Y3 medium-term immersion plan – Autumn Term learning sequence 1

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

Number and place value
- count from 0 in multiples of 4, 8, 50 and 100 **and 2, 3, 5 and 10 from Y2** **3N1b**
- read and write numbers up to 1000 in numerals and in words **3N2a**
- compare and order numbers up to 1000   **3N2a**
- find 10 or 100 more or less than a given number **using concrete resources and pictorial representations** **3N2b**
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones) **3N3**
- **round numbers to the nearest 10 and 100**
- identify, represent and estimate numbers using different representations **and concrete resources** **3N4**
- solve problems involving all of the above   **3N6**

Addition and subtraction
- add and subtract numbers mentally, including:
  - a three-digit number and ones
  - **any pair of two digit numbers including bridging through multiples of ten and through 100**
  - **a near double e.g. 19 + 16, 60 + 70**
  - **recall sums and differences of pairs of multiples of 10, 100 or 1000**
  - **recall doubles and halves of multiples of 10 to 100 e.g. 90 + 90   3C1**
- **understand that addition is commutative and that subtraction is not e.g. 7-5 is not the same as 5-7**
- estimate the answer to a calculation and use inverse operations to check answers **and rounding to nearest 10 or 100   3C3**

Geometry
- **continue to identify and name a greater repertoire of regular and irregular shapes**
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines **3G2**
- draw 2-D shapes **3G3a**
  - **measuring sides with increasing accuracy**
  - **to include symmetrical and non- symmetrical polyhedra**
- make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them **3G3b**
- recognise that angles are a property of shape or a description of a turn **3G4a**
- identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle **and classify acute and obtuse angles 3G4b**

Measurement

Weeks 4–6:
- measure, compare, add and subtract: lengths (m/cm/mm) **(no conversion between units and expressed as mixed units e.g. 1m 30cm) 3M1a/2a/9b**
- measure the perimeter of simple 2-D shapes **3M7**

Weeks 7–8:
- measure, compare, add and subtract:
  - lengths (m/cm/mm); **3M1a/2a/9b**
  - mass (kg/g); **3M1b/2b/9c**
  - volume/capacity (l/ml) **3M1c/2c/9d**
  (no conversion between units and expressed as mixed units e.g. 1m 30cm)
- *use known multiplication facts for scaling of measures by integers (e.g. a given quantity or measure is twice as long or five times as high)*

Multiplication and division
- **derive and begin to** recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables **3C6**
  - **recognise and derive factor pairs of multiples in known tables**
  - *connect 2, 4 and 8 multiplication tables with doubling*
  - **derive rules for divisibility for 2, 5, 3, 4, 8 and 10 x tables**
  - **understand that multiplication is commutative and division is not**
  - *derive new facts from given facts (e.g. 3 x 2 = 6, 6 ÷3 = 2 and 2=6÷3)*
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects **(using familiar multiplication and division facts)   3C8**

Fractions (including decimals)

Weeks 9–12:
Link to knowledge of multiplication and division facts
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators   **3F1b**
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators   **3F1c**
- recognise and show, using diagrams, equivalent fractions with small denominators **3F2**
- compare and order unit fractions, and fractions with the same denominators   **3F3**

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

Fractions (including decimals)

- count up and down in tenths *including bridging through 1s*:
  - *relate counting in tenths to counting in known multiples e.g. relate counting in multiples of 4 to counting in multiples of 0.4* **3F1a**
- recognise that tenths arise from dividing an **object** into 10 equal parts and in dividing one-digit **numbers or quantities** by 10 **3F1a**
  - **represent numbers with decimal tenths using concrete resources and pictorial representations**
  - **partition numbers with one decimal place**
  - **order and compare numbers with one decimal place**
  - **round numbers with one decimal place to the nearest whole number**
  - **relate decimal tenths to fractional tenths e.g. 1/10 = 0.1**
  - **relate decimal tenths to multiples of ten pence when working with money**
- add and subtract fractions with the same denominator within one whole (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$) **3F4**
  - **add and subtract decimal tenths**
- solve problems that involve **applying knowledge of fractions work so far 3F10**

Addition and subtraction

- add and subtract numbers mentally, including:
  - a three-digit number and ones **including partitioning the ones number when bridging through multiples of 10 and 100**
  - a three-digit number and tens **and relate to counting on and back in tens from any number bridging through multiples of 100**
  - a three-digit number and hundreds
  - **calculate what must be added to any 3 digit number to make the next multiple of 100 e.g. 521 + □□ = 600 using knowledge of complements to 100 from Y2 3C1**
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction **using concrete resources and understanding of place value**
  1. **no exchange**
  2. **extra (+) or fewer (-) digits in the answer**
  3. **exchanging units to tens**
  4. **exchanging tens to hundreds**
  5. **exchanging units to tens and tens to hundreds 3C2**
- estimate the answer to a calculation and use **rounding to 10 and 100 and** inverse operations to check answers **3C3**
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction **3C4**

Measurement

- add and subtract amounts of money to give change, using both £ and p in practical contexts *(they record £ and p separately and not as decimals which is introduced formally in Y4)* **3M9a**
- **develop fluency when recognising the value of coins and notes**

- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks **3M4a/b/c**
- estimate and read time with increasing accuracy to the nearest minute **3M4d**
- record and compare time in terms of seconds, minutes and hours **3M4d**
- use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight **3M4d**
- know the number of seconds in a minute and the number of days in each month, year and leap year **3M4e**
- compare durations of events [e.g. to calculate the time taken by particular events or tasks] **3M4f**

Multiplication and division

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables **and relate counting in multiples of e.g. 4 to counting in multiples of 40, 400 and 0.4 3C6**
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods *supported by concrete resources and pictorial representations* **3C7**
  - *use commutativity and associativity (for example, $2 \times 3 \times 5 = 2 \times 5 \times 3 = 10 \times 3 = 30$) and multiplication and division facts (for example, using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$) to derive related facts ($30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$)*
  - **use partitioning to multiply a two-digit number by a one digit number e.g. 23 x 4 = 20 x 4 + 3 x 4 = 92**
- solve problems, including missing number problems, involving multiplication and division *with known facts*, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects *e.g. 3 hats and 4 coats, how many different outfits?; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children* **3C8**

Statistics

Link to comparing chronology and through cross curricular activities and a variety of contexts
- interpret and present data using bar charts, pictograms and tables *using simple scales (for example, 2, 5, 10 units per cm)* **3S1**
- solve one-step and two-step questions[for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables **3S2**

Y3 medium-term immersion plan – Summer Term learning sequence 3

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

Fractions (including decimals) — Weeks 1–9
- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 **3F1a**
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators **3F1b**
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators **3F1c**
- recognise and show, using diagrams **and concrete resources**, equivalent fractions with small denominators **3F2**
- compare and order unit fractions, and fractions with the same denominators *on a number line including beyond 0-1 and relate this to measure* **3F3**
- add and subtract fractions with the same denominator within one whole (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$) **3F4**
- solve problems that involve all of the above **3F10**

Measurement — Weeks 2–5
- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) **3M1abc/3M2abc/3M9bcd**
  - **reading scales that increase in simple rates such as 2s, 5s, 10s, 50s and 100s**
  - *derive and begin to recall simple equivalence of units that relate to work on fractions 1m = 100cm, ½m = 50cm, 1/10m = 10cm*
  - *compare and order measures using mixed units e.g. 1kg and 200g*
- measure the perimeter of simple 2-D shapes **3M7**
  - **with increasing accuracy and draw rectilinear shapes with given perimeters in centimetres**

Measurement — Weeks 7–9
- add and subtract amounts of money to give change, using both £ and p in practical contexts *(they record £ and p separately and not as decimals which is introduced formally in Y4)* **3M9a**
- **develop fluency when recognising the value of coins and notes**

Geometry — Weeks 3–6
- **continue to identify and name a greater repertoire of regular and irregular shapes**
- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them **3G3ab**
  - *draw sides of 2D shapes and construct 3D shapes using measuring tools with increasing accuracy in centimetres in a variety of contexts*
  - identify horizontal and vertical lines and pairs of perpendicular and parallel lines **3G2**
  - *describe shapes using accurate language*
- recognise that angles are a property of shape or a description of a turn **3G4a**
- identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle and classify acute and obtuse angles **3G4b**
- **read and record the vocabulary of position, direction and movement using the four points of a compass to describe movement around a grid**

Addition and subtraction — Weeks 6–9
- add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds **3C1**
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction **3C2**
  1. **no exchange**
  2. **extra (+) or fewer (-) digits in the answer**
  3. **exchanging units to tens**
  4. **exchanging tens to hundreds**
  5. **exchanging units to tens and tens to hundreds**
- estimate the answer to a calculation and use inverse operations to check answers **3C3**
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction **3C4**

Multiplication and division — Weeks 7–12
- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables **3C6**
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods **3C7**
  - **using concrete resources to introduce each stage and relating to mental methods taught**
  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. **TO ÷ O no exchange no remainder**
  5. **TO ÷ O with exchange no remainder**
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects **3C8**