2026 Semester 2 - Year 7 Unit Outline

Mathematics

Teacher(s): *Trevor Horrell, Ravi Nath, Ping Zhang, Jen Comans*

Faculty: *Mathematics* **Unit Duration:** Semester 2, 2026

The **Australian Curriculum Achievement Standards in** Mathematics focus on developing students' understanding, fluency, reasoning and problem-solving within the six content strands of number, algebra, measurement, space, statistics, and probability. The Achievement Standard describes a broad sequence of expected learning that students will undertake across the whole year. .

Australian Curriculum Achievement Standard By the end of Year 7, students represent natural numbers in expanded form and as products of prime factors, using exponent notation. They solve problems involving squares of numbers and square roots of perfect square numbers. Students solve problems involving addition and subtraction of integers. They use all 4 operations in calculations involving positive fractions and decimals, choosing efficient calculation strategies. Students choose between equivalent representations of rational numbers and percentages to assist in calculations. They use mathematical modelling to solve practical problems involving rational numbers, percentages and ratios, in financial and other applied contexts, justifying choices of representation. Students use algebraic expressions to represent situations, describe the relationships between variables from authentic data and substitute values into formulas to determine unknown values. They solve linear equations with natural number solutions. Students create tables of values related to algebraic expressions and formulas and describe the effect of variation. They apply knowledge of angle relationships and the sum of angles in a triangle to solve problems, giving reasons. Students use formulas for the areas of triangles and parallelograms and the volumes of rectangular and triangular prisms to solve problems. They describe the relationships between the radius, diameter and circumference of a circle. Students classify polygons according to their features and create an algorithm designed to sort and classify shapes. They represent objects two-dimensionally in different ways, describing the usefulness of these representations. Students use coordinates to describe transformations of points in the plane. They plan and conduct statistical investigations involving discrete and continuous numerical data, using appropriate displays. Students interpret data in terms of the shape of distribution and summary statistics, identifying possible outliers. They decide which measure of central tendency is most suitable and explain their reasoning. Students list sample spaces for single step experiments, assign probabilities to outcomes and predict relative frequencies for related events. They conduct repeated single-step chance experiments and run simulations using digital tools, giving reasons for differences between predicted and observed results.

Unit Description: Learning in Mathematics builds on each student's prior learning and experiences. Students engage in a range of approaches to learning and doing mathematics that develop their understanding of and fluency with concepts, procedures and processes by making connections, reasoning, problem-solving and practice. Proficiency in mathematics enables students to respond to familiar and unfamiliar situations by employing mathematical strategies to make informed decisions and solve problems efficiently. These skills are developed through the study of number, algebra, measurement, space, statistics, and probability.

Essential Learning Outcomes developed from the Achievement Standards of the Australian Curriculum:

1. **V9.M.7.11** - Uses formulas for the areas of triangles and parallelograms and the volumes of rectangular and triangular prisms to solve problems
2. **V9.M.7.12** - Describes the relationships between the radius, diameter and circumference of a circle.
3. **V9.M.7.07** - Uses algebraic expressions to represent situations, describes the relationships between variables from authentic data and substitutes values into formulas to determine unknown values
4. **V9.M.7.06** - Uses mathematical modelling to solve practical problems involving rational numbers, percentages and ratios, in financial and other applied contexts, justifying choices of representation
5. **V9.M.7.08** - Solves linear equations with natural number solutions
6. **V9.M.7.09** - Creates tables of values related to algebraic expressions and formulas, and describes the effect of variation
7. **V9.M.7.15** - Uses coordinates to describe transformations of points in the plane
8. **V9.M.7.16** - Plans and conducts statistical investigations involving discrete and continuous numerical data, using appropriate displays
9. **V9.M.7.17** - Interprets data in terms of the shape of distribution and summary statistics, identifying possible outliers
10. **V9.M.7.18** - Decides which measure of central tendency is most suitable and explains their reasoning
11. **V9.M.7.19** - Lists sample spaces for single step experiments, assigns probabilities to outcomes and predicts relative frequencies for related events
12. **V9.M.7.20** - Conducts repeated single-step chance experiments and runs simulations using digital tools, giving reasons for differences between predicted and observed results

Materials and Equipment Required: Students are expected to arrive at every class with a class book/folder to write notes for that subject, a writing instrument and a Chromebook or similar, appropriate electronic device. Students may also be required to provide the following additional materials and equipment: *Scientific Calculator*

Absences from Class: Students who miss classes due to absence or excursions must negotiate with the class teacher to catch up missed work.

Use of IT in Class: A Google Classroom has been set up for this class. Students will be required to log into this Google Classroom regularly to access course material. Students must bring a personal device (not a smartphone) to all lessons, however, the use of these devices in class will be at the discretion of the teacher.

Homework: All students will be given multiple opportunities to demonstrate a proficiency level of 3 or above across all Essential Learnings during class time. Students may use time at home to complete additional enrichment and extension activities that demonstrate a proficiency above level 3, or to catch up on missed or unfinished classwork.

Late Work: Extensions may be negotiated with individual teachers before the due date.

Plagiarism: Plagiarism is copying or using another's work and claiming it as your own. This includes copying, cutting, and pasting text or using ideas directly from a text, the internet, or some other source without appropriate referencing. The use of Generative AI to produce your work or edit it so that it no longer reflects your work, is a form of plagiarism. If this happens, work may not be graded, and students will be asked to discuss the assessment with the classroom teacher and Executive Teacher for that subject. If a teacher suspects a student may have plagiarised their work they may choose to assess the student in an alternative way, such as verbally or under test conditions. Parents may be contacted as part of this process.

Assessment Portfolio: This contains evidence of work from the opportunities the students have been provided to demonstrate elements of the achievement standard.

Portfolio Assessment Tasks for this subject will include:	**Week / Date Due**	**Essential Learning**
1. Measurement	**Week 3**	**1,2**
2. Solving Equations	**Week 7**	**3**
3. Financial Maths	**Week 10**	**4,**
4. Linear Equations and Transformations	**Week 13**	**5,6,7**
5. Data	**Week 16**	**8,9,10**
6. Probability	**Week 19**	**11,12**

A-E Reporting Grade Descriptors These are the grades and grade descriptors for reporting at the end of each Semester.

A	Demonstrating **excellent** achievement of what is expected (Consistently achieving a proficiency level of 4 or above in each of the Essential Learnings)
B	Demonstrating a **high** achievement of what is expected (Consistently achieving a proficiency level of between 3 and 4 in each of the Essential Learnings)
C	Demonstrating **satisfactory** achievement of what is expected (Achieving a proficiency level of 3 across the Essential Learnings)
D	Demonstrating **partial** achievement of what is expected (Achieving a proficiency of between 1 and 3 across the Essential Learnings)
E	Demonstrating **limited** achievement of what is expected (Achieving a proficiency of 1 or less in each of the Essential Learnings)
S	**Status** is awarded where unavoidable circumstances have prevented assessment. Must be negotiated with the Principal.

Grade Descriptors and the "C" grade

In ACT public schools the Australian Curriculum Achievement Standard is aligned with a 'C' grade. The 'C' grade indicates that your child has demonstrated a satisfactory level of knowledge, understanding and skill in relation to the Achievement Standard.

Appeals

A student must initiate an appeal for any grade with their subject teacher. If a student is dissatisfied with that initial process, they must pursue further appeal through the Faculty Executive Teacher for that subject.

Executive Teacher

Colin Montgomery 01/07/2026

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