MOOR PARK HIGH SCHOOL: CURRICULUM

Key Stage 3 Long Term Planning

Year 7 2021-2022 INTENT:

Faculty Area: Mathematics (Accelerated) – Delta 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/ displaying data Number skills	Equations, functions and formula Fractions	Angles and shapes Decimals	Equations Rearranging fromulae	Multiplicative reasoning Perimeter, area and volume	Sequences and graphs Basic probability and Venn Diagrams
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.	Two-way tables and bar charts Averages and range Grouped data More graphs Pie charts Stem: Scatter graphs and correlation Factors, primes and multiples Using negative numbers Multiplying and dividing Squares and square roots More powers and roots Calculations	Simplifying algebraic expressions Writing algebraic expressions Stem: Using formula Writing formula Brackets and powers Factorising expressions Working with fractions Adding and subtracting fractions Fractions, decimals and percentages Multiplying and dividing fractions Working with mixed numbers	Angles and parallel lines Triangles Quadrilaterals Polygons Ordering Decimal Rounding decimals Adding and subtracting decimals Multiplying and dividing decimals Fractions, decimals and percentages Finance: working with percentages	Solving one-step equations Solving two-step equations More complex equations Trial and improvement Form and solve equations involving angles. Change the subject of a formulae and substitute values.	Stem: Metric and imperial units Writing ratios Sharing in the ratio Proportion Proportional reasoning Using the unitary method Triangles, parallelograms and trapeziums Perimeter and area of compound shapes Properties of 3D solids Surface area Volume Stem: Measures of area and volume Form and solve equations involving perimeter and area	Sequences The nth term Pattern sequences Recognise and name different types of sequences Coordinates and line segments Graphs Calculate and compare probabilities Identify mutually exclusive outcomes and events Calculate the relative frequency of a value Use relative frequency to make estimates Carry out a probability experiment Construct Venn diagrams and find probabilities from them
Connections to previous learning		Simple charts 9 (Yr2) Bar charts /pictograms(Yr3) Simple time graphs (Yr4) Times table (Yr2/3)	Use formulae (Yr6) Express numbers algebraically (Yr6) Recognise half/quarter (Yr1)	Identify parallel and perpendicular lines (Yr3) Classify shapes (Yr4) Angle facts (Yr5) Classify types of angles (Yr5)	Find missing numbers algebraically (Yr6)	Covert between metric units (Yr4) Covert between M/Km (Yr6) Solve ratio problems (Yr6)	Identifying Coordinates (Yr4) Describe sequences (Yr6) Describe coordinates on all four quadrants (Yr6)

		Multiply/Divide (Yr2) Negative numbers (Yr4) Multiples and factors (Yr5) Square, prime and cube numbers (Yr5)	Simple fractions of amounts (Yr2) Order fractions (Yr3) Equivalent fractions (Yr3) Decimal equivalent to fractions (Yr4) Convert fractions (Yr5) Add/subtract and multiply fractions (Yr5) Recognise percentages (Yr5) Round decimals (Yr5) Simplify fractions (Yr6) Divide fractions (Yr6) Equivalents between FDP (Yr6)	Measure and draw angles (Yr5) Find angles in triangles, quadrilaterals and polygons (Yr6) Compare decimals (Yr4) Round decimals (Yr4/5) Decimals to fractions (Yr5) Multiply decimals (Yr6) Equivalents between FDP (Yr6) Solve percentage problems (Yr6)		Properties of 3D shapes (Yr2) Measure perimeter (Yr3) Area counting squares (Yr4) Calculate area and perimeter (Yr5) Area of Parallelogram and triangles (Yr6) Calculate volume of cubes and cuboids (Yr6)	
Assessment		*Skills check at the end of each unit (4 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)* *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		Why maths is important?					

MOOR PARK HIGH SCHOOL: CURRICULUM

Key Stage 3 Long Term Planning

Year 8 2021-2022 INTENT:

Faculty Area: Mathematics (Accelerated) – Delta 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	Factors and powers Working with powers	2D shapes and 3D solids Real life graphs	Transformations Fractions, decimals and percentages	Constructions and loci	Probability Scale drawings and measures	Graphs 3D Pythagoras
Skills	Prime factor decomposition Laws of indices Stem: Powers of 10 Standard form Calculating and estimating Simplifying expressions More simplifying Expanding and Factorising expressions Substituting and solving Factorising quadratics Algebraic fractions	Plans and elevations Surface area of prisms Volume of prisms Circumference of a circle Area of a circle Cylinders Pythagoras' theorem Direct proportion Finance: Interpreting financial graphs Distance time graphs Rates of change Misleading graphs	Reflections and translations Rotation Enlargement More enlargement Stem: combining transformations 2D and 3D solids Recurring decimals Using percentages Percentage change Finance: Repeated percentage change	Accurate drawings Constructing shapes Constructions 1 Constructions 2 Loci	Comparing probabilities Mutually exclusive events Estimating probability Experimental probability Tree diagrams Set notation and Venn diagrams Maps and scales Bearings Scales and ratio Congruent and similar shapes Solving geometry Problems	Plotting linear graphs The gradient Y=mx + c Parallel and perpendicular lines Inverse functions Stem: Non-linear graphs Understand, recall and use Pythagoras' theorem in 3D problems
Connections to previous learning	Estimate answers (Yr3) Prime numbers/factors (Yr5)	Recognize 2D/3D shapes (Yr1) Properties of 2D/3D shapes (Yr2) Area counting squares (Yr4) Calculate area and perimeter (Yr5) Name parts of the circle (Yr6)	Describe translations (Yr4) Describe and represent reflections/translation (Yr5) Reflect in the axes (Yr6) Recognise percentages (Yr5) Solve percentage problems (Yr6)		Solve problems involving scale factor (Yr6)	Identify horizontal, vertical, parallel and perpendicular lines (Yr3)
Assessment	*Skills check at the end of each unit (4 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)* *End of year exam*

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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		My dream career 1		My dream career 2		My dream career 3

MOOR PARK HIGH SCHOOL: CURRICULUM

Key Stage 3 Long Term Planning

Year 9 2021-2022 INTENT:

Faculty Area: Mathematics (Accelerated)

(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	Factors and multiples Angles and Angles in polygons Scale diagrams and bearings Fractions and decimals Calculating with percentages	Coordinates and line graphs Collecting and representing data Sequences	Rounding Circumference and Area Volume Measures	Real life graphs Ratio and proportion Algebra: quadratics and rearranging formulae	Linear and quadratic equations and their graphs Sketching graphs Probability Standard form	Scatter graphs Transformations 2D representation of 3D shapes
Skills	HCF, LCM, prime factorization and product rule for counting. Use angle notations. Calculate angles including related to parallel lines. Interior and exterior angles in polygons including algebra. Understand and use scales and bearings. Four operations with fractions and decimals. Percentage increase, decrease, change, reverse and simple/compound interest.	Gradient, y intercept, equation of a line, parallel lines, perpendicular lines and their equations. Read, draw and interpret a variety of charts Know special sequences. Work out the nth term of linear and quadratic sequences.	Round to decimal place and significant figure. Apply limits of accuracy. Know the parts of a circle. Area and perimeter of circles. Arc lengths and area of sectors. Calculate the volume of all 3D shapes. Upper and lower bounds. Metric conversions. Speed distance time. Mass density volume.	Plot graphs of real life situations and find solutions, including speed/distance graphs Understand ratio notation. Divide into a given ratio. Apply ratio to real context. Understand and use proportion. Expanding brackets of 2 binomials and factorizing quadratics. Use and rearrange mathematical formulae.	Solve linear and quadratic equations algebraically and graphically. Quadratic, cubic and reciprocal graphs Solve problems using probability. Understand and use experimental probability. Sample space diagrams, frequency trees and tree diagrams. Place value for large numbers. Write numbers in standard form. Four operations with standard form.	Know types of correlation. Plot and interpret a scatter graph. Draw and use a line of best fit Congruent and similar shapes. Reflections, rotations, enlargements and translations (including vector) Plans and elevations of 3D shapes
Connections to previous learning	Year 7 Autumn Term 1 Factors and multiples Year 7 Spring 1 Angles and shapes Year 8 Summer 1 Scale drawings and bearings Year 7 Autumn 2, Spring 1 Fractions and decimals Year 7 Autumn 2, Spring 1 Fractions and decimals	Year 8 Summer 2 Graphs Year 7 Autumn 1 Analysing and displaying data Year 7 Summer 1 Sequences and graphs	Year 7 Spring 1 Decimals Year 8 Autumn 2 2D shapes and 3D solids Year 8 Autumn 2 2D shapes and 3D solids Year 7 Summer 1 multiplicative reasoning	Year 8 Autumn 2 Real life graphs Year 7 Summer 1 Multiplicative reasoning Year 7 Spring 2 rearranging formulae	Year 8 Summer 2 Graphs Year 8 Summer 2 Graphs Year 7 Summer 2 Probability and Venn diagrams Year 8 Autumn 1 Factors and powers	Year 7 Autumn 1 Analysing and displaying data Year 8 Spring 1 Transformations Year 8 Autumn 2 2D shapes and 3D solids
Assessment	*Skills check at the end of each unit (5 during this term)*	*Skills check at the end of each unit (5 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (2 during this term)*	*Skills check at the end of each unit (3 during this term)* *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	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

MOOR PARK HIGH SCHOOL: CURRICULUM

Curriculum Area: Mathematics (Accelerated)

(Please note that knowledege, 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	Surds Statistical measures Indices Simultaneous equations	Histograms and Cumulative frequency Algebra recap and review Linear inequalities Further quadratics rearranging formulae and identities	Further equations and graphs Construction and loci Congruence and similarity	Pythagoras Theorem' and Trigonometry Trigonometry extension Sine and cosine rule	Number recap and review Direct and inverse proportion Algebraic fractions	Geometry and measures recap and review
Skills	Calculate exactly with surds including simplifying, rationalizing and expanding brackets Mean, mode, median and range Positive integer powers. Calculate with powers. Solve simultaneous equations.	Construct and interpret histograms, cumulative frequency graphs and box plots. Equation of a straight line, perpendicular lines, reciprocal and exponential graphs. Distance speed and acceleration. Solve linear equations with unknowns on both sides. Solve linear inequalities in one and two variables. Represent it on a number line. Expand and factorise quadratics. Simplify expressions. Use mathematical formula and change the subject. Show that algebraic expressions are equivalent.	Solve linear and quadratic equations, by factorizing, completing the square and quadratic formula. Find approximations using graphs. Recognize sketch and interpret graphs of linear and quadratic functions. Turning points using completing the square. Use the standard ruler and compass constructions: perpendicular bisector of a line segment, constructing a perpendicular to a given line from / at a given point bisecting a given angle Know that the perpendicular distance from a point to a line is the shortest distance to the line Identify congruent triangles (SSS, SAS, ASA, RHS)	Know and use Pythagoras' theorem. Know the trigonometric ratio. Use them to find sides and angles. Know the exact values of sin, co and tan 0,30,45,60 and 90. Apply angle facts, triangle congruence, similarity and properties of quadrilaterals. Know and apply the sine rule and cosine rule to find unknown lengths and angles. Know and apply ½ absinc to calculate the area, sides or angles of any triangles	Changing recurring decimals into their corresponding fractions and vice versa. Upper and lower bounds, linear and quadratic sequences, surds and negative/fractional indices. Solve problems involving direct and inverse proportion, including graphical and algebraic representations Simplify and manipulate algebraic expressions involving algebraic fractions	Transformations including negative and fractional scale factors. Invariant points. Surface area, volume, arc length and area of sectors.
Connection to previous learning	Year 8 Autumn Term 1 Working with powers Year 7 Autumn Term 1 Analysing and displaying data Year 8 Autumn Term 1 Working with powers	Year 9 Autumn Term 2 Colleting and representing data Year 8 Autumn Term 1 Working with powers	Year 9 Summer Term 1 Linear and quadratic equations and their graphs Year 8 Spring Term 2 Construction and loci Year 8 Summer Term 1	Year 8 Autumn Term 1 2D Shapes and 3D solids (ALL)	Year 7 Autumn Term 1 Number skills Year 9 Spring Term 1 Ratio and proportion Year 8 Autumn Term 1 Working with powers	Year 9 Spring Term 1 Volume, Circumference and area

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		Year 7 Spring Term 2 Rearranging formuale	Scale drawings and measurements			
Assessment	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)* *CAP1*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)*	*Skills check at the end of each unit (3 during this term)* *CAP2*	*Skills check at the end of each unit (3 during this term)* *End of year exam*
Homework	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet
Reading, Writing & Talk	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

MOOR PARK HIGH SCHOOL: CURRICULUM

Year 11 2021-2022 SYLLABUS: AQA GCSE Mathematics 8300

Curriculum Area: Mathematics (Accelerated)

(Please note that knowledege, 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	Vectors Equation of a circle Functions, composite and inverse Further sketching graphs	Transforming functions Recap sine and cosine rule Quadratic inequalities Circle theorems	Numerical methods Growth and Decay	Gradients and rate of change Pre calculus and area under a curve	Revise
Skills	Apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representation of vectors. Use vectors to construct geometric arguments and proofs. Recognise and use the equation of a circle with centre at the origin. Find the equation of a tangent to a circle at a given point. Where appropriate, interpret simple expressions as functions with inputs and outputs. Interpret the reverse process as the 'inverse function'. Interpret the succession of two functions as a 'composite function Recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions and the reciprocal graphs	Sketch translations and reflections of a given function Know and apply the sine rule and cosine rule to find unknown lengths and angles. Know and apply ½ absinc to calculate the area, sides or angles of any triangles Solve quadratic inequalities Apply and prove the standard circle theorems concerning angles, radii, tangents and chords and use them to prove related results	Find approximate solutions to equations numerically using iteration Set up, solve and interpret the answers in growth and decay problems, including compound interest and work with general iterative processes	Interpret the gradient at a point on a curve as the instantaneous rate of change. Apply the concepts of average and instantaneous rates of change. Interpret the gradient of a straight-line graph as a rate of change Calculate or estimate gradients of graphs and areas under graphs (including quadratic and other non-linear graphs). Interpret the results in cases such as distance-time graphs, velocity-time graphs and graphs in financial contexts	
Connection to previous learning	Year 9 Summer Term 2 Transformations Year 9 Autumn Term 2 Coordinates and linear graphs Year 10 Spring Term 1 Further equations and graphs Year 9 Summer Term 2 Transformations	Year 10 Spring Term 2 Sine and cosine rule Year 10 Autumn Term 2 Linear inequalities Year 10 Summer Term 2 Geometry	Year 10 Spring Term 1 Further equations and graphs Year 9 Autumn Term 1 Calculating with percentages	Year 9 Autumn Term 2 Coordinates and linear graphs Year 9 Spring Term 1 Measures	

MOOR PARK HIGH SCHOOL: CURRICULUM

Assessment	*Skills check at the end of each unit (2during 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*	*GCSE Examinations*
Homework	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet
Reading, Writing & Talk	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	