

Fairfield High School Curriculum Overview – Year 7

Subject	Maths	Why do we study these units in Year 7?
Lessons per fortnight	7	Year 7 in Maths begins with two terms covering the number concepts that should be familiar from primary school. These concepts are then taught through problem-solving and reasoning as students are introduced to the “ <u>mastery</u> ” approach to working. In addition to the topics we will ensure that students are familiar with mathematical representations for mastery such as bar modelling. From Term 3 onwards, students begin learning fundamental skills that are essential to accessing and understanding higher level mathematics once they enter Year 9. These skills include geometry and generalisation of mathematical reasoning through algebra.
Setting	4 mixed attainment sets per band	

Students are encouraged to be Responsible Global Citizens through activities/content on...

Throughout the year all students will be invited to workshops, trips and activities that will focus on employability, creativity, global learning and sustainability in mathematics.

We ensure all students experience high challenge in the subject by including...

Highly differentiated lessons tailored to the need of every class with problem solving and reasoning elements that will sufficiently challenge high attaining students whilst being accessible to students who need a little more scaffolding

Literacy work this year includes...

All lessons will have mathematical reasoning attained through questioning and oracy. All lessons and assessments will have problem solving components that require students to interrogate mathematical language and find solutions to problems that are presented to them in words thereby translating language into abstract ideas.

Innovation and Creativity opportunities this year include...

Throughout the year all students will be invited to workshops, trips and activities that will focus on employability, creativity, global learning and sustainability in mathematics.

Employability opportunities/skills covered this year are...

Throughout the year all students will be invited to workshops, trips and activities that will focus on employability, creativity, global learning and sustainability in mathematics.

Term	Unit title	Knowledge and Understanding/content	Skills	Assessment
1	1. Sequences 2. Algebraic Notation	- Describe and continue sequences - Linear & Non linear sequences - Term to term rule - Missing terms - Single function machine and inverse - Diagrams and letters to represent the 4 operations - Function machines - Solving one-step equations - Generating sequences from an algebraic rule	Fluency in number Problem Solving Reasoning	Formative End of Block reviews and Summative test incorporating fluency, problem solving and reasoning.

2	1. Place Value 2. Fraction Decimal Percentage (FDP) Equivalence	• Using numberlines • Rounding to powers of ten • Comparing and ordering integers • Range and median • Working with decimals • Understanding standard form • Representing tenths and hundredths • Converting fractions/decimals for eighths and thousandths • Representing percentages • Recognising and recalling common FDP conversions • Representing fractions • Equivalent fractions and simplifying • Fractions as a division • FDP conversion • Mixed numbers	Fluency in number Problem Solving Reasoning	Formative End of Block reviews and Summative test incorporating fluency, problem solving and reasoning.
3	1. Addition and Subtraction 2. Multiplication and Division	• Properties of addition and subtraction • Mental strategies • Formal methods for addition and subtraction • Perimeter • Standard form addition • Properties of multiplication and division • Factors and multiples	Fluency in algebra Problem Solving Reasoning	Formative End of Block reviews and Summative test incorporating fluency, problem solving and reasoning.

		• Multiplying and dividing by powers of ten • Metric Units • Formal methods for multiplication • Short division integers and decimals • BIDMAS • Area of rectangles and parallelograms • Mean		
4	1. Directed Number 2. Fractions	• Directed number counters and zero pairs • Representation and ordering of directed numbers • The 4 operations and directed numbers • BIDMAS with directed number • Using a calculator • Collecting like terms with directed number • Substitution with directed number • Fraction of amount • Fraction to whole • Percentage of amount • Fractions and percentages of amounts greater than 1 • Adding and subtracting fractions • Algebraic fractions	Fluency in geometry Problem Solving Reasoning	Formative End of Block reviews and Summative test incorporating fluency, problem solving and reasoning.

5	1. Construction 2. Angles	• Labelling conventions, drawing and measuring line segments • Understanding, classifying, drawing and measuring angles • Drawing pie charts • Types of triangle & quadrilaterals • Identifying polygons • Constructing triangles SSS SAS ASA • Angles on points and lines • Angles in a triangle • Angles in a quadrilateral • Interior angles • Solving angle problems	Fluency in number Problem Solving Reasoning	Formative End of Block reviews and Summative test incorporating fluency, problem solving and reasoning.
6	1. Revision 2. Number sense	• Revision of term 1 – 5 • Know and use mental strategies for using the 4 operations with integers • Know and use mental arithmetic strategies for decimals and fractions • Use factors to simplify calculations • Use estimation as a method for checking mental calculations • Use known number facts to derive other facts • Know when to use a mental strategy, formal written method or a calculator	Fluency in number, algebra and geometry Problem Solving Reasoning	Summative end of year test incorporating fluency, problem solving and reasoning.

