

Key Stage 3 Long Term Planning

Year 7 2021-2022 INTENT:

Faculty Area: Mathematics (core) – Theta 1

(Please note that knowledge, related skills and connections to previous learning are linked by colour coding)

Year 7	Transition	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	Transition Unit	Analysing and displaying data Number skills	Expressions, functions and formulae Decimals and measures	Fractions Probability	Ratio and Proportion	Lines and angles Sequences and graphs	Transformations
Skills	Resilience. Determination. Having a positive work ethic. Development of thinking skills Recognition that is not a failure to make mistakes and get things wrong – the only failure is in giving up and not learning from them. Importance and expectation that they always do their very best. Activities:- Introduction of weekly starter activities. Introduction of weekly homework Baseline testing of pupils.	Mode, median and range Displaying data Grouping data Averages and comparing data Line graphs and more bar charts Using spreadsheets Mental maths Addition and Subtraction Multiplication Division Time and money Negative numbers Factors, multiples and primes Square and triangle numbers	Functions Simplifying expressions 1 and 2 Writing expressions Substituting into formulae Writing formulae Decimals and rounding Length, mass and capacity Scales and coordinates Working with decimals mentally Working with decimals Perimeter Area More units	Comparing Fractions Simplifying fractions Working with fractions Fractions and decimals Understanding percentages Percentages of amounts The language of probability Calculating probability More probability calculations Experimental probability Expected outcomes	Direct Proportion Writing ratios Using ratios Scale and measures Proportions and fractions Proportions and percentages	Lines, angles and triangles Estimating, measuring and drawing angles Drawing triangles accurately Calculating angles Angles in a triangle Quadrilaterals Sequences Pattern sequences Coordinates Extending sequences Straight-line graphs Position-to-term rules	Congruency and enlargements Symmetry Reflection Rotation Translations and combined transformations

MOOR PARK HIGH SCHOOL: CURRICULUM

Connections to previous learning (KS2)		Describing positions on Coordinate grids Construct and interpret pie charts Calculate and interpret mean as an average Using negative numbers Divide using long division Use order operations	Use simple formulae Express missing number problems algebraically Multiply and divide using numbers with at least two decimal places Recall equivalences between decimals, percentages and fractions Solve problems involving similar shapes where scale factor is known Area of parallelograms and triangles Volume of cubes and cuboids Name parts of a circle	Use common factors to simplify fractions -Compare and order fractions of any size Add and subtract fractions and mixed numbers Multiply and divide proper fractions Calculate decimal fraction equivalents Recall equivalences between decimals, fractions and percentages Use fractions to solve problems involving proportion	Solve problems using ratio using multiplication and division facts	Similar shapes involving scale factor Find missing angles in triangles, quadrilaterals and regular polygons Recognise vertically opposite angles and find missing angles Generate and describe linear number sequences	Translate shapes on a coordinate grid and reflect in the axes
Assessment		<i>Skills check at the end of each unit (4 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i> <i>End of year exam</i>
Homework		Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet
Literacy		Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions
CIAG		Why maths is important?					

Key Stage 3 Long Term Planning

Year 8 2021-2022 INTENT:

Faculty Area: Mathematics (core) – Theta 2/3

(Please note that knowledge, related skills and connections to previous learning are linked by colour coding)

Year 8	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	Number Area and Volume	Statistics, graphs and charts Expressions and equations	Real life graphs Decimals and ratio	Lines and angles	Calculating with fractions Straight-line graphs	Percentages, decimals and fractions
Skills	Calculations Calculating with negative integers Powers and roots Powers, roots and brackets Multiples and factors Area of a triangle Area of a parallelogram and trapezium Volume of cubes and cuboids 3D shapes Surface area of cubes and cuboids Problems and measures	Pie charts Using tables Stem and leaf diagrams Comparing data Scatter graphs Misleading graphs Algebraic powers Expressions and brackets Factorising expressions One-step equations Two-step equations The balancing method	Conversion graphs Distance-time graphs Line graphs Complex line graphs Graphs of functions More real-life graphs Ordering decimals and rounding Place-value calculations Calculations with decimals Ratio and proportion with decimals Using ratios	Quadrilaterals Alternate angles and proof Geometrical problems Exterior and interior problems Solving geometric problems	Adding and subtracting fractions Multiplying fractions Fractions, decimals and reciprocals Dividing fractions Calculating with mixed numbers Direct proportion on graphs Gradients Equations of straight lines Direct proportion problems	Fractions and decimals Equivalent proportions Writing percentages Percentages of amounts Problem solving
Connections to previous learning (KS2)	Four operations Factors, multiples and primes Area and perimeter of simple shapes	Analysing and displaying data (Displaying, grouping and comparing data) Line and bar graphs Writing and simplifying expressions Writing and substituting formulae	Drawing and interpreting line and bar graphs Displaying data Decimals and rounding Four operations with decimals Writing and using ratios	Lines and angles in triangles Estimating, measuring and drawing angles Calculating angles in triangles and quadrilaterals	Comparing fractions, decimals and percentages Applying the four operations to fractions Direct proportion Proportion with fractions and percentages	Comparing fractions, decimals and percentages
Assessment	<i>Skills check at the end of each unit (2 during this term)</i>	<i>Skills check at the end of each unit (2 during this term)</i>	<i>Skills check at the end of each unit (2 during this term)</i>	<i>Skills check at the end of each unit (1 during this term)</i>	<i>Skills check at the end of each unit (2 during this term)</i>	<i>Skills check at the end of each unit (1 during this term)</i> <i>End of year exam</i>
Homework	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet
Cultural enrichment including Trips, Visits, Experiences, Extra-curricular						

MOOR PARK HIGH SCHOOL: CURRICULUM

Literacy	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions
CIAG		My dream career 1		My dream career 2		My dream career 3

Key Stage 3 Long Term Planning

Year 9 2021-2022 INTENT: AQA GCSE Mathematics 8300

Faculty Area: Mathematics (core) – higher

(Please note that knowledge, related skills and connections to previous learning are linked by colour coding)

Year 9	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	Basic number Factors and multiples Angles Scale diagrams and bearings Basic Algebra Basic fractions	Basic decimals Coordinates and line graphs Rounding Collecting and representing data Sequences	Basic percentages Perimeter and area Real life graphs	Circumference and area Ratio and proportion Equations	Basic probability Scatter graphs Standard form	Transformations Constructions and loci 2D representation of 3D shapes
Skills	Order and calculate with integers. Recognise inverses. Estimate answers HCF, LCM, prime factorization Use angle notations. Calculate angles including related to parallel lines. Understand and use scales and bearings. Algebraic notation. Simplify. Single brackets. Factorise. Order and calculate with fractions	Order and calculate with decimals. Understand place value. Convert from decimals to fractions Read and plot coordinates in 4 quadrants Use $y=mx+c$ to find parallel and perpendicular lines. Find equation of lines given one or two points Round to decimal place and significant figure. Apply limits of accuracy Read, draw and interpret a variety of charts Know special sequences. Work out the nth term	Understand percentages. Calculate percentages. Compare using percentages Identify faces, edges and vertices. Calculate perimeter. Know area formula and calculate area. Plot graphs of real life situations and find solutions, including speed/distance graphs	Know the parts of a circle. Know and use the formula for the areas and circumference of a circle Understand ratio notation. Divide in a given ratio Substitute into formulae. Solve simple equations	Solve problems using probability. Understand and use experimental probability Know types of correlation. Plot and interpret a scatter graph. Draw and use a line of best fit Place value for large numbers. Write numbers in standard form.	Congruent and similar shapes. Reflections, rotations, enlargements and translations (including vector) Use standard ruler and compass constructions and use to solve problems Plans and elevations of 3D shapes
Connections to previous learning	Year 7 Autumn Term 1 Number Skills Year 8 Autumn Term 1 Number Skills Year 7 Summer 1 Lines and angles. Year 8 Spring 2 Lines and	Year 7 Autumn 2 Decimals and measure Year 8 Spring 1 Decimals and ratio Year 8 Autumn 1 Statistics, graphs and charts	Year 8 Summer 2 Percentages, decimals and fractions Year 8 Autumn 1 Area and volume Year 8 Spring 1 Real life graphs	Year 8 Autumn term 1 Area and volume Year 7 Spring 2 Ratio and proportion Year 8 Autumn 2 Expressions and equations	Year 7 Spring 1 Probability Year 8 Autumn 2 Statistics, graphs and charts Year 8 Autumn 1 Number	Year 7 Summer 2 Transformations Year 9 Autumn 1 Scale diagrams and bearings Year 8 Autumn 1 Area and volume

MOOR PARK HIGH SCHOOL: CURRICULUM

	<p>angles</p> <p>Year 8 Expressions and equations</p> <p>Year 8 Summer 1</p> <p>Calculating with fractions</p>	<p>Year 7 Summer 1</p> <p>Sequences and graphs</p>				
Assessment	<i>Skills check at the end of each unit (5 during this term)</i>	<i>Skills check at the end of each unit (5 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (2 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i> <i>End of year exam</i>
Homework	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet
Literacy	<p>Mathematical key terms for each unit.</p> <p>Correct terminology used when answering questions (using standard English and full sentences)</p> <p>Read and understand written questions</p>	<p>Mathematical key terms for each unit.</p> <p>Correct terminology used when answering questions (using standard English and full sentences)</p> <p>Read and understand written questions</p>	<p>Mathematical key terms for each unit.</p> <p>Correct terminology used when answering questions (using standard English and full sentences)</p> <p>Read and understand written questions</p>	<p>Mathematical key terms for each unit.</p> <p>Correct terminology used when answering questions (using standard English and full sentences)</p> <p>Read and understand written questions</p>	<p>Mathematical key terms for each unit.</p> <p>Correct terminology used when answering questions (using standard English and full sentences)</p> <p>Read and understand written questions</p>	<p>Mathematical key terms for each unit.</p> <p>Correct terminology used when answering questions (using standard English and full sentences)</p> <p>Read and understand written questions</p>
CIAG	When will I need maths? 1	When will I need maths? 2	When will I need maths? 3	When will I need maths? 4	When will I need maths? 5	When will I need maths? 6

Key Stage 4 Long Term Planning

Year 10 2021-2022 SYLLABUS: AQA GCSE Mathematics 8300

Curriculum Area: Mathematics (core) – Higher

(Please note that knowledge, related skills and connections to previous learning are linked by colour coding)

Year 10	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	Calculating with percentages Measures Surds	Statistical measures Indices Properties of polygons	Number – recap and review Congruence and similarity Pythagoras Theorem' and Trigonometry	Simultaneous equations Probability Statistics recap and review	Quadratics, rearranging formula and identities Volume	Algebra recap and review Sketching graphs Quadratic equations and their graphs Geometry and measures recap and review
Skills	Percentage problems including increase/decrease, original value problems and simple interest. Limits of accuracy. Metric units to solve problems including conversions. Density and speed. Calculate exactly with surds including simplifying, rationalizing and expanding brackets	Mean, mode, median and range Positive integer powers. Calculate with powers. Know the properties of polygons. Calculate interior and exterior angles of polygons.	Change between fractions and recurring decimals. Upper and lower bounds Surds and fractional indices. Identify congruent triangles (SSS, SAS, ASA, RHS) Know and use Pythagoras' theorem Know the trigonometric ratio. Use them to find sides and angles.	Solve simultaneous equations. Understand the probability scale. Work out probabilities and solve problems. Use tree diagrams. Construct and interpret histograms and box plots.	Expand and factorise quadratics. Simplify expressions. Use mathematical formula and change the subject. Show that algebraic expressions are equivalent. Calculate the volume of cubes, cuboids and prisms.	Use $y=mx+c$ to find parallel and perpendicular lines. Plot reciprocal and exponential graphs Recognise graphs if linear, quadratic, cubic and reciprocal functions Solve linear and quadratic equations. Find approximations using graphs. Identify, describe and construct congruent shapes Find surface area and volume of sphere, cones, frustums and composite shapes
Connection to previous learning	Year 9 Spring 1 Basic percentages Year 7 Autumn 1 Decimals and measure. Year 8 Autumn 1 Area and volume Year 7 Autumn Term 1 Number Skills	Year 8 Autumn 2 Statistics, graphs and charts Year 9 Factors and multiples Year 9 Autumn 1 Angles	Year 9 Autumn 2 Decimals Year 10 Autumn 1 Surds Year 10 Autumn 2 Indices Year 7 Summer 2 Transformations Year 8 Autumn 1 Number	Year 9 Summer 1 Equations Year 9 Spring 2 Basic probability Year 7 Autumn 1 Analysing and displaying data	Year 9 Autumn 1 Basic Algebra Year 10 Spring 2 Perimeter and area	Year 9 Spring 2 Equations Year 9 Spring 1 Real life graphs Year 10 Summer 1 Quadratics, rearranging formula and identities Year 10 Summer 1 Volume Year 9 Spring 1 Perimeter and area

MOOR PARK HIGH SCHOOL: CURRICULUM

Assessment	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i> CAP1	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i>	<i>Skills check at the end of each unit (3 during this term)</i> End of year exam
Homework	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet
Literacy	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions
CIAG	See the maths in..... 1	See the maths in..... 2	See the maths in..... 3	See the maths in..... 4	See the maths in..... 5	See the maths in..... 6

Key Stage 4 Long Term Planning

Year 11 2021-2022 SYLLABUS: AQA GCSE Mathematics 8300

Curriculum Area: Mathematics (core) – Higher

(Please note that knowledge, related skills and connections to previous learning are linked by colour coding)

Year 11	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1
Knowledge	Further quadratics, rearranging formulae and identities Trigonometry recap and extension Growth and decay	Equations of a circle Further equations and graphs Direct and inverse proportion	Inequalities Vectors Further sketching graphs	Sine and cosine rules Transforming functions Numerical methods Circle theorems	Gradients and rate of change Pre-Calculus and area under a curve Algebraic fractions Exam preparation - Revision
Skills	Factorise quadratics with coefficient greater than 1. Understand difference between equation and identity Construct algebraical arguments and proof Interpret inverse and composite functions Know the Pythagoras and trigonometric ratios. Use trigonometric ratios to find sides and angles. Know the exact values for 0, 30, 45, 60 and 90 degrees. Solve growth and decay problems including compound interest.	Recognise and use the equations of a circle with the center as the origin. Find the equation of a tangent to a circle Using the quadratic formula to solve quadratics, including completing the square to find solutions to graphs and turning points Recognise and sketch linear and quadratic functions Solve problems using direct and inverse proportion. Interpret equations for direct and inverse proportion. Use graphs for proportion problems	Solve linear and quadratic inequalities including set notation and on a graph. Add and subtract vectors. Multiply a vector by a scalar. Use diagrams and column representation of vectors. Use vectors to construct geometric arguments and proof Recognise, sketch and interpret linear, quadratic and reciprocal functions, including exponential and trigonometric functions	Know and apply the sine and cosine rule Know and apply the area of a triangle to find area, sides and angles Sketch translations and reflections of a given function Find approximate solutions to equations numerically using iteration Apply and prove circle theorems including angles, radii, tangents and chords	Identify gradient on a point of a curve Apply concepts of average and instantaneous rates of change in numerical, algebraic and graphical context Calculate gradients of graphs and area under a graph including quadratic and non-linear graphs
Connection to previous learning	Year 10 Summer 1 Quadratics, rearranging formula and identities Year 9 Summer 2 Pythagoras' Year 10 Spring 1 Year 10 Autumn 2 indices Year 10 Autumn 1 Calculating with percentages	Year 10 Summer 1 Algebra recap and review Year 9 Autumn 2 Coordinates and line graphs Year 9 Spring 1 Area and perimeter Year 10 Summer 1 Quadratics, rearranging formula and identities Year 11 Autumn 1 Further Quadratics, rearranging formula and identities	Year 9 Spring 2 Equations Year 9 summer 2 Transformations Year 10 Summer 2 Quadratic equations and graphs	Year 10 Spring 1 Pythagoras Theorem' and Trigonometry Year 9 Spring 2 Circumference and area	Year 9 Autumn 2 Coordinates and Line graphs

MOOR PARK HIGH SCHOOL: CURRICULUM

Assessment	Skills check at the end of each unit (2 during this term)	Skills check at the end of each unit (3 during this term) Mock 1 CAP1	Skills check at the end of each unit (2 during this term)	Skills check at the end of each unit (3 during this term) Mock 2 CAP2	Skills check at the end of each unit (1 during this term)
Homework	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet
Literacy	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions	Mathematical key terms for each unit. Correct terminology used when answering questions (using standard English and full sentences) Read and understand written questions
CIAG		Why Study Maths?		Mathematics KS5 taster sessions	