Year 7

Autumn 1	Number 1 – Unit 1 (16/9/19)	BASELINE ASSESSMENT	Algebra 1 – Unit 2 To discover algebraic notation, terminology and fundamental skills of; simplifying, expanding and factorising.	Number 1 – Unit 3 Using the baseline assessment results further develop students ability to work with integers and decimals with the four operations. Discover how mathematicians estimate and use estimations to solve problems.	Extended writing task: Carl Friedreich Gauss is a famous German mathematician but when he was a young boy he wowed his teacher with a clever trick. Research his life and in your own words write a biography for him detailing his famous mathematical trick.
Autumn 2	Geometry 1 – Unit 4 Extend knowledge of KS2 angle facts and use in increasingly complex situations. Discover new angle facts about polygons including interior and exterior angles, solve simple problems.	Assessment Units 2- 4	Data 1 – Unit 5 Draw and interpret scatter graphs, frequency polygons and frequency trees. Continue to develop understanding of pie charts.		
Spring 1	Geometry 2 – Unit 6 Recall KS2 formulae for the area of basic shapes. Discover new formulae to find the area of parallelograms and trapeziums. Combine new and existing knowledge to find the area and perimeter of compound shapes.	Assessment Units 2- 6	Number 2 – Unit 7 Solve problems with LCM and HCF. Discover, define and use primes to complete prime factorisation of numbers. Use negative numbers in calculations confidently.		Extended writing task: Prime numbers are hugely important in many areas of business, finance and science. Research and write about why primes are so important.
Spring 2	Algebra 1 – Unit 8 Use co-ordinates in all four quadrants. Use coordinates as solutions to geometric problems. Begin to discuss and use gradient. Plot, use and interpret straight line graphs and real life graphs in a variety of contexts.	Assessment Units 2- 8	Number 3 – Unit 9 Use fractions, decimals and percentages interchangeably. Develop calculator skills for working with fractions, decimals and percentages.		
Summer 1	Algebra 2 – Unit 10 Define, form and solve linear equations including the use of brackets, divisors ad unknowns of both sides.	Assessment Units 2- 10	Geometry 3 – Unit 11 Find the volume and surface area of basic prisms.		Extended writing task: One of the most beautiful sequences in the world is the Fibonacci sequence. Who was Fibonacci, what is his sequence and where can we find it in the world around us?
Summer 2	Algebra 3 – Unit 12 Use and find the nth term of simple linear sequences, use the nth term to solve problems. Find missing terms of non linear sequences. Discover other mathematical sequences to include Fibonacci, squares, cubes, triangle numbers.	Formal Assessment 15/06/20	Geometry 4 – Unit 13 Use the four transformations on a co-ordinate grid. Use correct notations to describe transformations.		

Year 8

Autumn 1	<u>Data - unit 14</u> Discover the language of probability and find probabilities of events happing, using simple probability diagrams and experiments to find probabilities.	<u>Algebra – Unit 15</u> Develop factorising and expanding skills including beginning to work with double brackets. Rearrange simple equations.	Assessment Units 14-15	<u>Number – Unit 16</u> Discover the rules of indices and use to solve problems. Write numbers in standard index form (SIF) and begin to use the four operations with SIF.	Extended writing task: India and Indian mathematicians are really important in the history of maths. Research the Ancient Indian Chess Legend and write up your findings.
Autumn 2	<u>Number – Unit 16</u> Discover the rules of indices and use to solve problems. Write numbers in standard index form (SIF) and begin to use the four operations with SIF.	<u>Geometry - Unit 17</u> Work with compound measures including Speed, Pressure, Density & rates of pay.	Assessment Units 14-17	<u>Geometry - Unit 18</u> Measure, draw and calculate bearings. Be able to do simple constructions. Solve simple loci problems.	
Spring 1	<u>Geometry - Unit 18</u> Measure, draw and calculate bearings. Be able to do simple constructions. Solve simple loci problems.	<u>Data - Unit 19</u> Solve mean median mode and range problems including in reverse. Find averages from a table. Interpret averages.	Assessment Units 14-19	<u>Geometry - Unit 20</u> Plans, elevations and isometric drawing.	Extended writing task: Pythagoras is a famous Greek mathematician who made many famous discoveries including his own theorem. Research Pythagoras and write about his life and famous theorem.
Spring 2	<u>Ratio – Unit 21</u> Change between ratios and proportion. Use n:1 and 1:n. Share quantities into a ratio.	<u>Number – Unit 22</u> Us e fraction and percentage knowledge to solve real life problems with and without a calculator.	Assessment Units 14 - 22	<u>Geometry – Unit 23</u> Discover and use Pythagoras. Discover and use trigonometry.	
Summer 1	Formal assessment 04/05/20	<u>Ratio - Unit 24</u> Use proportion to solve problems in relation to recipes and best buys.			Extended writing task: Statistical Enquiry Write Up in lessons.
Summer 2	<u>Algebra - Unit 25</u> Create and solve linear equations, simple simultaneous equations and simple quadratic equations by facotirsing.	Assessment Units 14-19		<u>Statistical Enquiry - Unit 26</u> Design and plan a sports investigation. Write up and interpret the investigation.	

Year 9

Autumn 1	<u>Number – Unit 1</u> Solve HCF and LCM problems when required to work with units of time. Use prime factorisation to solve HCF and LCM problems. Use estimation to solve problems including when required to estimate using pi and standard mathematical formulae. *Discover and use basic rules of surds .*	<u>Algebra – Unit 2</u> Extend knowledge of factorising and expanding to include solving complex, multi-step problems. Particularly where multiplication by single or double negatives are involved. Simplify algebraic fractions *including where factorising is required first*. Rearrange formula where multiple steps are required *including where the subject appears twice*.	Assessment Unit 1 - 2
Autumn 2	<u>Data – Unit 3</u> Solve complex problems with pie charts. Use/explain outliers, extrapolations and interpolation with scatter graphs. Plot and use time series graphs. *Understand frequency density and histograms.*	<u>Number – Unit 4</u> Use the four operations with mixed numbers. Use calculator and non-calculator methods to solve percentage increase and decrease problems. *Work with reverse percentages.*	Formal Assessment
Spring 1	<u>Data – Unit 5</u> Use averages to solve problems and make comparisons between data sets. Use averages with grouped frequency tables. *Calculate interquartile range, plot and interpret box plots. Use capture-recapture to find population sizes.*	<u>Geometry – Unit 6</u> Work with regular polygons and angle facts to solve complex, multi-stage problems. Use algebra and ratio alongside angle facts to solve problems. *Discover and use circle theorems to solve problems including algebraic solutions.*	Assessment Unit 1 - 6
Spring 2	<u>Algebra – Unit 7</u> Create and solve linear equations and inequalities. Formalise sequences knowledge including solving problems with algebraic sequences. *Find the nth term of a quadratic sequence*. Create and solve linear simultaneous equations including with negatives. *Use the quadratic formula. Complete the square to solve equations*.		Assessment Unit 1 - 7
Summer 1	<u>Geometry – Unit 8</u> Find the surface area and volume of prisms including compound prisms. Solve capacity problems. Combine capacity with rates of flow to solve complex problems. Convert between metric units of area and volume. *Calculate with upper and lower bounds.*	<u>Algebra – Unit 9</u> Use & interpret y = mx + c, calculate gradient from a variety of methods. Draw and interpret SDT graphs including finding the area under the graph and calculations for acceleration. Find equations of parallel lines and *perpendicular lines.*	Assessment Unit 1 - 9
Summer 2	<u>Geometry – Unit 10</u> Combine transformations within a single problem. Use *negative* and fractional scale factors for enlargement. *Use function notation. Use translation and reflection with functions.*	<u>Revision, feedback and planning for Y10</u> Revise topics covered this year. Complete a modified GCSE paper following feedback improve responses and plan how to fill gaps in knowledge in preparation for Year 10.	GCSE single paper

Y10

Autumn 1	<u>Ratio – Unit 11</u> Use ratio knowledge to solve increasing complex problems. Combine two single ratios into one. Solve problems with ratio and proportion problems in one question. Formalise proportion using algebra, use the constant of proportionality i*ncluding inverse proportion and direct proportion to x^2 and similar.*	<u>Geometry – Unit 12</u> Use Pythagoras and trigonometry to solve problems with relation to side and angles and problems that combine both. Use other areas of maths e.g ratio with Pythagoras and trigonometry. *Use Pythagoras and trigonometry in 3D.Use the sine, cosine and area of a triangle formula to solve problems.*	Assessment Unit 11 - 12
Autumn 2	<u>Statistics – Unit 13</u> Use tree diagrams to solve probability problems with and *without replacement.* Use set notation and Venn diagrams.	<u>Geometry – Unit 14</u> Use constructions to solve loci problems in increasingly complex situations. Use bearings to solve problems including with the use of trigonometry, *sine rule, area of a triangle and cosine rule.*	Assessment Unit 11 - 14
Spring 1	<u>Number – Unit 15</u> Use compound measures in complex situations to solve problems particularly when two sets of variables are used. Use compound interest and depreciation. Percentage profit and loss. *Use kinematics formulae.*	<u>Algebra – Unit 16</u> Factorise and solve quadratics including with negative terms, solve quadratics using a graph. Solve simultaneous equations with negatives. Expand triple brackets. *Complete the square with a coefficient of x^2, solve simultaneous quadratic and linear equations graphically and algebraically. Use iteration to solve equations.*	Assessment Unit 11 - 16
Spring 2	<u>Geometry – Unit 17</u> Work with circumference and area of a circle to find area of a sector and arc length, extend ideas to cylinders, cones, spheres and *frustums*.	<u>Number – Unit 18</u> Develop work with standard index form, solving more complex problems and combing with other topics. E.G Compound measures. *Work with exponential and reciprocal graphs. Develop surds skills including rationalising the denominator.*	Assessment Unit 11 - 18
Summer 1	<u>Geometry – Unit 19</u> Define similarity and use it for proof, calculate missing lengths, *areas and volume* using similarity. Know and use the conditions for congruence and use them to solve geometric problems. Work with column vectors and the four operations, use vectors to solve geometric problems	<u>Algebra – Unit 20</u> Further rearranging formulae. Algebraic proof. Working with functions, *including composite and inverse functions.*	Assessment Unit 1 1-20
Summer 2	<u>Revison</u>	22/06/20 Y10 PPE	<u>Algebra – Unit 21</u>

Y11: Revision Plan

Autumn 1	FDPR	071019 Mock PPE Paper 1 & Paper 2	QLA's completed, RTM in lesson completed.		
Autumn 2			021219 Mock PPE 2 Paper 1, 2 & 3	QLA's completed, RTM in lesson completed.	
Spring 1					
Spring 2		090319 Mock PPE 3 Paper 1, 2 & 3	QLA's completed, RTM in lesson completed.		
Summer 1	Final exam preparation. Exam paper practice, revision activites				GCSE EXAM
Summer 2	GCSE EXAMS				