

## Parents' Guide to Mathematics Grade Level Content Expectations Grade 6 (Stage 7)

### Number Properties

- Understand decimal notation and place value.
- Multiply and divide integers and decimals by 10, 100 and 1000.
- Multiply and divide three-digit by two-digit whole numbers.
- Know the negative numbers (ordering, adding, subtracting, multiplying and dividing).
- Know and use the order of operations, including brackets, with simple calculations.
- Use fraction notation to describe parts of shapes and to express a smaller whole number as a fraction of a larger one.
- Simplify fractions by the cancellation and identify equivalent fractions.
- Convert terminating decimals to fractions.
- Know that a recurring decimal is a fraction.
- Use division to convert a fraction to a decimal.
- Add and subtract fractions with common denominators.
- Multiply and divide fractions
- Calculate fractions of quantities (whole number answers) and multiply a fraction by an integer.
- Recognise the equivalence of percentages, fractions and decimals.
- Recognise and use multiples, factors, common factors, highest common factor, lowest common multiple, primes and use simple tests of divisibility.
- Recognise square and cube numbers, and square and cube roots.
- Know and use the symbols =, #, <, >
- Order fractions, decimals and percentages by magnitude.

### Problem Solving

- Understand, use and calculate simple percentages.
- Use percentages to compare simple proportions.
- Express one quantity as a percentage of another.
- Calculate percentage increase and decrease.
- Understand and use negative numbers.
- Order, add, subtract, multiply and divide positive and negative integers in context.
- Understand the relationship between ratio and proportion.
- Use ratio notation.
- Reduce a ratio to its simplest form and divide a quantity in a given ratio.
- Solve simple problems involving ratio and proportion in context.
- Round large positive whole numbers to the nearest 10, 100 or 1000 and decimals to the nearest whole number or one decimal place.

### Data Handling

- Collect and organise data.
- Design a data collection sheet or questionnaire to use in a simple survey.
- Construct frequency tables for discrete data, grouped where appropriate in equal class intervals.
- Construct and interpret bar-line graphs, pictograms and frequency diagrams for grouped discrete data.
- Draw conclusions based on the shape of graphs.
- Compare two simple distributions using the range and one of the mode, median or mean.
- Find the mode (or modal class for grouped data), median and range.
- Calculate the mean, including from a simple frequency table.

### Algebra Manipulation

- Use letters to represent unknowns or variables.
- Simplify linear algebraic expressions by collecting like terms.
- Evaluate simple formulae.
- Know the meaning of the words term, expression, and equation.
- Construct and solve simple linear equations with integer coefficients.

### Measure

- Convert from one metric unit squared to another.
- Read and interpret scales on measuring instruments.
- Know and use the formula for the area of a rectangle and triangle.
- Calculate the perimeter and area of rectangles and triangles.
- Deduce and use the formula for the area of a triangle, parallelogram and trapezium.

## Mathematics Policy

### Class Policy:

- Students will be given homework on a daily basis and at times classwork assignments instead.
- Homework will be discussed the following day after being assigned.
- Teacher will go around and make sure students have completed their homework.
- Assessments and quizzes will be reviewed in class.
- Students are encouraged to ask questions, to gain confidence and come to conclusions independently.

### Resources:

- Cambridge Lower Secondary Complete Mathematics.
- Cambridge Lower Secondary Complete Mathematics. Homework Book
- Study sheets and worksheets.
- Copybook.
- PowerPoint presentations.

### Grading:

- Classwork participation and homework
- Assessments and quizzes
- Projects

Math Department (6-8)