

YEAR 7&8 MATHEMATICS

TERM 3

- Unit Outline -



Course Description:

This unit incorporates the Australian Curriculum Mathematic content strands of *Number and Algebra, Statistics and Probability* and *Measurement and Geometry*. The main focus of this unit is algebra, angles, triangles and quadrilaterals.

Course Outcomes:

By the end of this unit you should be able to:

- Create an algebraic expression
- Solve algebra by substitution
- Apply the commutative and associative laws when solving equations
- Simplify, expand and factorise algebraic expressions
- Plot and identify co-ordinates on the Cartesian plane
- Plot linear relationships on the Cartesian plane
- Solve linear equations using algebraic and graphical techniques
- Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal
- Classify triangles
- Develop the conditions for congruence of triangles

Course Organisation:

Student's activities will include:

- Student based investigations to discover rules, laws and concepts
- Teacher directed instruction and explanation combined with student practise of a new skill
- Group and partner work to consolidate learning
- Using technologies to investigate, solve and present problems and skills

Course Timeline:

Wk	Activity	Assessment
1-4	Number and Place Value- Patterns and Algebra <ul style="list-style-type: none">• Introduction to the concept of variables• Solving using substitution• Simply, expand and factorise algebraic equations	<ul style="list-style-type: none">• In class worksheets• Homework pieces• Test, end of week 4
5	Measurement and Geometry- Geometric reasoning <ul style="list-style-type: none">• Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal	<ul style="list-style-type: none">• Angles assignment• Selected class work
6-7	Number and Place Value- Linear and Non-Linear Relationships <ul style="list-style-type: none">• Plot and identify co-ordinates on the Cartesian plane• Plot linear relationships on the Cartesian plane• Solve linear equations using algebraic and graphical techniques	<ul style="list-style-type: none">• In class worksheet• Investigation• Homework pieces• Test end of week 7
8-9	Measurement and Geometry <ul style="list-style-type: none">• Classify triangles• Develop the conditions for congruence of triangles	<ul style="list-style-type: none">• Class assigned work• Open book Test end of week 9
10	Country Week	

Course Vocabulary:

- Term
- Variable
- Pro-numeral
- Expression
- Formula
- Substitution
- Commutative
- Associative
- Algebraic equation
- Unknown
- Cartesian plane
- Co-ordinates
- Plot
- Linear
- Relationship
- Rule
- Slope
- Intercept
- Co-interior angle
- Corresponding angle
- Alternate angles
- Degrees
- Scalene
- Isosceles
- Equilateral
- Pythagoras
- congruent

- Assessment Outline -

Course Assessment:

Wk	Assessment type	Weighting	Marks achieved	Your Total
4	Test	20%*		
7	Test	20%*		
9	Test	20%*		
1-9	Selected classroom and home work**	20%*		
1-9	Friday "Weekly Revision Quiz"	10%		
1-9	Classroom behaviour, attitude and contributions	10%*		

**specific marks to be advised and are subject to change*

*** Students may not be told which piece of classroom work is to be collecting for marking until the activity is complete.*

Specific Equipment required for each lesson:

- File/book to write in
- Pens, ruler
- Scientific calculator