Year 8 Autumn 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, Mr Ahluwalia/Mr Bullock		Mrs Joseph, Mr Bullock/Miss Robinson		Mr Storey-Scott, Mr McClusky	
Commutative and associative relationships	Students are introduced to the commutative and associative laws and their importance in addition and subtraction. Equivalent sums are found and represented using the bar model.	Mental methods for calculations	Students are given opportunity to develop their number sense and develop mental strategies for problems involving addition, subtraction, multiplication, division, decimals and fractions.	Rounding and approximation	After revisiting the skill of rounding, students are introduced to how to round both small and large numbers to significant figures and how this skill can be used to approximate calculations.
Multiples, factors and primes	Previous understanding of factors, multiples and primes is consolidated before students are shown how prime factors and Venn diagrams can be used to find LCMs and HCFs.	Powers and order of operation	Understanding of squares and cubes is built upon with students looking at other powers. Then after revisiting written methods for multiplication and division, order of operations is then considered.	Formulae	Students write und use a variety of formulae in context before looking at the technique of changing the subject of a formula. The formal method of trial and improvement is also introduced.
Multiplication and division	Understanding of written methods for multiplication and division is secured with special attention paid to how remainders can be written and interpreted.	Directed numbers	Building upon previous work on negative numbers, students look at using number lines to solve problems and how to perform operations with combinations of positive and negative numbers.	Ratio and proportion	Understanding of ratio is built upon with students linking this to proportion problems. Direct proportion problems are then studied with 'best value' problems being a focus.
Fractions	Techniques for comparing fractions using both common numerators and denominators are studied before students look at fraction's association with division.	Fractions, decimals and percentages	Students continue to build fluency with converting between fractions, decimals and percentages before looking at problems involving percentages and fractions of amounts.	Percentage change	Students look at how multipliers can be used to increase or decrease a quantity by a percentage. This skill is then used to solve compound percentage problems and calculate percentage change.
Negative numbers	Previous understanding of negative numbers is consolidated with students looking at calculating differences and how to perform operations with combinations of positive and negative numbers.	Place value	Students look at at where decimals are positioned on number lines, how to round to decimal places and how to solve multiplication and division problems involving large numbers.	Straight line graphs	Using an investigational approach, students look at how linear graphs are linked to equations in the form of $y = mx + c$. They also look at how to calculate gradients of line segments.
Decimals and rounding	After looking at where decimals are positioned on number lines students study how to round numbers to decimal places and the conversion between fractions and decimals.	Maths and money	Scenarios involving bills, bank statements, VAT, simple interest, wages and unit prices are looked at by students making use of various computational skills.	Maps, bearings, constructions and loci	Students look at how to interpret scales on maps and use bearings. They then look at the various construction techniques, before using these to solve loci problems.

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 18th October and 13th December. These tests feature 15 marks of questions on each topic they have studied in the half term. Students record their results of all tests in the back of their yellow assessment books.