Mathematics Curriculum Plan Overview Y9-11

GCSE plan overview
If on the GCSE pathway students start GCSE Year 9/11.
Students will be at different levels in different year groups.
Year 1

Term	Topic	Learning	How can parents' best support
Autumn 1	**Collecting and representing data** **Basic number** **Factors and multiples** **Basic algebra** **Hot spot Times tables**	**Statistics** - Bar charts and pictograms including dual bar charts. **Number** - Negative numbers, index rules, negative indices, standard form, BIDMAS, Describing factors and multiples, Highest Common Factor Lowest common Multiple, using Venn diagrams to find HCF LCM , **Algebra** - collecting terms and simplifying expressions,	continued practice with times tables supports work on fractions and ratio. Look at data in the media and how it is used/misused.
Assessment:	Self assessment and topic tests		
Autumn 2	**Basic Fractions** **Basic decimals** **Rounding** **Angles** **Scale Diagrams and Bearings**	**Number** - Fractions - simplifying fractions, equivalent fractions, 4 operations with fractions Decimals - Four operations, rounding to decimal places, rounding to significant figures, using rounding to estimate **Geometry and measures** - scale drawings, constructing triangles, scale drawings, bearings Angles - angle rules in triangles,	Look at scale drawings in context e.g. map work or plans of buildings.
Assessment:	Self assessment and topic tests		
Spring 1	**Sequences** **Basic percentages** **Introduction to area and perimeter** **Hot Spot Measures**	**Algebra Generating s**equences given a rule. continuing a numeric or pictorial sequence given a rule. Linear sequences - term to term and position to term rules. Quadratic sequences - generating using algebra. Fibonacci type sequences. **Numbe**r - percentages, basic percentages as proportion of 100, converting percentages to decimals **Geometry and Measures** - area and perimeter of rectangles and squares and compound shapes made with rectilinear shapes, area of quadrilaterals including trapeziums and parallelograms, area of triangles and polygons made from triangles	Investigate Golden Ratio and sequences in nature. Use different measurements in real life settings e.g. cooking
Assessment:	Mock Examinations		
Spring 2	**Circles** **Ratio and Proportion** **Basic Probability** **Hot Spot Time**	**Geometry and measures** - naming parts of circles, finding circumference and area of circles, area of sectors and segments **Ratio and proportio**n - simplifying ratios finding similar ratios, share in a given ratio, use unitary method for calculating ratios **Probability** - calculate the probability of single events happening using fractions/decimals/percentages, calculate the probability of something "Not" happening, use AND and OR rule with probability in treed diagrams, understand mutually exclusive and independent event	listen to the circle song and google and discuss pi Practice Look at timetables and practice reading digital and analogues times
Assessment:	Self assessment and topic tests		
Summer 1	**Equations** **2D representations of 3D shapes** **Hot Spot Using a calculator**	**Algebra** - solve 1 and 2 step linear equations, solve equations with unknowns on both sides, solve equations involving brackets, solve quadratic equations by factorising, using the formula or completing the square. Geometry and Measures -	Use of calculator - wordy maths questions

		Pythagoras Theorems Geometry and Measures - 2D representation of 3D shapes - plans and views on drawings, calculating volume of 3D shapes, nets and volume and surface area - including prisms	
Assessment:			
Summer 2	**Transformations Scatter Graphs Pythagoras' Theorem Trigonometry**	**Geometry and Measures** - enlarge, rotate and translate shapes using coordinate grids, describe transformations, plot enlargements with negative and fractional scale factor **Statistics** - scatter diagrams - drawing diagrams and lines of best fit, using lines of best fit to find information, finding equation of lines of best fit, describing correlation **Number** - further development on links between fractions, decimals, percentages and ratios including ordering, writing fractions as percentages or decimal, recurring decimals	Continued revision on FDPR - fraction - decimal-percentage-ratio topics using mymaths, BBC Bitesize or other sites given in class

Mathematics Curriculum Plan Overview

GCSE plan overview If on the GCSE pathways students start GCSE in year 9 Students will be at different levels in different year groups. Year 2			
Term	**Topic**	**Learning**	**How can parents' best support**
Autumn 1	**BODMAS Factors and Multiples inc HCF Averages 4 operations with fractions**	**Number** -, BIDMAS, Describing factors and multiples, Highest Common Factor Lowest common Multiple, using Venn diagrams to find HCF LCM , Prime factor form **Algebra** - collecting terms and simplifying expressions, multiplying out single brackets , multiplying out double brackets	continued practice with times tables supports work on fractions and ratio. Look at data in the media and how it is used/misused.
Assessment:	Self assessment and topic tests		
Autumn 2	**Sequences Rounding Angles in polygons Linear graphs y=mx+c**	**Number** - Fractions - simplifying fractions, equivalent fractions, 4 operations with fractions Decimals - Four operations, rounding to decimal places, rounding to significant figures, using rounding to estimate **Geometry and measures** - constructing triangles, scale drawings, bearings Angles - angle rules in triangles, quadrilaterals, polygons, parallel lines. Circle theorems	Look at scale drawings in context e.g. map work or plans of buildings.
Assessment:	Self assessment and topic tests		
Spring 1	**Pythagoras' Theorem Decimals - 4 operations Area and perimeter - circles and compound shapes Percentage increase and decrease**	**Algebra Generating s**equences given a rule. continuing a numeric or pictorial sequence given a rule. Linear sequences - term to term and position to term rules. Quadratic sequences - generating using algebra. Fibonacci type sequences. calculating the nth term of a linear sequence. **Numbe**r - percentages, basic percentages as proportion of 100, converting percentages to decimals **Geometry and Measures** - area and perimeter of rectangles and squares and compound shapes made with rectilinear shapes, area of quadrilaterals including trapeziums and parallelograms, area of triangles and polygons made from triangles	Investigate Golden Ratio and sequences in nature. Use different measurements in real life settings e.g. cooking

	Hot Spot Measures		
Assessment:	<u>**Mock Examinations**</u>		
Spring 2	**Percentage Problems - including compound interest Probability Standard Form Indices**	**Geometry and measures** - naming parts of circles, finding circumference and area of circles, area of sectors and segments **Ratio and proportion** - simplifying ratios finding similar ratios, share in a given ratio, use unitary method for calculating ratios **Probability** - calculate the probability of single events happening using fractions/decimals/percentages, calculate the probability of something "Not" happening, use AND and OR rule with probability in treed diagrams, understand mutually exclusive and independent event	Look at puzzle with probability on BBC Bitesize or Numberphile
Assessment:	<u>**Self assessment and topic tests**</u>		
Summer 1	**Equations y=mx+c and FDPR**	**Algebra** - solve 1 and 2 step linear equations, solve equations with unknowns on both sides, solve equations involving brackets, solve quadratic equations by factorising, using the formula or completing the square. Be able to plot coordinates and sketch linear graphs **Geometry and Measures** - Pythagoras Theorems to find missing sides, trigonometry to find missing sides and angles FDPR - Fractions - Decimals - Percentages and Ratio - secure basic skills with these before Year 11 work	Use of calculator - wordy maths questions
Assessment:			
Summer 2	**Assessment period Money/Time Measures Transition to Higher GCSE work**	**Geometry and Measures -** enlarge, rotate and translate shapes using coordinate grids, describe	Encourage use of maths at home when using time or measure or budgeting to buy something
	<u>**External examinations**</u>		

Mathematics Curriculum Plan Overview

GCSE plan overview
If on the GCSE pathways students start GCSE in year 9
Students will be at different levels in different year groups.
Year 3 - Higher content
Following assessment in year10 students will either continue on GCSE pathway to develop skills for Higher GCSE or they will secure knowledge and understanding of Year 1/2 and take Foundation GCSE Exam at the End of Year 11

Term	Topic	Learning	How can parents' best support
Autumn 1	**Simultaneous equations Standard Form Quadratic Compound measures**	**Algebra** - solve linear equations using algebraic methods and understand the geometry Factorise quadratics and use factorisiing to solve quadratic equations **Number** - to solve non calculator questions involving standard form and more complicated calculator questions involving "real life" examples. To use multipliers to solve questions on compound interest	At Higher GCSE there is significantly more algebra content - parents can support by encouraging students to use their revision guides to prace the algebraic skills
Assessment:	<u>Self assessment and topic tests</u>		
Autumn 2	**Inequalities Proportion Probability Constructions**	**Algebra** - to be able to illustrate an inequality on a number line and solve basic linear inequalities **Number** - to understand direct and inverse proportion and use these skills to solve numeric and geometric questions **Geometry and Measure** - to be able to construct triangles and loci using compass and ruler	At Higher GCSE there is significantly more algebra content - parents can support by encouraging students to use their revision guides to prace the algebraic skills of equation solving
Assessment:	<u>Mock Exam</u>		
Spring 1	**Changing subject of formula Volume and SA of 3D shapes Cumulative frequency**	Algebra - changing the subject of the formula Geometry and measures - finding volume and surface area of 3D shapes such as spheres and cylinders Statistics - cumulative frequency - draw graphs and use it to find quartiles and statistical measures	At Higher GCSE there is significantly more algebra content - parents can support by encouraging students to use their revision guides to prace the algebraic skills of changing the subject of the formula
Assessment:	<u>Self Assessment and topic tests</u>		
Spring 2	**Vectors Gradients Probability - tree diagrams**	**Geometry and Measures -** be able to calculate with basic column vectors **Algebra -** To be able to calculate and solve problems with gradients algebraically (without drawing the graphs) **Statistics** - Draw tree diagrams and use to calculate probabilities	At Higher GCSE there is significantly more algebra content - parents can support by encouraging students to use their revision guides to prace the algebraic skills of understanding the equation of a straight line
Assessment:	<u>Self assessment and topic tests</u>		
Summer 1	**Exam Preparation**		
Assessment:			
Summer 2	<u>**External examinations**</u>		