Department Curriculum Map

Department	Maths

Year	AUT1	AUT2	SPR1	SPR2	SUM1	SUM2	Secured
11 Higher	**Unit 13: Advanced Trigonometry** *13.1 Accuracy and bounds, Calculations in Bounds* *13.2/13.3/13.4 Graph of the sine function, Cosine function and tangent function* *13.5 Sine Rule and finding area of segment and triangle using sine function* *½ ab Sin C* *13.6 Cosine Rule* *13.7 Solving problems on Trig problems in 3D* *13.8/13.9 Transformations of Trig graphs* **Revision and Unit assessment** **Unit 14: Further Statistics** *14.1 Sampling*	**Unit 15: Equations and Inequalities** *15.1 Solving simultaneous equations graphically* *15.2 Solving Inequalities graphically* *15.3 /15.4 Solving quadratics graphically and iterations* *15. 5 Sketching Cubic and reciprocal functions* **Revision and Unit assessment** **Unit 17: More Algebra** *17.1 Rearranging formulae* *17.2 Algebraic fractions*	**Unit 17: More Algebra** *17.7 Algebraic Functions* **Revision and Unit assessment** **Unit 18: Vectors and Geometric Proof** *18.1 Vectors and vector notation* *18.2 Vector arithmetic* *18.3 More vector arithmetic* *18.4 Parallel vectors and collinear points* *18.5 Solving geometric problems* **Revision and Unit assessment**	**Unit 19: proportion and Graphs** *19.1 Direct proportion* *19.2 More direct proportion* *19.3 Inverse proportion 19.4 Exponential functions* *19.5 Non-linear graphs* *19.6 Translating graphs of functions* *19.7 Reflecting and stretching graphs of functions* **Revision and Unit assessment** **Review of Unit 7: Area and Volume** *7.1 Perimeter and area* *7.2 Units and accuracy* *7.3 Prisms* *7.4 Circles* *7.5 Sectors of circles*	**Review of Unit 11: Multiplicative reasoning** **(1 and a half Week)** *11.1 Growth and decay* *11.2 -11.3 Compound measures* *11.4 Ratio and proportion.* **Any remaining time this term should focus on revision to prepare for the final exam from the QLA's of MOCK Exams.**		

	14.2 Cumulative frequency *14.3 Box plots* *14.4 and 14.5 Drawing histograms and Interpreting histograms,* *14.6 Comparing and describing populations* **Revision and Unit assessment** **A1 have already completed Autumn 1 and will start on Autumn 2**	*17.3 Simplifying algebraic fractions* 17.*4 More algebraic fraction* *17.5 Surds* *17.6 Solving algebraic fraction equations*		*7.6 Cylinders and spheres* *7.7 Pyramids and cones* **Revision and Unit assessment**			
11 Foundation	**Unit- 18 Fractions, Indices and Standard form** *18.1 Adding / subtracting / dividing and multiplying fractions and mixed numbers* *18.2 Laws of Indices* *18.3/ 18.4 Writing large/ small numbers as standard form* *18.5 Calculations in standard form* **Revision and Unit assessment** **Unit 10: Transformations** *10.1 Translation* *10.2 Reflection*	**Unit 16: Quadratic equations and graphs** *16.1 Expanding single and double brackets* *16.2 Drawing quadratic graphs* *16.3 Using quadratic graphs* *16.4 Factorising quadratics* *16.5 Solving quadratic equations algebraically* **Revision and Unit assessment** **Unit 20: More Algebra**	**Unit 19: Congruence, similarity and Vectors** *19.1 – 19.3 Using Similarity and Enlargement* *19.4 Congruence 1* *19.5 Congruence 2* *19.6 Vectors 1* *19.7 Vectors 2* **Unit 15: Constructions; Loci and Bearings** *15.1 3D solids* *15.2 Plans and elevations* *15.3/15.5 Accurate drawings1 and 2*	**Review Unit 11: Ratio and Proportion** *11.1/11.2 Writing and Using ratios* *11.3 ratios and measures* *11.4/11.5 Comparing ratios* *11.5 Using proportion* *11.8 Proportion problems* **Review Unit 9: Graphs** *9.1/9.2 Linear graphs* *9.3/9.4 gradients and y intercept* *9.5/9.7 Real Life graphs* *9.6 Distance Time graphs*	**Revision to prepare for final exam.** **Topics based on practice papers completed.** **Any remaining time this term should focus on revision to prepare for the final exam.**		

	10.3 Rotation *10.4 Enlargement* *10.5 Describing enlargements* *10.6 Combining transformations* **Unit 5: Equations, inequalities and sequences** (Review from Y9): *5.1-5.3 Solving equations* *5.4-5.5 Inequalities* *5.6using formulae* *5.7-5.8 Generating sequences and nth term*	*20.1 Graphs of cubic and reciprocal functions* *20.2 Non-linear graphs* *20.3 Solving simultaneous graphically* *20.4 Solving simultaneous algebraically* *20.5 Rearranging formulae* *20.6 Proofs* **Revision and Unit assessment** **Unit 9: Linear graphs** *9.1 Coordinates* *9.2 Drawing Linear graphs, gradients, y= mx + c* *9.3 gradients* *9.4 y= mx + c* *9.5- 9.7* *Real life graphs and Distance- time graphs* **Revision and Unit assessment**	*15.4 Scale drawings and maps* *15.6 Constructions* *15.7 Locus and regions* *15.8 Bearing* **Revision and Unit assessment**	**Review Unit 7: Averages and Range** *7.1/7.2 Calculating averages* *7.3/7.4 Estimating Mean and Median for grouped data* *7.5 Sampling*			
10 Higher	**Unit 9: Equations and Inequalities** *9.1- 9.2 Solving quadratic equations,* *9.3 Completing the square.*	**Unit 7 : Area and Volume** *7.3 Prisms* *7.6 Cylinders and spheres* *7.7 Pyramids and cones*	**Unit 11: Multiplicative reasoning** *11.1 Growth and decay* *11.2 -11.3 Compound measures*	**Unit 12: Similarity and Congruence** (Continued) *12.5 Similarity in 3D solids – using length, area and volume scale factors*	**Unit 13: Further Trigonometry** *13.1 Accuracy and bounds, Calculations in Bounds* *13.2/13.3/13.4 Graph of the sine function,*	**Unit 14: Further Statistics** *14.1 Sampling* *14.2 Cumulative frequency* *14.3 Box plots* *14.4 and 14.5 Drawing histograms*	

	9.4-9.5 Solving simple simultaneous equations *9.6 Solving linear and quadratic simultaneous equations,* *15.4 Solving quadratic Inequalities* **Revision and Unit assessment** **Unit 7 : Area and Volume (2 Weeks)** *7.1 Perimeter and area* *7.2 Units and accuracy* *7.4 Circles* *7.5 Sectors of circles* **Probability unit 10 (8 lessons)**	**Revision and Unit assessment** **Unit 10: Probability (4 Weeks)** *10.1 Combined events,* *10.2 Mutually Exclusive events,* *10.3 Experimental Probability* *10.4 Independent events and tree diagrams* *10.5 Conditional Probability* *10.6 Venn diagrams and set notation* **Revision and Unit assessment** **Revision of Unit 8: (Transformations and Bearing)** *8.2 Reflection and Rotation* *8.3 Enlargement* *8.4 Combined transformations* *8.5 Bearings*	*11.4 Ratio and proportion* **Revision and Unit assessment** **Unit 12: Similarity and Congruence** *12. 1 Congruence* *12.2 Geometric proof and congruence Similarity* *12.3 – 12.4 Similarity* *12.5 Similarity in 3D solids – using length, area and volume scale factors*	**Revision and Unit assessment** **Unit 16: Circle Theorems (4 Weeks)** *16.1 – 16.2 Radii and chords, Tangents* *16.3 Angles in circles1* *16.4 Angles in circles 2* *16.5 Applying circle theorems* *Circle Theorem Proofs* **Revision and Unit assessment**	*Cosine function and tangent function* *13.5 Sine Rule and finding area of segment and triangle using sine function* *½ ab Sin C* *13.6 Cosine Rule* *13.7 Solving problems on Trig problems in 3D* *13.8/13.9 Transformations of Trig graphs* **Revision and Unit assessment**	*and Interpreting histograms,* *14.6 Comparing and describing populations graphically* **Revision and Unit assessment** **Review of Unit 8:** **Loci and Constructions** *8.6/8.7 Constructions* *8.8 Loci* *8.1 Plans and elevations of 3 D solids* **Unit 3 Review as this was also self-taught** *3.2 – 3.6 Scatter graphs, Stem and leaf diagrams, Calculating averages Time series graphs*	
10 Foundation	**Unit 11: Ratio and Proportion** *11.1 Writing ratios* *11.2 Using ratios 1*	**Unit 13: Probability** *13.5 Tree diagrams* *13.6 More tree diagrams*	**Unit 6 : Angles** *6.1 Properties of shapes –identify congruent shapes*	**Unit 8: Perimeter, Area and Volume 1** *8.1 – 8.3 Perimeter, Area of 2-d*	**Unit 10: Transformations** *10.1 Translation* *10.2 Reflection* *10.3 Rotation*	**Unit 9: Linear graphs** *9.1 Coordinates*	

	11.3 Ratios and measures *11.4 using ratios 2* *11.5 Comparing using ratios* *11.6 using Proportion and solving problems* *11.7 Proportion and graphs* *11.8 Proportion problems* **Revision and Unit assessment** **Unit 13: Probability** *13.1 Calculating probability of mutually exclusive and equally likely events* *13.2 Two events* *13.3 Experimental probability* *13.4 Venn diagrams*	**Revision and Unit assessment** **Unit 14 Multiplicative Reasoning** *14.1 Percentages* *14.2 Growth and decay* *14.3 Compound measures* *14.4 Distance, speed and time* *14.5 Direct and inverse proportion* **Unit 2: Algebra (Revision)** *(2a) Simplifying expressions* *(2b) Factorising and expanding brackets* *(2c) Expressions and substituting into formulae* *(5 lessons)* **Revision and Unit assessment**	*6.3 Angles in a triangle, angles in quadrilateral* *6.2 Angles in parallel lines* *6.4- 6.5 Angles in polygons and equations in angles* *6.6 Angles Geometrical problems in angles* **Revision and Unit assessment** **Unit 12: Right angled triangles** *12.1 -12.2 Pythagoras Theorem 1 and 2* *12.3 – 12.6 Trigonometry: the sine ratio , Cosine ratio and tangent ratio* *12.7 Finding lengths and angles using trigonometry by identifying correct T-ratio* **Revision and Unit assessment**	*shapes and conversion of units* *Unit 8 8.4 Surface area and 8.5 volume of prisms* *8.4 Surface area and 8.5 volume of prisms* **Revision and Unit assessment** **Unit 17: Perimeter, Area and Volume 2** *17.1 -17.2 Circumference of Circles 1 and 2* *17.3Area of circles* *17.4 Semi-circles and sectors* *17.5 2D composite shapes and cylinders* *17.6 Cones and Pyramids* *17.7 3D composite shapes and spheres* **Revision and Unit assessment**	*10.4 Enlargement* *10.5 Describing enlargements* *10.6 Combining transformations* **Revision and Unit assessment** **Unit 15: Constructions, Loci and Bearings** *15.1 3D solids* *15.2 Plans and elevations* *15.3 Accurate drawings1* *15.4 Scale drawings and maps* *15.5 Accurate Drawings 2* *15.6 Constructions* *15.7 Locus and regions* *15.8 Bearing* **Revision and Unit assessment**	*9.2 Drawing Linear graphs, gradients, y= mx + c* *9.3 gradients* *9.4 y= mx + c* *9.5- 9.7 Real life graphs and Distance- time graphs* **Revision and Unit assessment** **Unit 5: Equations, inequalities and sequences** (Review from Y9): *5.1-5.3 Solving equations* *5.4-5.5 Inequalities* *5.6using formulae* *5.7-5.8 Generating sequences and nth term* **End of Year assessment**	
9 Higher	**Unit 1: Numbers (5 Weeks)** *1.1 Number problems and reasoning,* *1.2 Place value and* *1.3 Prime factors,* *1.4 Calculations with powers* *1.3 HCF/ LCM*	**Unit 2: Algebra** *2.5 Linear Sequences* *2.6 Non-linear sequences* *2.7 More expanding and factorising* *expanding 3 brackets and Factorising including quadratics and*	**Unit 5: Angles, Polygons, parallel lines** *5.1 Angles in a triangle, angles in quadrilateral, Angles in parallel lines*	**Unit 6: Real life and linear graphs** *6.1 Linear graphs and finding equation of straight-line graphs by understanding y = mx + c* *6.2 Finding equation of a line given two coordinates or one*	**Unit 3: Interpreting and Representing data** *3.1/3.6 Frequency tables, two-way tables, Frequency polygons, stem and leaf* *3.2 Time series*	**Unit 7: Perimeter, area and volume** *7.3 Surface area and volume of prisms including cylinders* *7.5 Sectors and arcs of a circle*	

	1.4 Estimating calculations using Sig figs *1.6 Standard Form* *1.4 and 2.1 Laws of Indices including fractional and negative law* *1.7 Surds* **Revision and Unit assessment** **Unit 2: Algebra** *2.2 Simplifying expressions and expanding brackets* *2.3 Solving equations and problems in equations* *2.4 Substitution, change of subject*	*difference of two squares* **Revision and Unit assessment** **Unit 4: Fractions percentages, ratio and proportion** *4.1 adding ,subtracting, Multiplying and dividing fractions, and problem solving* *4.2 Ratio* *4.3 Ratio and proportion* *4.4 Percentage* *4.5 Increase/ decrease* *VAT and discount problems, problem solving using FDP* *-Simple Interest and CI* **Revision and Unit assessment**	*5.2 /5.3 Angles in polygons, interior and exterior angles* *5.4/5.5 Pythagoras 1 and 2* *5.6 Trigonometry 1* *5.7 Trigonometry 2* **Revision and Unit assessment**	*coordinate and gradient* *- Finding equation of parallel and perpendicular lines* *Problem solving in graphs* *6.3- 6.4 distance – time graphs , calculating speed from D-t graphs* *V-T graphs, Area under graphs* *6.6- 6.7 Quadratic, Cubic graphs, Reciprocal and graph of circle* *6.8- More real Graphs* **Revision and Unit assessment**	*3.3/3.4 Scatter graphs , Line of best fit and correlation* *3.5 Averages and ranges* *Calculating outliers and calculating median of discrete and grouped data* **Revise and Unit assessment** **Unit 7: Perimeter, area and volume** *7.1 Perimeter and Area of 2-d shapes including compound shapes* *7.4 Circumference and area of circle* *7.2 Units of conversion*	*7.6 Surface area and Volume of cones and spheres* *7.7 Volume and SA of Pyramids and cones* **Revision and Unit assessment** **Review of Year 9 work and prepare for end of year exam.** **Diversity, Equality and Inclusion week** Katherine Johnson Discussing her impact and the difficulties she faced owing to her gender and ethnic background.	
9 Foundation	**Unit 1: Number** *1.1 Calculations* *1.2 Decimal Numbers* *1.3 Place value and rounding)* *1.4 Factors and multiples* *1.7 Prime factors HCF LCM* *1.5 Conversion of Metric units*	**Unit 2: Algebra** *2.6 Factorising* **Revision and Unit assessment** **Unit 4: Fractions** *4.1 Comparing fractions, adding and subtracting 4.3/4.4 Multiplying and dividing fractions,*	**Unit 3: Graphs, tables and Charts** *3.1 - 3,2 Frequency tables, two-way tables* *3.3 Comparative and Composite bar charts* *3.5 Stem and leaf diagrams* *3..6 Pie charts* *3.4 Time series* *3.7 Scatter graphs and*	**Unit 5: Equations, Inequalities and Sequences** *5.6 Substitution* *5.7-5.8 Sequences* **Revision and Unit assessment**	**Unit 6: Angles** *6.6 Angles Geometrical problems in angles* **Revision and Unit assessment** **Unit 9: Graphs** *9.1 Coordinates*	**Unit 7: Averages and Ranges** *7.4 Estimating mean/ median from grouped data* *7.5 Sampling* **Revision and Unit assessment**	

	1.5 Square cubes and roots *1.6 Index laws* **Revision and Unit assessment** **Unit 2: Algebra** *2.1 - 2.2 Simplifying expressions* *2.3 Substitution* *2.4 and 2.7 Formulae/ Change of subject* *2.5 Expanding Brackets*	*4.3/4.4 Multiplying and dividing fractions, with a whole number Manipulating with Mixed numbers* *4.2 Finding fraction of quantity in measurement and problem solving* *4.5 Fractions, decimals and percentages Conversion* *4.6 Covert % into fractions/ decimals and write one number as a percentage* *4.7 Finding % of an amount* *4.8 Increase/ decrease in %, VAT and discount problems, Simple AND Compound Interest* **Revision and Unit assessment**	*3.8 Line of best fit and correlations* **Revision and Unit assessment** **Unit 5: Equations, Inequalities and Sequences** *5.1- 5.3 Equations Solving equations with brackets and variables on both sides* *5.4- 5.5 Solving simple linear inequality and two-sided inequality,*	**Unit 6: Angles, polygons and parallel lines** *6.1 Properties of shapes –identify congruent shapes* *6.3 Angles in a triangle, angles in quadrilateral* *6.2 Angles in parallel lines* *6.4- 6.5 Angles in polygons and equations in angles* *6.6 Angles Geometrical problems in angles*	*9.2 Drawing Linear graphs, gradients, y= mx + c* *9.3 gradients* *9.4 y= mx + c* *9.5- 9.7 Real life graphs and Distance- time graphs* **Revision and Unit assessment** **Unit 7: Averages and Ranges** *7.1 Mean and range* *7.2 Mode and median* *7.3 Finding mean and median from discrete data*	**Unit 8: Perimeter, area and Volume** *(8.1 – 8.3 Perimeter, Area of 2-d shapes and conversion of units* *8.4 Surface area* *8.5 volume of prisms* **Revision and Unit assessment** **Review of year 9 work revise for end of year exam** ***End of Year Exam*** **Diversity, Equality and Inclusion week** Katherine Johnson Looking at her life and the impact and the difficulties she faced owing to her gender and ethnic background.	
8	**Ratio and scale** **Multiplicative change** **Multiplying and dividing fractions**	**Working in the Cartesian plane** **Representing data** **Tables and probability**	**Brackets, equations and inequalities** **Sequences** **Indices**	**Fractions and percentages** **Standard index form** **Number sense**	**Angles in parallel lines and polygons** **Area of trapezia and circles**	**Line symmetry and reflection** **The data handling cycle** **Measures of location**	

						Diversity, Equality and Inclusion week Alan Turing Looking at the life of Alan Turing and his impact on WW2. Discussing the bullying he suffered owing to his background.	
7	**Sequences** **Algebraic notation** **Equality and equivalence**	**Place value and ordering** **Fractions, decimals and percentages**	**Solving problems with addition and subtraction** **Solving problems with multiplication and division** **Fractions and percentages of amounts**	**Directed number** **Addition and subtraction of fractions**	**Constructing, measuring and geometry notation** **Developing geometric reasoning**	**Developing number sense** **Sets and probability** **Prime numbers and proof** **Diversity, Equality and Inclusion week** Katherine Johnson Looking at her life and the impact and the difficulties she faced owing to her gender and ethnic background.	