Mathematics Enhancement Programme
TEACHING SUPPORT: Year 6

OVERVIEW

This is a consolidation year, revisiting topics and with an emphasis on problem solving. There are some new or extended topics but the main theme is reinforcement of earlier work.

At the start of Year 6, we expect students to be able to

- *use numbers up to 10 000 in calculations (addition, subtraction, multiplication and division) with confidence*

- *have instant recall of multiplication tables up to 10 × 10 and number bonds up to 10*

- *understand equivalent fractions and be able to add and subtract fractions in context and find fractions of quantities*

- *understand multiplication of fractions by integers*

- *understand the decimal equivalent of fractions with tenths and hundredths and be able to convert simple fractions to/from decimals and percentages*

- *add, subtract and multiply decimal numbers, using the column notation and divide decimal numbers by natural numbers*

- *understand factors and multiples and be able to express natural numbers in terms of their prime factors*

- *round numbers to the nearest 10, 100, 1000*

- *use Venn diagrams to classify a set of numbers*

- *extend units of measurement to include mm*

- *use 12 and 24 hour clocks for time and understand the concept of speed*

- *understand and use negative numbers on a number line and in context, e.g. thermometer, sea level*

- *order a set of numbers, including negative numbers*

- *understand simple calculations, additions and subtractions with negative numbers and multiplication of positive by negative numbers*

- *understand and solve simple equations*

- *find the perimeter and area of 2D shapes with lengths given as natural numbers, fractions or decimals and surface area and volume of simple 3D shapes*

- *understand the concepts of symmetry and congruence of simple 2D shapes*

- *understand parallel and perpendicular lines*

- *recognise and understand convex and concave shapes*

- *understand and use reflection, rotation and translation and enlargement of 2D shapes*

- *use and construct nets for 3D shapes*

- *use positive 2D coordinates to define shapes*

- *construct and measure angles up to* $360°$

- *understand compass direction, including SE, SW, etc. and SSW, etc.*

- *use tally charts, pie charts, bar charts and pictograms to illustrate data*

- *understand and calculate the mode, median and mean of a set of numbers*

- *find simple probabilities as fractions or percentages.*