

Fairfield High School Curriculum Overview – Year 8

Subject	Maths	Why do we study these units in Year 8?
Lessons per fortnight	7	Year 8 in Maths continues the “ <u>Mastery</u> ” approach from Year 7. These units continue to build on the foundational skills that were learnt in Year 7, such as deeper exploration of fractions and algebra including graphs. Additionally, number skill is strengthened through the studying of percentages and ratio. All skills are then contextualised within the geometry unit.
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. Ratio and Scale	- Representing and notating ratio - Expressing ratio as 1:n or n:1 - Sharing in a ratio - Simplifying ratio - Ratio and fractions - Direct proportion - Conversion graphs & Exchange rates - Scale factors & Similar shapes	Fluency in number Problem Solving Reasoning	Formative End of Block reviews incorporating fluency, problem solving and reasoning.
	2. Multiplying Fractions	- Fraction multiplication representation - Multiply fractions and integers - Fraction multiplication - Integer and fraction division		

		• Fraction division • Multiplying and dividing mixed numbers • Multiplying and dividing algebraic fractions		
2	1. The coordinate grid 2. Representing Data	• Coordinates • $x=a$, $y=a$ • positive and negative gradient • $y=kx$ • $y=kx$ and direct proportion • $y=x+a$ • Graphs and sequences • Drawing & interpreting $y=mx+c$ • Scatter Graphs including correlation and line of best fit • Statistical measures • Types of data • Read ungrouped and grouped frequency tables • Construct frequency tables • Bar charts	Fluency in number Problem Solving Reasoning	Formative End of Block reviews and Summative test incorporating fluency, problem solving and reasoning.
3	1. Algebraic Manipulation	• Algebraic notation and terminology • Form algebraic expressions • Multiplying and dividing Terms • Collecting like terms	Fluency in algebra Problem Solving Reasoning	Formative End of Block reviews incorporating fluency, problem solving and reasoning.

	2. Algebraic Sequences	- Expanding and factorising with single brackets - Solving two step equations - Expand multiple brackets and simplify - Expand double brackets - Form and solve equations with brackets - Understand and represent inequalities - Form and solve inequalities - Generate sequences given a rule in words - Generate sequence given a simple algebraic rule - Generate sequence given a complex algebraic rule - Find the rule for the nth term of a linear sequence		
4	1. Fractional and Percentage Change	- Recap of fractions, decimals and percentages - Fraction and percentage of amount with calculator - Convert decimals and percentage greater than 100% - Multipliers - Percentage increase/decrease with multipliers - Reverse percentage change - Calculating the percentage change	Fluency in geometry Problem Solving Reasoning	Formative End of Block reviews and Summative test incorporating fluency, problem solving and reasoning.

		• Draw and interpret pictograms, bar charts and vertical line charts • Draw and interpret multiple bar charts • Choose the most appropriate diagram for given set of data • Represent and interpret grouped quantitative data • Find and interpret the range • Compare distributions using charts • Identify misleading graphs	Reasoning	problem solving and reasoning.
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