Curriculum Content Map

Subject: Mathematics

Year group: 7H 8F

	TERM 1		TERM 2		TERM 3	
Unit title & description	Negative numbers Decimals Operations	Primes, Factors and Multiples Algebra building blocks Substitution Expanding brackets	Factorising into single brackets Area and Perimeter Fractions1	Fractions 2 Percentages Solving equations1	Solving equations2 Sequences	Linear graphs Angles Pie charts
Sequencing - Why is this taught and now?	These are the fundamental building blocks of mathematics. This term ensures students have a solid understanding from previous learning on these topics, to embed within future topics. 8F -These topics are revisited (as a spiral curriculum) building on from the learning in the previous year.			Fraction and percentages are forms of number and therefore percentages are taught after fractions to allow students to see the connections between them. Solving equations build on the prior algebra topics learnt of expanding brackets, substitution etc	Sequences is taught after solving linear equations, so that nth term rules can be solved to find the value of the n.	The previous topic of sequences can be used to plot sequences and see the relationship between the nth rule and linear equations. Pie charts are taught after angles due to knowledge of angles in a circle being required.
Knowledge 	- To be able to order negative integers. - To be able to add with negative integers. - To be able to subtract with negative integers. - To be able to multiply and divide with negative integers. - To be able to place decimal numbers on number lines. - To be able to order decimal numbers. - To be able to round decimal numbers up to 3 decimal places. - To be able to add and subtract decimal numbers. - To be able to multiply decimal numbers. - To be able to divide a decimal number by an integer. - To be able to divide a decimal number by a decimal number.	- To be able to find multiples of numbers. - To be able to recognise multiples of numbers. - To be able to find the LCM of pairs of numbers by listing. - To be able to find the factors of numbers. - To be able to recognise the properties of prime numbers. - To be able to write numbers in prime factor form. - To be able to find the highest common factor. - To be able to find the LCM using prime factor form. - To be able to collect like terms including with powers. - To be able to simplify with multiplication. - To be able to simplify with division. - To be able to substitute into expressions, formulae and equations.	- To be able to factorise out the highest numerical factor. - To be able to factorise out algebraic factors. - To be able to fully factorise into single brackets. - To be able to find the perimeter of shapes using integers and decimals. - To be able to form an expression with perimeter by collecting like terms. - To be able to find the area of squares and rectangles. - To be able to find the area of triangles. - To be able to find the area of rhombi and parallelograms. - To be able to find the area of L shapes. - To be able to write fractions from diagrams. - To be able to cancel fractions down. - To be able to recognise equivalent fractions.	- To be able to order fractions and decimals. - To be able to change between improper and mixed fractions. - To be able to multiply fractions. - To be able to divide fractions. - To be able to add and subtract fractions. - To be able to solve worded fractions and operations problems. - To be able to work out fractions of amounts. - To be able to find simple percentages 100%, 50% and 25%. - To be able to find and represent percentages in diagrams. - To be able to find percentages of amounts. - To be able to find percentage increases and decreases. - To able to work out two amounts as a percentage.	- To be able to solve two step equations. - To be able to solve three step equations. - To be able to solve equations with brackets. - To be able to continue a pictorial sequence. - To be able to form sequences from a given rule. - To be able to continue a sequence. - To be able to recognise and know the special properties of the fibonacci sequence. - To be able to recognise and know the special properties of a triangular sequence. - To be able to recognise the sequence of square and cube numbers. - To be able to recognise linear sequences. - To be able to find the nth term of a linear sequence.	- To be able to recognise that linear graphs are a straight line. - To be able to plot and write coordinates. - To be able to plot and recognise the graph y=x, -y =x and y = -x. - To be able to plot and recognise the graphs of x =? And y = ?. - To be able to find y values from a given equation. - To be able to plot linear graphs from equations. - To be able to find missing angles around a point and a straight line. - To be able to recognise vertically opposite angles. - To be able to recognise the special properties of angles in different types of triangles. - To be able to find missing angles in triangles. - To be able to recognise the special properties of

	- To be able to approximate calculations using sensible estimates. - To be able to convert decimals to percentages. - To be able to convert decimals to fractions. - To be able to recognise the order of operations in calculations. - To be able to complete calculations using order of operations. - To be able to insert the correct operation to make a calculation correct.	- To be able to recognise the difference between expressions formulae and equations. - To be able to expand single brackets. - To be able to expand multiple single brackets in an expression and collect like terms.	- To be able to compare fractions by making the denominators the same. - To be able to write two amounts as a fraction. - To be able to change fractions into decimals. - To be able to recognise fractional amounts of specific decimals.	- To be able to order fractions, decimals and percentages. - To be able to solve one step equations. - To be able to solve two step equations.	- To be able to show if a term is in a sequence	angles in different types of quadrilaterals. - To be able to solve problems involving angles. - To be able to form simple equations using collecting like terms and angles. - To be able to read and interpret percentage pie charts. - To be able to compare pie charts. - To be able to draw pie charts.
Skills 	Use of numerical and conceptual knowledge. Applying and combining knowledge from different areas of mathematics. Use of mathematical equipment. Problem solving and reasoning; and interpreting questions.					
Retrieval practice Prior knowledge and skills that are revisited	Do nows are structured with questions, from last lesson, last week and last month.		A retrieval lesson is taught on each topic taking into account any gaps identified by topic tests, 1 or 2 weeks after completing teaching of the topic.			
Literacy including extended writing 	Key words highlighted in lessons. Interpret information from worded problems and be able to apply relevant techniques based on key words. Guided reading task set for homework once a fortnight highlighting an interesting area of mathematics.					
Numeracy 	All lessons are mathematics based and therefore require numeracy.					
Enrichment learning 	Students will be given opportunities in lesson to develop soft skills such as teamwork, independence, initiative and responsibility. .	Higher attainers to complete the parallel challenges.	UKMT maths challenge to be completed			

British values 	British values are not taught in specific topics but in all lessons teacher expectations of students is that they show mutual respect, respect personal liberty, follow academy rules and therefore respect the rule of law and show respect towards each other and value each other's contributions.		
Character 	Students challenged to justify their answers and explain their reasoning. Students supported in developing the communication skills required. Students to be encouraged to learn from their mistakes through follow-up tasks. Students encouraged to take pride in their work.		
Careers 	Explicit reference will be made throughout the course to careers related to the combination of topics studied. Examples include: • Medicine, • Social sciences • Pharmacy • Engineering • Logistics • Finance		
Assessment opportunities 	AFL strategies embedded into each and every lesson via use of multiple choice questions and/or mini whiteboard work.	Unit tests to be completed at the end of teaching each individual topic highlighting depth of understanding and areas requiring further work.	Cumulative AP assessments completed and levelled for students to assess their progress.
Personalised challenge for all: SEND, HPA	Tasks suitable for students of different levels or prior attainment including challenge for higher attainers		