

## LONG TERM PLAN Year 4

### Number and place value:

- count in multiples of 6, 7, 9, 25 and 1000
  - count in multiples of 6 and 9 A1/C1
  - count in multiples of 7 and 11 A2/C2
  - count in multiples of 6, 7, 9, 11, 12, 25 and 1000 A3/C3
- find 1000 more or less than a given number
  - *add and subtract a 4 digit number and hundreds mentally using jottings to support me* A1
  - *find 100 more or less than a given number* A2
  - *add and subtract a 4 digit number and hundreds mentally, finding 100 or 1000 more or less than a given number* A3
- count backwards through zero to include negative numbers
  - count backwards through zero to include negative numbers A3
- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
  - recognise the place value of each digit in 4 digit numbers up to 10 000 A1/A2
  - *begin to understand the place value of decimals to one decimal place* A3
  - *read and write numbers to 10 000 in numerals and words* A2/E2
- order and compare numbers beyond 1000
  - order 4 digit numbers A1
  - *begin to compare and order numbers beyond 1000* A2
  - *compare and order numbers up to 10 000* A3
- identify, represent and estimate numbers using different representations
  - identify, represent and estimate numbers using different representations A1/A2
- round any number to the nearest 10, 100 or 1000
  - round any number to the nearest 10 A1
  - round any number to the nearest 10 or 100 A2
  - round any number to the nearest 10, 100 or 1000 A3
- solve number and practical problems that involve all of the above and with increasingly large positive numbers
  - solve number and practical problems that involve all of the skills in this unit with increasingly large positive numbers A1/A2/A3
  - *work out how to solve problems with one or two steps* A3
- read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value
  - read Roman numerals 1-10 (I - X) A1
  - read Roman numerals 1-50 (I - L) A2
  - read Roman numerals to 100 (I - C) A3
  - know that over time the numeral system changed to include the concept of zero and place value A3

### Addition and subtraction:

- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
  - add and subtract numbers with up to 2 digits using the formal written methods of columnar addition and subtraction where appropriate C1
  - add and subtract numbers with up to 3 digits using the formal written methods of columnar addition and subtraction where appropriate C2
  - add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate C3
- estimate and use inverse operations to check answers to a calculation
  - *estimate and check the result of a calculation* A1/A2/A3
  - estimate and use inverse operations to check answers to a calculation C1/C2/C3
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why
  - *explain how I add and subtract two-digit numbers in my head* A1
  - *explain how I solve problems, using diagrams and symbols to help me* A2
  - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why C1/C2/C3

### Multiplication and division:

- recall multiplication and division facts for multiplication tables up to  $12 \times 12$ 
  - recall multiplication and division facts for the 6 and 9 multiplication tables A1/C1
  - recall multiplication and division facts for the 7 and 11 multiplication tables A2/C2
  - recall multiplication and division facts up to  $12 \times 12$  A3/C3
- 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
  - *derive facts linked to the multiplication tables that I know (e.g. If I know that  $4 \times 6 = 24$ , I also know that  $24 \div 6 = 4$  and  $240 \div 6 = 40$ )* A3/B3
  - use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1 C1
  - use place value, known and derived facts to multiply and divide mentally, including dividing by 1 C2
  - use place value, known and derived facts to multiply and divide mentally, including multiplying together three numbers (e.g. *know and can use the associative law  $2 \times (3 \times 4) = (2 \times 3) \times 4$  & know  $2 \times 6 \times 5 = 10 \times 6$ )* C3
- recognise and use factor pairs and commutativity in mental calculations
  - identify factor pairs A1
  - recognise and use factor pairs and commutativity in mental calculation A2/B2
- multiply two-digit and three-digit numbers by a one-digit number using formal written layout
  - multiply two-digit numbers by a one-digit number C1

- multiply two-digit numbers by a one-digit number using formal written layout C2
- multiply two-digit and three-digit numbers by a one-digit number using formal written layout C3
- 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
  - solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit (e.g. distributive law  $39 \times 7 = 30 \times 7 + 9 \times 7$ ) C1/C2/C3
  - solve integer scaling problems & harder correspondence problems such as n objects are connected to m objects C3

Fractions (including decimals and percentages):

- recognise and show, using diagrams, families of common equivalent fractions
  - recognise and show, using diagrams, families of common equivalent fractions (*using factors and multiples to help me*) D1
  - use the number line to connect fractions, numbers and measures with numbers less than one D1
  - use the number line to connect fractions, numbers and measures with numbers up to 10 D2
  - use the number line to connect fractions, numbers and measures with numbers beyond 10 D3
  - understand that fractions and decimals are a way of expressing proportions D1/D2/D3
- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
  - count up and down in hundredths D1
  - count forwards and backwards using simple fractions and decimal fractions D1
  - recognise that hundredths are made by dividing an object by a hundred D1
  - recognise that hundredths are made by dividing tenths by 10 D2
  - recognise that hundredths are made by dividing an object by a hundred and dividing tenths by 10 D3
- 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
  - 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 D1/D2/D3
- add and subtract fractions with the same denominator
  - add and subtract several fractions with the same denominator (*answers less than 1*) D1
  - add and subtract two fractions with the same denominator, even if the answer is more than one D2
  - add and subtract several fractions with the same denominator, even if the answer is more than one D3
- recognise and write decimal equivalents of any number of tenths or hundredths
  - recognise and write decimal equivalents of any number of tenths or hundredths D2
- recognise and write decimal equivalents to  $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$ 
  - recognise and write the decimal equivalents to  $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$  D3
- 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; round decimals with one decimal place to the nearest whole number
  - round decimals with one decimal place to the nearest whole number D2
  - find the effect of dividing a one- or two-digit number by 10 and 100, identifying units, tenths and hundredths D3
  - understand the place value of decimals to two decimal places E3
- compare numbers with the same number of decimal places up to two decimal places
  - compare numbers with the same decimal places up to 2 decimal places A3
  - compare and order decimal amounts and quantities (with one decimal place) D1
  - compare and order decimal amounts and quantities (where all numbers have two decimal places) D2
  - compare and order decimal amounts and quantities (with the same number of decimal places) D3
- solve simple measure and money problems involving fractions and decimals to two decimal places
  - solve simple measure and money problems D1
  - solve simple measure and money problems involving fractions and decimals to one decimal place D2
  - solve simple measure and money problems involving fractions and decimals to two decimal places D3

Measurement

- convert between different units of measure [for example, kilometre to metre; hour to minute]
  - convert between different units of measure (e.g. kilometre to metre; hour to minute) E2/E3
- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
  - measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres E1
  - measure & calculate the perimeter of a rectilinear figure (including squares) in centimetres & metres & begin to record this in algebra (e.g.  $2(a + b)$  where a & b are the dimensions in the same unit E3
- find the area of rectilinear shapes by counting squares
  - find the area of rectilinear shapes by counting squares E2/E3
- estimate, compare and calculate different measures, including money in pounds and pence
  - estimate and calculate different measures including money in pounds and pence E1/E2
  - compare different measures including money in pounds and pence E1
  - estimate, calculate and compare different measures including money in pounds and pence E3
- read, write and convert time between analogue and digital 12- and 24-hour clocks
  - read and write time in both analogue and digital 12 and 24 hour clocks E1
  - convert time between analogue and digital 12 and 24 hour clocks E1/E3
  - read and write time in both analogue and digital 12 and 24 hour clocks (using Roman numerals from I to XII) E2/E3
- solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
  - solve problems involving converting from hours to minutes; minutes to seconds E1
  - solve problems involving converting from hours to minutes; minutes to seconds; years to months E2
  - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days E3

Properties of shape

- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
  - know and identify isosceles, equilateral and scalene triangles B1

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- compare & classify geometric shapes, including triangles, based on their properties and sizes B1
- *record my sorting and classifying in appropriate tables and charts B1/B2/B3*
- *use ICT to help me solve problems B1/B2/B3*
- compare & classify geometric shapes, including quadrilaterals, based on their properties and sizes B2
- *compare lengths and angles in order to identify if shapes are regular or irregular B1/B2*
- *know and identify the quadrilaterals; parallelogram, rhombus and trapezium B2*
- *know and identify; isosceles, equilateral and scalene triangles and the quadrilaterals; parallelogram, rhombus and trapezium B3*
- identify acute and obtuse angles and compare and order angles up to two right angles by size
  - identify acute angles B1
  - *use a protractor to measure angles B1*
  - identify obtuse angles B2
  - identify acute and obtuse angles B3
  - compare and order angles up to two right angles by size B3
- identify lines of symmetry in 2-D shapes presented in different orientations
- complete a simple symmetric figure with respect to a specific line of symmetry
  - complete a simple symmetric figure with respect to a specific line of B2/B3
  - *solve problems involving symmetry and coordinates in the first quadrant B1/B2/B3*
  - complete a simple symmetric figure with respect to a specific line of symmetry B2/B3
  - *recognise line symmetry in a variety of diagrams, including where the line of symmetry does not dissect the reflected shape B3*

### Position and direction:

- describe positions on a 2-D grid as coordinates in the first quadrant
  - describe positions on a 2-D grid as coordinates in the first quadrant B1
  - *draw a pair of axes in one quadrant, with equal scales and integer labels B2*
- describe movements between positions as translations of a given unit to the left/right and up/down
  - describe movements between positions as translations of a given unit to the left/right and up/down B1
- plot specified points and draw sides to complete a given polygon.
  - plot specified points and draw sides to complete a given polygon B1
  - *read, write and use pairs of coordinates (2,5) including using coordinate-plotting ICT tools B2*

### Statistics

- interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
  - present discrete and continuous data using appropriate graphical methods E1
  - present discrete and continuous data using appropriate graphical methods, including bar charts E2
  - present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs E3
  - interpret discrete and continuous data using appropriate graphical methods E1
  - interpret discrete and continuous data using appropriate graphical methods, including bar charts E2
  - interpret discrete and continuous data using appropriate graphical methods, including bar charts and time graphs E3
  - *use an increasing range of scales in my representations E3*
- solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
  - solve comparison, sum and difference problems using information presented in bar charts, pictograms and tables E1
  - solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs E2/E3