and decimal measures **4F7**
- 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 ones, tenths and hundredths **4F9**
- 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 **4F10a**
  - link to arrays in multiplication, known factor pairs and multiplication and division facts
  - *make connections between fractions of a length, of a shape and as a representation of one whole or set of quantities*
- solve simple measure and money problems involving fractions and decimals to two decimal places **4F10b**

Measurement		• find the area of rectilinear shapes by counting squares *and link to arrays in multiplication* **4M7b** • convert between different units of measure [e.g. kilometre to metre; hour to minute] **4M5** • **solve simple problems involving converting between different units of measure [e.g. kilometre to metre]** • calculate different measures including money in pounds and pence **4F9**	• read, write and convert time between analogue and digital 12 and 24-hour clocks **4M4b** • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days **4M4c**