Year 8 set 1&2 Maths Learning Journey

YEAR GROUP: 8 Set 1and 2 Curriculum Journey
SUBJECT: Maths

When ?	Chapter	Key Learning Objectives Key Questions	Unit Assessments (End of Chapter tests)
HALF TERM 1	**CH 1: Percentages**	• how to calculate simple interest • how to use a multiplier to calculate percentage increases and decreases • how to calculate the original value after a percentage change • how to calculate the result of repeated percentage changes	**CH 1: Percentages** • Simple interest • Percentage increases and decreases • Calculating the original value • Repeated percentage changes
	CH 2: Equations and formulae	• how to expand more complex expressions containing brackets • how to factorise algebraic expressions containing powers of variables • how to manipulate expressions containing several variables • how to solve equations with the variable in the denominator of a fraction	• Multiplying out brackets • Factorising algebraic expressions • Expressions with several variables • Equations with fractions
HALF TERM 2	**CH 3: Polygons**	• how to calculate the interior and exterior angles of polygons • how to solve equations • how to calculate the interior and exterior angles of regular polygons • how regular polygons tessellate	• Properties of polygons • Interior and exterior angles of regular polygons • Tessellations and regular polygons
	CH 4: Using data	• how to interpret correlation from two scatter graphs	• Scatter graphs and correlation • Two-way tables

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HALF TERM 3		• how to estimate the mean from a grouped frequency table • how to construct and interpret two-way tables • how to construct and read a cumulative frequency graph • how to use the interquartile range to compare two sets of data from statistical diagrams • how to plan a statistical investigation	• Estimation of a mean from grouped data • Cumulative frequency diagrams • Statistical investigations
	CH 5: Application of graphs	• how to interpret and draw step graphs • how to interpret and draw time graphs • how to interpret and draw exponential growth graphs	• Step graphs • Time graphs • Exponential growth graphs
HALF TERM 4	**CH 6: Pythagoras' theorem**	• how to calculate the lengths of sides in right-angled triangles by using Pythagoras' theorem • how to use Pythagoras' theorem to solve problems • how to use the converse of Pythagoras' theorem	• Introducing Pythagoras' theorem • Using Pythagoras' theorem to solve problems • The converse of Pythagoras' theorem
	CH 7: Fractions	• different ways to add or subtract fractions or mixed numbers • how to multiply any two fractions or mixed numbers • how to divide any two fractions or mixed numbers • how to manipulate algebraic fractions	• Adding and subtracting fractions • Multiplying fractions and mixed numbers • Dividing fractions and mixed numbers • Algebraic fractions
	CH 8: Algebra	• how to multiply two brackets together • how to expand an expression with more than two brackets • how to factorise a quadratic expression into two	• Expanding the product of two brackets • Expanding expressions with more than two brackets

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HALF TERM 5		- brackets - how to find the difference of two squares	- Factorising quadratic expressions with positive coefficients - Factorising quadratic expressions with negative coefficients - The difference of two squares
	CH 9: Decimal Numbers	- how to extend your ability to work with standard form - how to recognise possible errors in rounding numbers	- Powers of 10 - Standard form - Multiplying with numbers in standard form - Dividing with numbers in standard form - Upper and lower bounds
	CH 10: Surface area and volume of cylinders	- how to calculate the volume of a cylinder - how to calculate the surface area of a cylinder - how to calculate the volume and surface area of composite 3D shapes	- Volume of a cylinder - Surface area of a cylinder - Composite shapes
	CH 11: Solving equations graphically	- how to solve linear equations graphically - how to solve quadratic equations graphically - how to solve simultaneous equations graphically - how to draw reciprocal graphs	- Graphs from equations in the form $ay \pm bx = c$ - Solving simultaneous equations by drawing graphs - Solving quadratic equations by drawing graphs - Solving cubic equations by drawing graphs
HALF TERM 6	**CH 12: Compound units**	- how to solve problems involving speed, distance and time - how to solve problems involving density, mass and volume - how to solve problems involving compound	- Speed - More compound units - Unit costs

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		• units • how to use unit prices to compare prices	
	CH 13: Right-angled triangles	• what trigonometric ratios are and how to recognise them in right-angled triangles • how to use trigonometry to find angles from two sides in a right-angled triangle • how to find an unknown length in a right-angled triangle where all angles and one length are known	• Introduction to trigonometric ratios • How to find trigonometric ratios of angles • Using trigonometric ratios to find angles • Using trigonometric ratios to find lengths
	CH 14: Revision	• help you to practise and revise topics covered in your current course • get you started on your GCSE course	• Practice • Revision • GCSE preparation: solving quadratic equations