

Year 9 Spring Term Maths Curriculum

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

Mr Storey-Scott and Mr Bees		Miss Robinson and Mr Ahluwalia		Mrs Joseph and Mr McClusky	
Algebraic expressions	Exact definitions of algebraic expressions are developed, leading to students manipulating expressions by collecting like terms, multiplying and dividing terms and expanding brackets.	Circumference and perimeter	Students start this topic by discovering pi before using it to calculate circumference and diameters of circles. Perimeter of sectors and circle composites are studied.	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.
Lines and angles	Three letter angle notation is introduced and students develop their geometrical reasoning using proper notation for lines and polygons. Rotation symmetry is also studied.	Geometry and angles	Previous angle work is built upon with students looking at how angles on parallel lines are linked and internal and external angles of polygons. Geometric proof is also introduced.	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.
Fractions	Students look at how improper fractions and mixed numbers can be used to represent numbers greater than a whole. They then look at how to add, subtract, multiply and divide these numbers.	Compound measures	Definition of compound measures is developed with students then looking at a variety of problems involving speed, density, pressure and population density.	Sequences	Work on arithmetic sequences is built upon with students now studying both geometric and simple quadratic sequences; this includes finding and using nth term rules.
Solving equations	Various techniques for solving linear equations are explored including those involving multiple unknowns. Algebraic substitution is used to check solutions.	Probability	Different ways of writing probabilities are studied before looking at probability questions involving mutually exclusive events, two-way tables, frequency trees, Venn diagrams and expectation.	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.
Sequences	Students look at how arithmetic sequences can be described using term to term and position to term rules. Geometrical sequence patterns are also considered.	Area	Understanding of area is built upon by looking at increasingly complex composite shapes including those involving trapezia and parallelograms. Area of circles are also studied using earlier work on pi.	Algebraic proof	Students start by looking at what actually constitutes an algebraic proof and the associated language. They then look at proof involving odd and even numbers, multiples and consecutive numbers.

After completing each topic students complete an assessed homework task which is recorded in the front of their yellow assessment books.

Students will also sit short two short tests this term. These are provisionally planned in the weeks beginning 14th February and 4th April. These tests will cover topics they have studied in the half term and prior knowledge. Students record their results of all tests in the back of their yellow assessment books.

