Madani Girls School – Mathematics (2023-2024) – Foundation Schedule

2023/ 2024	AUTUMN		SPRING		SUMMER	
	HT1	HT2	HT3	HT4	HT5	HT6
Y 7	Area of study ➢ Number Key concepts Place Value / Order of Operations Whole Numbers (+/-/x/÷) / Worded Prob Decimal Calculations (+/-/x/÷) Negative Numbers (+/-/x/÷) Special Types of Numbers Primes / Multiples / Factors Assessment method ➢ End of Topic Test	Area of study ➢ Algebra / Graphs Key concepts Substitution / Simplifying Expand (single) / Factorise (linear) Making Formulas from Words / Using Formulas Solving Equations (one-step / two-step) Number Patterns & Sequences Coordinates (x, y) first quadrant Assessment method ➢ End of Topic Test	Area of study ➢ Fractions / Percentages / Ratio Key concepts Fraction Basics (equivalent, simplify, convert) Fraction Calculations (+/-/x/÷) Fractions of Amounts (calc/no-calc) Percentages of Amounts (calc/no-calc) Ratio Calculations (simplify, share, recipes) Assessment method ➢ End of Topic Test	Area of study ➢ Shape Key concepts Properties of 2D / 3D Shapes Perimeter & Area (square, rectangle, triangle) Compound Shapes / Plans & Elevations Surface Area & Volume (cube, cuboid) Measuring & Drawing Angles Assessment method ➢ End of Topic Test	Area of study ➢ Shape / Angles / Probability Key concepts Angle Basics (line, point, triangle) Triangle Constructions Introduction to Transformations Probability Basics / Listing Outcomes Assessment method ➢ End of Topic Test	Area of study ➢ Data Key concepts Types of Data (discrete / continuous) Mean, Mode, Median, Range Pictograms / Bar Charts Frequency Tables (calculate averages) Assessment method ➢ End of Topic Test
Y 8	Area of study ➢ Number Key concepts Revision of Four Operations (whole / decimal) Rounding (nearest whole number / powers of Rounding (decimals places / significant figures Accuracy & Estimating Basic Power Rules / Square Root / Cube Root Prime Factor Trees / LCM / HCF Assessment method ➢ End of Topic Test	Area of study ➢ Algebra / Graphs Key concepts Revision of Algebraic Notation (simplifying) Expanding Brackets (single / double) Rearranging Formulae (simple) Solving Equations (two-step / brackets) Sequences - Calculating the nth term (linear) Coordinates (four quadrants) Assessment method ➢ End of Topic Test	Area of study ➢ Fractions / Percentages / Ratio Key concepts F/D/P Conversions / Worded Problems Revision of Calculating F/P of Amounts Percentages (inc/dec) - Multiplier- (calc/no-calc Best Buy / Recipes / Reading Timetables Unit Conversions / Maps / Scale Drawings Assessment method ➢ End of Topic Test	Area of study ➢ Shape Key concepts Perimeter & Area (trapezium, parallelogram) Revision of Perimeter & Area / Compound Sha Introduction to Circles Surface Area & Volume (triangular prism, cylin Parallel Lines Assessment method ➢ End of Topic Test	Area of study ➢ Angles / Transformations / Probability Key concepts Angles in Polygons Translation / Rotation / Reflection Enlargement of Shapes Experimental Probability / Frequency Trees Assessment method ➢ End of Topic Test	Area of study ➢ Data Key concepts Two-Way Tables Line Graphs / Pie Charts Scatter Graphs (correlation) Grouped Frequency Tables (calculate aver Assessment method ➢ End of Topic Test
Y 9	Area of study ➢ Number Key concepts Revision of Types of Numbers / BODMAS Whole Numbers (+/-/x/÷) / Worded Problems Decimal Calculations (+/-/x/÷) Negative Numbers (+/-/x/÷) Primes / Multiples / Factors Prime Factor Trees / LCM / HCF Assessment method ➢ End of Topic Test	Area of study ➢ Algebra Key concepts Substitution / Simplifying Expanding Brackets (single / double) Factorising (linear expressions / D.O.T.S.) Factorise & Solve (quadratic equations) Solving Equations (one-step / two-step) Solving Equations (brackets / unknown both sides) Form & Solve Equations (worded / shapes) Rearranging Formulae (simple) Assessment method ➢ End of Topic Test	Area of study ➢ Constructions / Shape Key concepts Constructions Loci (rules) Bearings / Scale Drawings Pythagoras' Theorem Trigonometry (sin, cos, tan) Assessment method ➢ End of Topic Test	Area of study ➢ Data Key concepts Frequency Tables (calculate averages) Grouped Frequency Tables (calculate average Time Series / Scatter Graphs Interpreting Data / Comparing Data Probability Basics / Experimental Probability Assessment method ➢ End of Topic Test	Area of study ➢ Probability Key concepts Listing Outcomes / Frequency Trees The AND / OR Rules (dependent / independent) Tree Diagrams (simple) Sets & Venn Diagrams Assessment method ➢ End of Topic Test	Area of study ➢ Angles Key concepts Revision of Graphs & Charts Angle Basics (rules) Parallel Lines / Angles in Polygons Worded Angle Problems (mixed) Assessment method ➢ End of Topic Test

Y 10

Area of study	Area of study	Area of study	Area of study	Area of study	Area of study
➢ Number	➢ Algebra / Shape	➢ Graphs	➢ Ratio / Percentages	➢ Proportion	➢ Transformations
Key concepts	**Key concepts**	**Key concepts**	**Key concepts**	**Key concepts**	**Key concepts**
Fraction Calculations (+/-/x/÷)	Sequences (linear)	Coordinates / Midpoints	Conversion Graphs / Real Life Graphs	Revision for Mock Exams	Translation / Rotation / Reflection
Fractions of Amounts / Worded Problems	Linear Inequalities (number lines / solving)	Straight Line Graphs (gradient / intercept)	Ratio Calculations (mixed / worded)	Revision of F/D/P (mixed / worded)	Enlargement of Shapes
Rounding (decimals places / significant figures	Simultaneous Equations (linear)	Parallel Lines / Equation of Line	Percentages (increase / decrease)	Direct / Inverse Proportion	Work Experience
Estimation / Rounding Errors	Proof / Mixed Algebra Revision	Plotting Graphs (linear / quadratic)	Percentages (original value / percentage chan	Unit Conversions / Speed, Density, Pressure	
Revision of Powers & Roots (rules)	Properties of 2D Shapes	Harder Graphs / Distance Time Graphs	Simple / Compound Interest		
Standard Form Calculations	Perimeter & Area				
Assessment method	**Assessment method**	**Assessment method**	**Assessment method**	**Assessment method**	**Assessment method**
➢ End of Topic Test	➢ End of Topic Test	➢ End of Topic Test	➢ End of Topic Test	➢ End of Topic Test	➢ End of Topic Test

Y 11

Area of study	Area of study	Area of study	Area of study	Area of study	Area of study
➢ Shape	➢ Revision 1	➢ Revision 2	➢ Past Papers 1	➢ Past Papers 2	➢ Examinations
Key concepts	**Key concepts**	**Key concepts**	**Key concepts**	**Key concepts**	**Key concepts**
Congruent / Similar Shapes	Topic Revison: Number	Topic Revison: Data / Probability	Past paper practice 2016	Past paper practice 2018	Exam Revision
Revision of Pythagoras' Theorem	Topic Revison: Number & Assessment	Topic Revison: Data / Probability & Assessment	Past paper practice 2017	Past paper practice 2019	
Revision of Trigonometry (sin, cos, tan)	Topic Revision: Algebra	Topic Revision: Geometry	Mock Past Paper Practice: Specimen	Mock Assessment Exams	
Trigonometry (exact trig values)	Topic Revison: Algebra & Assessment	Topic Revison: Geometry & Assessment			
Pythagoras / Trigonometry (worded problems	Topic Revision: Graphs / Ratio	Mock Past Paper Practice: Set 3			
Vectors	Topic Revison: Graphs / Ratio & Assessment	Mock Past Paper Practice: Set 4			
	Mock Past Paper Practice: Set 1				
	Mock Past Paper Practice: Set 2				
Assessment method	**Assessment method**	**Assessment method**	**Assessment method**	**Assessment method**	**Assessment method**
➢ End of Topic Test	➢ Past Papers	➢ Past Papers	➢ Past Papers	➢ Past Papers	➢ Past Papers

NOTES

SKILLS FOR LIFE/ FUTURE LEARNING AND EMPLOYMENT

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions