Year 8 Spring Term Maths Curriculum

Students in Year 8 study different content dependent upon their class. The classes will spend approximately two weeks studying each topic.

Mr Bees and Mr Ahluwalia/Mr Bullock	
Angles	Techniques for measuring and drawing angles are consolidated before looking at angle rules involving lines, triangles and quadrilaterals. A focus for this unit is developing geometrical reasoning.
Properties of shapes and solids	Understanding of exact properties of both 2D shapes and 3D solids are considered. Students then look at the different methods of drawing 3D solids.
Area	Students look at the techniques involved in finding the areas of increasingly more complex shapes, including composites. Problems involving finding missing lengths from areas are also considered.
Proportional reasoning	The double number line is introduced to students and used to solve direct proportion problems. Links are also made with ratio problems, building on the bar model work from earlier in the year.
Fractions and percentages	Equivalence of fractions and percentages is consolidated before students further develop their skills in finding percentages of quantities using the double number line.

Mrs Joseph and Mr Bullock/Miss Robinson	
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.
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.
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.
Solving equations	Various techniques for solving linear equations are explored including those involving multiple unknowns. Algebraic substitution is used to check solutions.
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.

Mr McClusky and Mr Storey-Scott	
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.
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.
Compound measures	Definition of compound measures is developed with students then looking at a variety of problems involving speed, density, pressure and population density.
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.
Area	Areas of increasingly complex composite shapes are looked at including those involving trapezia and parallelograms. Area of circles are also studied using earlier work on pi.

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.