KING EDWARD VI HANDSWORTH WOOD GIRLS' ACADEMY

Educational excellence for our City

High Performance Learning

World Class School

Scholarship – Character – Community

Maths	**Lead – Tanveer Akhtar**		**2023 - 2024**
Curriculum Vision	At HWGA, we aim to teach for understanding and know that the answer is only the beginning. We ensure that all our students leave HWGA having the ability to be fluent, to reason and to be able to problem solve. For them to become great mathematicians, we teach for mastery. Mastering maths means pupils acquiring a deep, long-term, secure, and adaptable understanding of the subject.		
Equality, Diversity, & Inclusion Statement	1. Visual posters around the department of those who have contributed to maths (women & ethnic minorities) 2. International Women's Day is celebrated every year in maths. Our DNA are comprehension tasks. 3. World Pi Day – we talk about the origin of where pi comes from and have references from mathematicians from other parts of the world		
Key Concepts Map	Please see attachment		
Curriculum Implementation	➢ Clear HWGA Maths policy doc ➢ Central spreadsheet ➢ Drop – ins ➢ Book look ➢ QA of lessons/resources ➢ Departmental meetings ➢ Maths briefings ➢ Engaging effectively via TEAMs	**Meeting the needs of all students**	➢ Use EEF SEND review docs ➢ SEND to be prioritised in seating plans ➢ T&L strategies to improve quality of teaching ➢ Staff to have SEND profiles printed and in folders ➢ Worksheets to be scaffolded (annotated, mixing boxes, backward fading) ➢ Work with SEND dept ➢ Have command words, useful information printed at back of books
Assessment and Feedback	➢ All assessment & feedback information is on central spreadsheet with clear dates ➢ Existing proformas for Whole class feedback, Individual feedback and live feedback ➢ 6 individual feedback, 6 live feedback and 3 whole class feedback (15 in total) ➢ Students have clear WWW, EBI and NEXT STEPS on all feedback sheets ➢ Information will be used to inform future planning, areas of development and quality of work produced		
Approach to Blended Learning	➢ All HS is set on assignments ➢ All DNA for KS3 on MS Forms/Teams ➢ All KO quizzes on MS Forms ➢ Worksheets are annotated using Microsoft whiteboard ➢ SKCs and formative assessments are on Educake, EEDI or DFM	**Approach to HPL**	➢ All classrooms have HPL displayed next to board ➢ All central resources have VAA/ACP linked to specific parts of the lesson ➢ HPL visuals are seen on posters and feedback sheets ➢ Staff use HPL language

	➢ - PIXL app will be used during mock season to identify gaps				
Subject CPD Focus	➢ Maths Mastery workshops ➢ Catering for SEND students ➢ Growth Mindset (Carol Dweck) ➢ Checking for understanding				
Promoting subject specific reading	Please see reading list	**Maths Clubs**	➢ Chess Club ➢ Puzzle Society ➢ Coding Club	Educational Visits/Trips	➢ Workshops ➢ Bletchley Park ➢ Escape rooms ➢ Cosford Air Museum ➢ Big Bang Fair ➢ Botanical Gardens ➢ Cadbury World ➢ Dr Nira Chamberlain

Concepts >>>	Number	Ratio & Proportion	Algebra	Geometry	Probability & Statistics
Y7	Place value Axioms and arrays Factors and multiples Order of operations Positive and Negative numbers Prime factor decomposition Conceptualising and comparing fractions Manipulating and calculation with fractions Percentages	Ratio Constant of proportionality Recipes and ingredients	Expressions, equations, and inequalities. Coordinates	Angles Classifying 2d shapes Constructing triangles and quadrilaterals Area and perimeter of 2D shapes Transforming 2D figures	
Y8	Accuracy and estimation.	Ratio Proportion Direct and inverse proportion Rates of	Sequences Forming and solving equations and Inequalities. Linear graphs Real life graphs	Angles in polygons Bearings Circles Volume and surface area of prisms	Univariate and Bivariate data Basic probability Sets and Venn diagrams
Y9	Surds Indices Standard form	FDP Ratio Growth and Decay	Solving linear equations Solving linear simultaneous equations algebraically and graphically Simplifying expressions Expanding and factorising Quadratic expressions and equations	Angles and polygons Classifying and constructing shapes Bearings Constructions Congruence and loci Pythagoras theorem Similarity and enlargement Trigonometry	Probability Relative frequency and estimation Set notation and Venn diagrams
Y10 F	Number calculations Place value Rounding Estimation Factors and multiples	Fractions and percentages Ratio and proportion Multiplicative reasoning	Simplifying expressions Expanding and factorising Solving equations, inequalities Sequences Graphs	Angles Perimeter, area, and volume 1 Transformations Right angled triangles Constructions, loci and bearings	Graphs, table, and charts Averages and range Probability

Y10 H	Place value and estimation Factors and multiples Index notation Standard form Surds	Fractions, ratio, and percentages Multiplicative reasoning Compound measures	Simplifying expressions Expanding and factorising Solving equations, inequalities Solving linear simultaneous equations algebraically and graphically Graphs and coordinate geometry	Angles and right-angled trigonometry Area and volume Transformations and constructions Similarity and congruence, Non-right-angled trigonometry	Analysing data Displaying data Graphs Probability Further statistics and comparisons Sampling
Y11 F	Fractions Indices Standard form	Multiplicative reasoning Compound measures	Quadratic equations and graphs Solving quadratics Rearranging equations	Perimeter, area, and volume 2 Similarity and congruence Constructions and loci Bearings	Independent and mutually exclusive events
Y11 H	Surds Rationalising the denominator	Direct and inverse proportion	Algebraic fractions Rearranging formulae Proof Functions Quadratic and cubic graphs Non-linear graphs	Circle theorems Vectors and geometric proof Transformation of functions	
Concepts >>>	**Pure**			**Applied – Statistics**	**Applied - Mechanic**
Y12	Trigonometry Binomial expansion Algebraic methods Differentiation Vectors Integration Exponentials and logarithms Proof Functions			Measuring central tendency and variation Sampling Graphical representation Probability Correlation and regression Probability distribution Binomial hypothesis testing	Models, quantities, and units Kinematics Newton's Laws Variable acceleration

Y13	Binomial expansion Arithmetic series Algebraic methods Geometric series and recurrence relations Trigonometry Differentiation Parametric Equations Numerical methods Integration Proof Modelling	Correlation and Hypothesis testing Normal distribution Probability Normal hypothesis testing and Binomial approximation	Moments Forces and friction Projectiles Statics and dynamics on inclined planes Vectors in kinematics and variable acceleration 3D Vectors

Number
Ratio, proportion, and rates of change
Algebra
Geometry and measures
Statistics and Probability

Y7 MM	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	Positive and negative numbers U5														
	Place value U1	Properties of arithmetic U2		Order of operations U4		EOHT Assessment	Factors and multiples U3		Prime factor decomposition U13			EOT Assessment	Expressions, equations and inequalities U6		
Spring	Angles U7		Classifying 2D shapes U8		EOHT Assessment	Constructing triangles and quadrilaterals U9		Coordinates U10		EOHT Assessment					
Summer	Area of 2D shapes U11		Transforming 2D figures U12		EOHT Assessment	Conceptualising and comparing fractions U14		Manipulating and calculating with fractions U15			Ratio U16		Y7 Finals	Percentages U17	

Y8 MM	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	Sequences Y8 U1		Forming and solving equations Y8 U2		Forming and solving inequalities Y8 U3		EOHT Assessment	Linear graphs Y8 U4			Accuracy and estimation Y8 U5		EOT Assessment	Ratio Review Y8 U6	Real life graphs Y8 U7
Spring	Rates of change Y8 U7	Direct and inverse proportion Y8 U8			EOHT Assessment	Univariate data Y8 U9			Bivariate data Y8 U10	EOHT Assessme					
Summer	Angles in polygons Y8 U11		Bearings Y8 U12		EOHT Assessment	Circles U8 U13		Volume and surface area of prisms Y8 U14			Y8 Finals		Diagnostic Teaching		

Y9 MM	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	FDP Review Y9 U1	Probabilitity Y9 U2			Sets, Venns + SSD Y9 U3		EOHT Assessment	Solving algrebraically Y9 U4			Solving graphically Y9 U5		EOT Assessment	Angle Review Y9 U6	Constructions Y9 U7
Spring	Congruence and loci Y9 U7	Pythag Y9 U8		EOHT Assessment	Ratio Review Y9 U9	Similarity + enlargement Y9 U10		Trig Y9 U11		EOT Assessme					
										Algebra Review					
Summer	Algebra Review Y9 U12	Quad expressions and equations Y9 U13			Surds Y9 U14	EOHT Assessment	Indices Y9 U15		Y9 Finals	Standard form Y9 U16	Growth and decay Y9 u17	Diagnostic Teaching			

Y10 H	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	Number U1			Algebra U2			EOHT Assessment	Interpreting and Representing Data U3		Fractions, Ratios and Percentages U4		Angles and Trigonometry U5			EOT Assessment
Spring	Graphs U6		Area and Volume U7		EOHT Assessment	Equations and Inequalities U9			Probability U10	EOT Assessme					
Summer	Multiplicative Reasoning U11		Similarity and Congruence U12		EOHT Assessment	More Trigonometry U13			Preparation for Finals	Transformations and Constructions U8		Further Statistics U14		Equations and Graphs U15	

Y10 F	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	Number U1			Algebra U2			EOHT Assessment	Graphs, Tables and Charts U3		Fractions and Percentages U4		Equations, Inequalities and Sequences U5			EOT Assessment
Spring	Angles U6		Averages and Range U7		EOHT Assessment	Perimeter, Area and Volume U8		Graphs U9		EOT Assessment					
Summer	Transformations U10		Ratio and Proportion U11		EOHT Assessment	Right-angled Triangles U12			Preparation for Finals	Constructions, Loci & Bearings U15		Probability U13		Multiplicative Reasoning U14	

Y11 H	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	Equations and Graphs U15		Circle Theorems U16		More Algebra U17	EOHT Assessment	More Algebra U17		Mock Exams		EOT Assessment	Vectors and Geometric Proof U18		Proportion and Graphs U19	
Spring	Preparation for GCSE Exams				EOHT Assessment	Preparation for GCSE Exams	Mock Exams		Diagnostic Teaching	EOT Assessment					
Summer	Preparation for GCSE Exams									Exit Grades					

Y11 F	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	Probability U13		Multiplicative Reasoning U14		Quad Equations /Graphs U16	EOHT Assessment	Quadratic Equations and Graphs U16		Mock Exams		EOT Assessment	Perimeter, area and volume 2 U17		Fractions, Indices and Standard Form U18	
Spring	Congruence, Similarity and Vectors U19		More Algebra U20		EOHT Assessment	Preparation for GCSE Exams	Mock Exams		Diagnostic Teaching	EOT Assessment					
Summer	Constructions, Loci & Bearings U15		Preparation for GCSE Exams							Exit Grades					

Y12	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	Algebraic Methods CH1	Quadratics CH2	Equations and Inequalities CH3	Graphs and Transformations CH4	Straight Line Graphs CH5	Circles CH6	EOHT Assessment	Trigonometry CH9		Trigonometry CH10		Algebraic Methods CH7		Binomial Expansion CH8	EOT Assessment
	Modelling in Mechanics CH8		Constant Accelaration CH9					Sampling CH1		Central Tendancy and Variation CH2			Graphical Representation CH3		
Spring	Differentiation CH12				EOHT Assessme	Integration CH13				EOT Assessment					
	Probability CH5			Newton's Laws CH10				Statistical Distributions CH6							
Summer	Proof CH7		Vectors CH11		Exponentials and Logs CH14		EOHT Assessme	Exponentials and Logs CH14	Finals Preparation	Year 12 Finals		Sequences and Series CH3 A2			
	Statistical Distributions CH6	Hypothesis Testic CH7			Correlation CH4		Variable Acceleration CH11					Trig Radians CH5 A2			

Y13	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Autumn	Functions CH2	Algebraic Methods and Proof CH1		Binomial Expansion CH4		Trigonometric Functions CH6		EOHT Assessme	Trigonometry and Modelling CH7		Parametric Equations CH8		EOT Assessment	Differentiation CH9	
	Moments CH4		Forces and Friction CH5			Projectiles CH6		Regression, Correlation and Hypothesis Testing CH1		Regression, Correlation and Hypothesis Testing CH2		Probability CH2		Probability CH2	
Spring	Integration CH11				EOHT Assessme	Numerical Methods CH10		Further Kinematics CH8							
	Normal Dist CH3						Application of Forces CH7			3D Vectors					
Summer	Year 13 Finals Prep			Preparation for A Level Exams											