Year 10 Spring Term Maths Curriculum

Students in Year 10 study different content dependent upon their class. The classes will spend approximately two weeks studying each topic.

Mr Bullock, Mr McClusky, Mrs Loveridge	
Properties of shape	Knowledge of the properties of triangles, quadrilaterals and polygons are consolidated before looking at area and perimeter problems involving rectangles, triangles, parallelograms and trapeziums.
Algebraic expressions and sequences	Students build upon algebra work from earlier in the year looking at the skills of expanding and factorising brackets. Sequences are then looked at with particular focus on nth term rules.
Formulae	Formulae are used to solve a variety of problems before the technique of changing the subject of a formula is introduced and applied in a variety of contexts.
Averages and graphs	Students look at when it is appropriate to use each of the different averages to analyse data. Various graph for comparing data are revisited including bar charts, pictograms and scatter graphs.
Probability	Numerical values for probabilities are calculated and mutually exclusive events are defined. Problems involving combined probabilities are looked at by listing and using sample space diagrams.

Mrs Joseph	
Vectors	After being introduced to what vectors represent and how they are written, students look at how to prove vectors are parallel and solve geometrical problems involving them.
Enlargement and similar shapes	Techniques for enlarging shapes by both positive and negative scale factors are studied. This leads onto students solving problems involving similar and congruent shapes.
Trigonometry	Students investigate how the ratio of the lengths of sides of right-angled triangles are linked. This leads to trigonometric ratios being used to calculate missing sides, angles and solving other problems.
Sets and probability	Set notation is introduced. Techniques for combining the probabilities of more than one event are studied, this includes listing, sample space diagrams and tree diagrams.
Volume and surface area	Previous knowledge of volume and surface area of prisms is built upon looking at pyramids, cones, spheres and associated problems

Mr Ahluwalia, Mr Storey-Scott	
3D coordinates, Pythagoras and trigonometry	After looking at how the coordinate system can be extended into 3D, students look at how Pythagoras and trigonometry can be applied to problems involving this extra dimension
Circle compounds	After consolidating previous work on perimeter and area of circle composites, reverse problems are looked at with students calculating radii and angles.
Functions	Techniques for finding composite and inverse functions are studied. Students then consider the graphs of reciprocal and cubic functions before beginning to look at simple transformations.
Sine rule, cosine rule and area of triangles	Sine and cosine rules are introduced to students, with time being spent looking at when each rule should be used. Areas of non-right-angled triangles are also calculated using trigonometry.
Graphing inequalities	Students look at how both linear and quadratic inequalities can be expressed graphically and how these graphs can subsequently be used to find solutions.

After completing each topic students complete an assessed piece of work which they will hand in via teams or will complete in their purple assessment book.

Students would normally sit short two short tests this term. These were provisionally planned for the weeks beginning 8th February and 28th March. We are still unsure whether these tests will be running at the present moment.