Lanyon High School

Year 7 — Australian Curriculum: Mathematics

Identify curriculum	**Achievement standard**	**ACHIEVEMENT STANDARDS LINKED TO CONTENT DESCRIPTORS** 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.
Teaching and learning	**Term overview**	

Term 1	Term 2	Term 3	Term 4
NUMBER - *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.* - *They solve problems involving addition and subtraction of integers.*	**ALGEBRA** - *They 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.* - *They create tables of values related to algebraic expressions and formulas, and describe the effect of variation.* - They use coordinates to describe transformations of points in the plane - *They use all 4 operations in calculations involving positive fractions and decimals, choosing efficient calculation strategies.* - *They 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.*	**MEASUREMENT AND GEOMETRY** - *They apply knowledge of angle relationships and the sum of angles in a triangle to solve problems, giving reasons.* - *They 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.* **SPACE** - *They 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.* - *They use coordinates to describe transformations of points in the plane*	**STATISTICS** - *They plan and conduct statistical investigations involving discrete and continuous numerical data, using appropriate displays* - *They 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.* **PROBABILITY** - They 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.
General capabilities and Cross curriculum priorities			
Key to general capabilities and cross-curriculum priorities	Literacy, Numeracy, ICT capability, Critical and creative thinking, Ethical behaviour, Personal and social capability, Intercultural understanding, Aboriginal and Torres Strait Islander histories and cultures, Asia and Australia's engagement with Asia, Sustainability		

Develop assessment	**Assessment**	**Term 1**		**Term 2**		**Term 3**		**Term 4**	
		Week	**Assessment instrument**	**Week**	**Assessment instrument**	**Week**	**Assessment instrument**	**Week**	**Assessment instrument**
		4	Natural numbers Add/Subtract positive integers	15	Algebra Assessment	2	Financial decision Assessment	15	Fractions, Decimals and Percentages Assessment
		7	Squares assessment	18-19	Cartesian Plane and Transformations Assignment	4	Measurement Assessment	17	Chance and Data Assignment
		9,10	Data Assignment	All semester	Continuous ongoing assessment	7	Transversal Assessment	19	3D Object Assessment
						10	Averages Assessment		
Make judgments and use feedback	**Moderation**	**Term 1**		**Term 2**		**Term 3**		**Term 4**	
		Teachers moderate assessment task to ensure consistency of judgments.							