

Year 8 Mathematics 2018



Mathematics

Year 8

Length: 2 Semesters

Assumed Knowledge:

Year 7 Mathematics

Description:

This is a general Mathematics course addressing the Australian Curriculum Mathematics content strands of:

- Number and Algebra
- Measurement and Geometry
- Statistics and Probability

For each of the content strands, the course addresses a student's proficiency of their *Understanding, Fluency, Problem Solving and Reasoning*. The proficiencies reinforce the significance of working mathematically within the content and describe how the content is explored or developed. They provide the language to build in the developmental aspects of the learning of mathematics.

By the end of Year 8, students solve everyday problems involving rates, ratios and percentages. They recognise index laws and apply them to whole numbers. They describe rational and irrational numbers. Students solve problems involving profit and loss. They make connections between expanding and factorising algebraic expressions. Students solve problems relating to the volume of prisms. They make sense of time duration in real applications. They identify conditions for the congruence of triangles and deduce the properties of quadrilaterals. Students model authentic situations with two-way tables and Venn diagrams. They choose appropriate language to describe events and experiments. They explain issues related to the collection of data and the effect of outliers on means and medians in that data.

Students use efficient mental and written strategies to carry out the four operations with integers. They simplify a variety of algebraic expressions. They solve linear equations and graph linear relationships on the Cartesian plane. Students convert between units of measurement for area and volume. They perform calculations to determine perimeter and area of parallelograms, rhombuses and kites. They name the features of circles and calculate the areas and circumferences of circles. Students determine complementary events and calculate the sum of probabilities.

A scientific calculator is essential for this course.

Assessment Details:

Any of the following may contribute to the assessment: skills assessment tasks, investigations, assignments, writing exercises, journal, work folio, oral reports.

For more information on Australian Curriculum please visit:

<http://www.australiancurriculum.edu.au>