

Fairfield High School Curriculum Overview – Year 9

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| Subject | Maths | Why do we study these units in Year 9? |
| Lessons per fortnight | 7 | The units below consolidate KS3 learning and form the foundations of knowledge students need for GCSE Mathematics. |
| Setting | Sets 1,2,3 Study Higher Scheme of Work. Set 4 Study Foundation SoW | |

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.

Underlined content is for Higher Tier only

| Term | Unit title | Knowledge and Understanding/content | Skills | Assessment |
|------|--|---|--|---|
| 1 | <p>1. Linear Equations</p> <p>2. Linear Graphs</p> | <ul style="list-style-type: none"> • One and two-step equations • Equations and inequalities with brackets • Rearranging formulae • Lines parallel to the axes • Using tables of values • Gradient and intercept • $y=mx+c$ | <p>Fluency in number</p> <p>Problem Solving</p> <p>Reasoning</p> | <p>End of Unit Test incorporating elements of fluency, reasoning and problem solving.</p> |
| 2 | 1. 3D Objects | <ul style="list-style-type: none"> • Properties of 3D objects • Nets • Plans and Elevations • Surface Area | <p>Fluency in number</p> <p>Problem Solving</p> <p>Reasoning</p> | <p>End of Unit Test incorporating elements of fluency, reasoning</p> |

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| | 2. Loci and Congruence | <ul style="list-style-type: none"> • Volume • Locus of distance from a point/line/two points • Construct a perpendicular bisector • Construct an angle bisector • Explore congruent shapes | | and problem solving. |
| 3 | 1. Transformations and Pythagoras | <ul style="list-style-type: none"> • Compare rotational symmetry with line symmetry • Rotation • Translation • Compare rotation and reflection • <u>Invariant points and lines</u> • Determine if a triangle is right-angled • Calculate missing sides in right-angled triangles • Calculate higher power and roots • Addition and subtraction rules for indices • Work with powers of powers | Fluency Problem Solving Reasoning | End of Unit Test incorporating elements of fluency, reasoning and problem solving. |

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| | 2. Indices | <ul style="list-style-type: none"> • Fraction indices | | |
| 4 | <p>1. Percentage change</p> <p>2. Money</p> | <ul style="list-style-type: none"> • Use the equivalence of FDP • Calculate percentage increase and decrease • Express change as a percentage • Reverse percentage change • Solve problems with repeated percentage change • Solve problems with bills and bank statements • Calculate simple interest • Calculate compound interest • Solve problems with VAT • Calculate wages and taxes • Solve best buy problems • Solve problems with exchange rates | <p>Fluency in geometry</p> <p>Problem Solving Reasoning</p> | <p>End of Unit Test incorporating elements of fluency, reasoning and problem solving.</p> |
| 5 | 1. Enlargement | <ul style="list-style-type: none"> • Recognise enlargement and similarity • Enlarge shapes by a scale factor • Work out missing sides and angles in given similar shapes | <p>Fluency in algebra</p> <p>Problem Solving Reasoning</p> | <p>End of Unit Test incorporating elements of fluency, reasoning and problem solving.</p> |

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| | 2. Angles and Similarity | <ul style="list-style-type: none"> • Interior and exterior angles • Alternate, corresponding and co-interior angles • Solve complex problems with parallel line angles • Solve problems with similar triangles • Solve problems with direct proportion • Direct proportion and conversion graphs • Inverse proportion | | |
| 6 | <p>1. Revision</p> <p>2. Quadratics</p> | <ul style="list-style-type: none"> • Revision of T1-5 • Expanding Double Brackets • Factorising Quadratics • Solving Quadratics by Factorisation • Solving Quadratic Inequalities | <p>Fluency in number, algebra and geometry</p> <p>Problem Solving</p> <p>Reasoning</p> | <p>End of Year Test incorporating elements of fluency, reasoning and problem solving.</p> |