Providence English Pvt. School
مدرسة العناية الانجليزية الخاصة

Mathematics (Year 6)

Number

Counting and sequences

6Nc.01 Count on and count back in steps of constant size, including fractions and decimals, and extend beyond zero to include negative numbers.
6Nc.02 Recognise the use of letters to represent quantities that vary in addition and subtraction calculations.
6Nc.03 Use the relationship between repeated addition of a constant and multiplication to find and use a position-to-term rule.
6Nc.04 Use knowledge of square numbers to generate terms in a sequence, given its position.

Integers and powers

6Ni.01 Estimate, add and subtract integers.
6Ni.02 Use knowledge of laws of arithmetic and order of operations to simplify calculations.
6Ni.03 Understand that brackets can be used to alter the order of operations.
6Ni.04 Estimate and multiply whole numbers up to 10 000 by 1-digit or 2-digit whole numbers.
6Ni.05 Estimate and divide whole numbers up to 1000 by 1-digit or 2-digit whole numbers.
6Ni.06 Understand common multiples and common factors.
6Ni.07 Use knowledge of factors and multiples to understand tests of divisibility by 3, 6 and 9.
6Ni.08 Use knowledge of multiplication and square numbers to recognise cube numbers (from 1 to 125).

Place value, ordering and rounding

6Np.01 Understand and explain the value of each digit in decimals (tenths, hundredths and thousandths).
6Np.02 Use knowledge of place value to multiply and divide whole numbers and decimals by 10, 100 and 1000.
6Np.03 Compose, decompose and regroup numbers, including decimals (tenths, hundredths and thousandths).
6Np.04 Round numbers with 2 decimal places to the nearest tenth or whole number.

Fractions, decimals, percentages, ratio and proportion

6Nf.01 Understand that a fraction can be represented as a division of the numerator by the denominator (proper and improper fractions).
6Nf.02 Understand that proper and improper fractions can act as operators.
6Nf.03 Use knowledge of equivalence to write fractions in their simplest form.
6Nf.04 Recognise that fractions, decimals (one or two decimal places) and percentages can have equivalent values.
6Nf.05 Estimate, add and subtract fractions with different denominators.
6Nf.06 Estimate, multiply and divide proper fractions by whole numbers.
6Nf.07 Recognise percentages (1%, and multiples of 5% up to 100%) of shapes and whole numbers.

6Nf.08 Understand the relative size of quantities to compare and order numbers with one or two decimal places, proper fractions with different denominators and percentages, using the symbols =, > and <.
6Nf.09 Estimate, add and subtract numbers with the same or different number of decimal places.
6Nf.10 Estimate and multiply numbers with one or two decimal places by 1-digit and 2-digit whole numbers.
6Nf.11 Estimate and divide numbers with one or two decimal places by whole numbers.
6Nf.12 Understand the relationship between two quantities when they are in direct proportion.
6Nf.13 Use knowledge of equivalence to understand and use equivalent ratios.

Geometry and Measure

Time

6Gt.01 Convert between time intervals expressed as a decimal and in mixed units.

Geometrical reasoning, shapes and measurements

6Gg.01 Identify, describe, classify and sketch quadrilaterals, including reference to angles, symmetrical properties, parallel sides and diagonals.
6Gg.02 Know the parts of a circle:
- centre
- radius
- diameter
- circumference.

6Gg.03 Use knowledge of area of rectangles to estimate and calculate the area of right-angled triangles.
6Gg.04 Identify, describe and sketch compound 3D shapes.
6Gg.05 Understand the difference between capacity and volume.
6Gg.06 Identify and sketch different nets for cubes, cuboids, prisms and pyramids.
6Gg.07 Understand the relationship between area of 2D shapes and surface area of 3D shapes.
6Gg.08 Identify rotational symmetry in familiar shapes, patterns or images with maximum order 4. Describe rotational symmetry as ‘order
6Gg.09 Classify, estimate, measure and draw angles.
6Gg.10 Know that the sum of the angles in a triangle is 180º, and use this to calculate missing angles in a triangle.
6Gg.11 Construct circles of a specified radius or diameter.

Position and transformations

6Gp.01 Read and plot coordinates including integers, fractions and decimals, in all four quadrants (with the aid of a grid).
6Gp.02 Use knowledge of 2D shapes and coordinates to plot points to form lines and shapes in all four quadrants.
6Gp.03 Translate 2D shapes, identifying the corresponding points between the original and the translated image, on coordinate grids.
6Gp.04 Reflect 2D shapes in a given mirror line (vertical, horizontal and diagonal), on square grids.
6Gp.05 Rotate shapes 90º around a vertex (clockwise or anticlockwise).

Statistics and Probability

Statistics

6Ss.01 Plan and conduct an investigation and make predictions for a set of related statistical questions, considering what data to collect (categorical, discrete and continuous data).

6Ss.02 Record, organise and represent categorical, discrete and continuous data. Choose and explain which representation to use in a given situation:
- Venn and Carroll diagrams
- tally charts and frequency tables
- bar charts
- waffle diagrams and pie charts
- frequency diagrams for continuous data
- line graphs
- scatter graphs
- dot plots.

6Ss.03 Understand that the mode, median, mean and range are ways to describe and summarise data sets. Find and interpret the mode (including bimodal data), median, mean and range, and consider their appropriateness for the context.

6Ss.04 Interpret data, identifying patterns, within and between data sets, to answer statistical questions. Discuss conclusions, considering the sources of variation, and check predictions.

Probability

6Sp.01 Use the language associated with probability and proportion to describe and compare possible outcomes.

6Sp.02 Identify when two events can happen at the same time and when they cannot, and know that the latter are called 'mutually exclusive'.

6Sp.03 Recognise that some probabilities can only be modelled through experiments using a large number of trials.

6Sp.04 Conduct chance experiments or simulations, using small and large numbers of trials. Predict, analyse and describe the frequency of outcomes using the language of probability.