

Year Level Plan		Year 9		Semester 1		Mathematics	
Term 1				Term 2			
Unit 1		Unit 2		Unit 3		Unit 4	
<p>In Unit 1 students will be working mathematically within the following content and explore how the content is explored or developed.</p> <ul style="list-style-type: none"> understanding includes describing the relationship between graphs and equations, simplifying a range of algebraic expressions fluency includes developing familiarity with calculations involving the Cartesian plane problem-solving reasoning includes following mathematical arguments, and using statistical knowledge to clarify situations, developing strategies in sketching linear graphs. 		<p>In Unit 2 students will be working mathematically within the following content and explore how the content is explored or developed.</p> <ul style="list-style-type: none"> understanding includes describing the relationship between graphs and equations, fluency problem-solving reasoning includes following mathematical arguments 		<p>In Unit 3 students will be working mathematically within the following content and explore how the content is explored or developed.</p> <ul style="list-style-type: none"> understanding fluency calculating areas of shapes and surface areas of prisms problem-solving includes formulating and modelling practical situations involving surface areas and volumes of right prisms reasoning 		<p>In Unit 4 students will be working mathematically within the following content and explore how the content is explored or developed.</p> <ul style="list-style-type: none"> understanding fluency listing outcomes for experiments, problem-solving reasoning 	
Assessment Tasks							
<p>Summative Assessment Task 1: 60 - 70 min Test at the end of Unit 1 (Unit 1 only) Unit 1 is an 8 week unit</p> <p>Approximately Week 9 Term 1</p> <p>Semester Weighting: 50%</p> <ul style="list-style-type: none"> Solve problems involving direct proportion. Explore the relationship between graphs and equations corresponding to simple rate problems Find the distance between two points located on the Cartesian plane using a range of strategies, including graphing software Find the midpoint and gradient of a line segment (interval) on the Cartesian plane using a range of strategies, including graphing software Sketch linear graphs using the coordinates of two points and solve linear equations Investigate Pythagoras' Theorem and its application to solving simple problems involving right angled triangles 		<ul style="list-style-type: none"> Solve problems involving simple interest 		<ul style="list-style-type: none"> Calculate areas of composite shapes Calculate the surface area and volume of cylinders and solve related problems Solve problems involving the surface area and volume of right prisms 		<p>Summative Assessment Task 2: 60 - 70 min Test at the end of Unit 2, 3, 4 Units 2, 3, 4 are smaller units</p> <p>Approximately Week 9 Term 2</p> <p>Semester Weighting: 50%</p> <ul style="list-style-type: none"> List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events Calculate relative frequencies from given or collected data to estimate probabilities of events involving 'and' or 'or' 	

Year Level Plan			
Year 9	Semester 2		Mathematics
Term 3		Term 4	
Unit 5	Unit 6	Unit 7	Unit 8
<p>In Unit 5 students will be working mathematically within the following content and explore how the content is explored or developed.</p> <ul style="list-style-type: none"> understanding includes describing the relationship between the trigonometric ratios for right-angle triangles fluency includes developing familiarity with calculations involving the Cartesian plane problem-solving includes formulating and modelling practical situations applying ratio and scale factors to similar figures, solving problems involving right-angle trigonometry reasoning includes following mathematical arguments, evaluating media reports 	<p>In Unit 6 students will be working mathematically within the following content and explore how the content is explored or developed.</p> <ul style="list-style-type: none"> understanding includes describing the relationship between graphs and equations, simplifying a range of algebraic expressions fluency includes applying the index laws to expressions with integer indices, expressing numbers in scientific notation, problem-solving reasoning includes following mathematical arguments, evaluating media reports. 	<p>In Unit 7 students will be working mathematically within the following content and explore how the content is explored or developed.</p> <ul style="list-style-type: none"> understanding includes describing the relationship between graphs and equations, explaining the use of relative frequencies to estimate probabilities fluency listing outcomes for experiments problem-solving includes formulating and modelling practical situations involving collecting data from secondary sources to investigate an issue reasoning includes following mathematical arguments, evaluating media reports and using statistical knowledge to clarify situations 	<p>In Unit 8 students will be working mathematically within the following content and explore how the content is explored or developed.</p> <ul style="list-style-type: none"> understanding includes describing the relationship between graphs and equations, simplifying a range of algebraic expressions fluency includes applying the index laws to expressions with integer indices, developing familiarity with calculations involving the Cartesian plane problem-solving reasoning sketching linear graphs.
Assessment Tasks			
<p>Summative Assessment Task 4: 60 - 70 min Test Term 3 Week 6 (U5 and U6)</p> <ul style="list-style-type: none"> Solve problems using ratio and scale factors in similar figures Use the enlargement transformation to explain similarity and develop the conditions for triangles to be similar Use similarity to investigate the constancy of the sine, cosine and tangent ratios for a given angle in right-angled triangles Apply trigonometry to solve right-angled triangle problems 	<p>Summative Assessment Task 3: 60 - 70 min Test Term 3 End of Week 6 (U5 and U6)</p> <p>Approximately Week 8 Term 3</p> <p>Semester Weighting: $33\frac{1}{3}\%$</p> <ul style="list-style-type: none"> Apply index laws to numerical expressions with integer indices Extend and apply the index laws to variables, using positive integer indices and the zero index Express numbers in scientific notation Investigate very small and very large time scales and intervals 	<p>Summative Assessment Task 4: 4 Lessons in Class Extended Problem Solving Activity. Each Lesson students are to complete the activity in that given lesson.</p> <p>No Take Home Components are part of the conditions.</p> <p>Semester Weighting: $33\frac{1}{3}\%$ Short Exam (Unit 7 Only) Term 3 Week 10</p> <ul style="list-style-type: none"> Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate population means and medians Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources Construct back-to-back stem-and-leaf plots and histograms and describe data, using terms including 'skewed', 'symmetric' and 'bi modal' Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread Calculate relative frequencies from given or collected data to estimate probabilities of events involving 'and' or 'or' 	<p>Summative Assessment Task 5: 60 - 70 min Test at the end of Unit 8</p> <p>Approximately Week 8 Term 4</p> <p>Semester Weighting: $33\frac{1}{3}\%$ Exam Term 4 at the end of Week 7(U8)</p> <ul style="list-style-type: none"> Apply the distributive law to the expansion of algebraic expressions, including binomials, and collect like terms where appropriate Graph simple non-linear relations with and without the use of digital technologies and solve simple related equations