Mathematics (Year 4)

Number

Counting and sequences

4Nc.01 Count on and count back in steps of constant size: 1-digit numbers, tens, hundreds or thousands, starting from any number, and extending beyond zero to include negative numbers.

4Nc.02 Recognise and explain generalisations when adding and subtracting combinations of even and odd numbers.

4Nc.03 Recognise the use of objects, shapes or symbols to represent unknown quantities in addition and subtraction calculations.

4Nc.04 Recognise and extend linear and non-linear sequences, and describe the term-to-term rule.

4Nc.05 Recognise and extend the spatial pattern of square numbers.

Integers and powers

4Ni.01 Read and write number names and whole numbers greater than 1000 and less than 0.

4Ni.02 Estimate, add and subtract whole numbers with up to three digits.

4Ni.03 Understand the associative property of multiplication, and use this to simplify calculations.

4Ni.04 Know all times tables from 1 to 10.

4Ni.05 Estimate and multiply whole numbers up to 1000 by 1-digit whole numbers.

4Ni.06 Estimate and divide whole numbers up to 100 by 1-digit whole numbers.

4Ni.07 Understand the relationship between multiples and factors.

4Ni.08 Use knowledge of factors and multiples to understand tests of divisibility by 2, 5, 10, 25, 50 and 100.

Place value, ordering and rounding

4Np.01 Understand and explain that the value of each digit in numbers is determined by its position in that number.

4Np.02 Use knowledge of place value to multiply and divide whole numbers by 10 and 100.

4Np.03 Compose, decompose and regroup whole numbers.

4Np.04 Understand the relative size of quantities to compare and order positive and negative numbers, using the symbols =, > and <.

4Np.05 Round numbers to the nearest 10, 100, 1000, 10 000 or 100 000.

Fractions, decimals, percentages, ratio and proportion

4Nf.01 Understand that the more parts a whole is divided into, the smaller the parts become.

4Nf.02 Understand that a fraction can be represented as a division of the numerator by the denominator (unit fractions and three-quarters).

4Nf.03 Understand that unit fractions can act as operators.

4Nf.04 Recognise that two proper fractions can have an equivalent value.

4Nf.05 Estimate, add and subtract fractions with the same denominator.

4Nf.06 Understand percentage as the number of parts in each hundred, and use the percentage symbol (%).

4Nf.07 Use knowledge of equivalence to compare and order proper fractions, using the symbols =, > and <.

Geometry and Measure

Time

4Gt.01 Understand the direct relationship between units of time, and convert between them.

4Gt.02 Read and record time accurately in digital notation (12- and 24-hour) and on analogue clocks.

4Gt.03 Interpret and use the information in timetables (12- and 24-hour clock).

4Gt.04 Find time intervals between different units:
- days, weeks, months and years
- seconds, minutes and hours that do not bridge through 60.

Geometrical reasoning, shapes and measurements

4Gg.01 Investigate what shapes can be made if two or more shapes are combined, and analyse their properties, including reference to tessellation.

4Gg.02 Estimate and measure perimeter and area of 2D shapes, understanding that two areas can be added together to calculate the area of a

4Gg.03 Draw rectangles and squares on square grids, and measure their perimeter and area. Derive and use formulae to calculate areas and

4Gg.04 Estimate the area of irregular shapes on a square grid (whole and part squares).

4Gg.05 Identify 2D faces of 3D shapes, and describe their properties.

4Gg.06 Match nets to their corresponding 3D shapes.

4Gg.07 Identify all horizontal, vertical and diagonal lines of symmetry on 2D shapes and patterns.

4Gg.08 Estimate, compare and classify angles, using geometric vocabulary including acute, right and obtuse.

4Gg.09 Use knowledge of fractions to read and interpret a measuring scale.

Position and transformations

4Gp.01 Interpret and create descriptions of position, direction and movement, including reference to cardinal and ordinal points, and their notations.

4Gp.02 Understand that position can be described using coordinate notation. Read and plot coordinates in the first quadrant (with the aid of a grid).

4Gp.03 Reflect 2D shapes in a horizontal or vertical mirror line, including where the mirror line is the edge of the shape, on square grids.

Statistics and Probability

Statistics

4Ss.01 Plan and conduct an investigation to answer statistical questions, considering what data to collect (categorical and discrete data).

4Ss.02 Record, organise and represent categorical and discrete data. Choose and explain which representation to use in a given situation:
- Venn and Carroll diagrams
- tally charts and frequency tables
- pictograms and bar charts
- dot plots (one dot per count).

4Ss.03 Interpret data, identifying similarities and variations, within and between data sets, to answer statistical questions. Discuss conclusions,

Probability

4Sp.01 Use language associated with chance to describe familiar events, including reference to maybe, likely, certain, impossible.

4Sp.02 Conduct chance experiments, using small and large numbers of trials, and present and describe the results using the language of probability.