MOOR PARK HIGH SCHOOL: CURRICULUM

Key Stage 3 Long Term Planning

Year 9 2022-2023 INTENT:

Faculty Area: Mathematics (Accelerated)

(Please note that knowledege, 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 Analaysing 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 (3 during this term)*	*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 (4 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

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Cultural Capital						
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? – Lessons for Life - https://youtu.be/tLhcPgN1hxg		WHY MATHS When will I ever need this? - https://youtu.be/RiPIOcmpPiI		WHY MATHS Where will maths take you? - https://youtu.be/c0JjgoAO_wE	

MOOR PARK HIGH SCHOOL: CURRICULUM

Key Stage 4 Long Term Planning

Year 10 2023-2024 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 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.

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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 7 Spring Term 2 Rearranging formuale	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 Scale drawings and measurements	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
Assessment	*Skills check at the end of each unit (4 during this term)*	*Skills check at the end of each unit (4 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 (1 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
Cultural Capital						
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	Aspiring Astronaut - https://www.youtube.com/watch?v=Boi-FMB4-vs		Business Owner - https://www.youtube.com/watch?v=C7tQW5ieGHg		digital tech engineer - https://youtu.be/TWGgqmQAfvM	

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Key Stage 4 Long Term Planning

Year 11 2022-2023 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	Year 10 Spring Term 2 Sine and cosine rule Year 10 Autumn Term 2 Linear inequalities Year 10 Summer Term 2	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	

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	equations and graphs Year 9 Summer Term 2 Transformations	Geometry			
Assessment	*Skills check at the end of each unit (4 during this term)*	*Skills check at the end of each unit (4 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 (2 during this term)* *Mock 2 CAP2*	*GCSE Examinations*
Homework	Revision/numeracy booklet	Revision/numeracy booklet	Revision/numeracy booklet	Revision plan	Revision plan
Cultural Capital					
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	Data Analysts - https://www.youtube.com/watch?v=yqyIYh4bKKo	Software Engineer - https://youtu.be/Q9tUUP-phCw	Film Maker - https://www.youtube.com/watch?v=C7tQW5ieGHg	Climate Scientist - https://youtu.be/HZND8Fas8Uw Mathematics KS5 taster sessions	