# Year 9 Spring Term 2021 Maths Curriculum

Students in Year 9 study different content dependent upon their class. The classes will spend approximately two weeks studying each topic.

| Mrs Loveridge, Mr Bees/Mr Hammond | | Mr Storey-Scott, Mrs Joseph | | Mr Ahluwalia, Mr McClusky | |
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| Transformations | Students transform shapes using reflections, rotations and translations. The reverse process of describing transformations is also considered as well as combining various transformations. | Volume and surface area | The concepts of volume and surface area of 3d solids are defined. Students then apply these ideas by looking at problems involving cuboids, prisms and cylinders. | Algebraic proof | Students start by looking at what constitutes an algebraic proof and the associated language. They then look at proof involving multiples, odd and even numbers and consecutive numbers. |
| Revision of Year 9 work | Students revisit and further practise work from throughout Year 9. The following topics will be covered:<br>• Commutative and associative laws<br>• Factors, multiples and primes<br>• Multiplication and division<br>• Fractions<br>• Negative numbers<br>• Decimals<br>• Algebraic expressions<br>• Lines and angles<br>• Fraction arithmetic<br>• Solving equations<br>Arithmetic sequences | Revision of Year 9 work | Students revisit and further practise work from throughout Year 9. The following topics will be covered:<br>• Rounding and approximation<br>• Formulae<br>• Ratio and proportion<br>• Percentage change<br>• Straight line graphs<br>• Maps, bearings and loci<br>• Circumference and perimeter<br>• Geometry and angles<br>• Compound measures<br>• Probability<br>• Area | Revision of Year 9 work | Students revisit and further practise work from throughout Year 9. The following topics will be covered:<br>• Quadratic expressions<br>• Simultaneous equations<br>• Indices and standard form<br>• Quadratic equations<br>• Direct and inverse proportion<br>• Enlargement and similarity<br>• Vectors<br>• Enlargement and similarity<br>• Trigonometry<br>• Geometric and quadratic sequences<br>• Sets and probability |
| End of Year tests and feedback | Students will sit two, 50 minute tests covering their work from throughout the year before analysing and evaluating their performance. These tests will take place in the week beginning 24th May. | End of Year tests and feedback | Students will sit two, 50 minute tests covering their work from throughout the year before analysing and evaluating their performance. These tests will take place in the week beginning 24th May. | End of Year tests and feedback | Students will sit two, 50 minute tests covering their work from throughout the year before analysing and evaluating their performance. These tests will take place in the week beginning 24th May. |
| Representations of solids | After first looking at the different properties of common solids; students look at various ways of representing them including isometric drawings, nets and plan and elevations. | Pythagoras theorem | By firstly drawing pictorial sequences, students define square cube and triangular numbers. Students also learn how to find and estimate square roots before looking at how these operations can be combined. | Quartiles and cumulative frequency | Students look at methods for finding quartiles and medians from both discrete and continuous data, using these to construct box plots. They then look at how to draw cumulative frequency curves and use these to compare data. |
| Averages | After looking at when it is appropriate to use each of the different averages, students solve problems involving missing data and data presentenced to them in a frequency table. | Grouped and bivariant data | Students firstly look at the different averages used to represent sets of data. They then look at how data sets can be represented using both pie charts and line graphs | Further Volume and surface area | Building on work from the previous year students look at formulae for finding the volume and surface area of pyramids, cones and spheres. |

After completing each topic students complete an assessed piece of work in their yellow assessment book.