SUBJECT Mathematics Year 8 HOD: C Thenuwara

	UNIT TITLES	**LEARNING OBJECTIVES** **Pupils should be able to solve problem questions involving:**	**ASSESSMENT ASSIGNMENTS**
TERM 1	**Fractions &Decimals**	One number as a fraction of another Fractions to decimals Ordering fractions +/- fractions +/- mixed number fractions Fractions of….. × Fractions ÷ Fractions Estimating × with decimals ÷ with decimals	• Topic test on first 3 units • Problem solving task
	Area & Shapes	Composite shapes booster Area Area of a parallelogram, trapezium Reverse questions Finding area by subtraction	

	Probability	Equally likely probabilities Sample spaces Relative frequency Comparing experimental and theoretical probabilities	
	Directed numbers and standard form	Calculating with –ve numbers Writing large and small numbers in standard form Multiplying numbers in standard form	
	Expressions& Formulae	Know that algebraic operations follow the same conventions and order as arithmetic operations Express functions in symbols Simplify or transform algebraic expressions by collecting like terms Distinguishing between equations, identities, formulae and functions Multiply a single term over a bracket and simplify expressions involving single brackets To be able to simplify algebraic expressions involving powers To be able to factorise simple expressions by taking out a common factor(numeric or algebraic)	

	Scale drawings& Bearings	To be able to calculate and work out lengths with scales in practical situations (maps, plans, etc.) To be able to accurately draw scale drawings to any given scale To be able to use bearings to specify direction and to be able to draw and measure bearings To be able to use bearings and scale drawings to calculate distances and directions in practical situations	

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TERM 2	**Percentages**	To be able to interpret percentage as the operator 'so many hundredths of' Express one number as a percentage of another Consolidate and extend mental and calculator methods with percentages Solve word percentage problems Recognise when fractions or percentages are needed to compare proportions; be able to link and also use the equivalence of fractions, decimals and percentages to compare proportions Solve problems involving percentage changes; find the outcome of a given percentage increase or decrease	• Problem solving task • End of Year Exam

	Equations	Solving equations(recap of basics) Solving with brackets Unknowns and brackets on both sides Forming with 'I think of a number' Forming and solving equations from practical situations Substituting into expressions Substituting into practical formulae Changing the subject of the formula Solving /forming equations-harder numbers Solving/forming equations with unknown on both sides-harder numbers	
	Volume & 3D	3D drawings, plans & elevations Volume of cuboids and composite cuboids Practical volume questions Reverse volume questions Volume of a prism	
	Straight line, practical and further graphs	Drawing straight-line graphs Drawing quadratic curves Using real-life straight-line graphs Identifying m&c from equations Distance-time graphs Interpreting and sketching real-life graphs	

	Circles	Parts of a circle Circumference Practical circumference questions (inc. reverse questions) Area Perimeter of compound shapes Area of compound shapes	
	Correlation	Vitruvian man investigation Basic plotting and reading of scatter graphs Scatter graphs and correlation	

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TERM 3	**Pythagoras**	Basic Pythagoras questions using the formula Application of Pythagoras to real life problems	• Topic test on 3 topics after exam • Problem solving task
	Algebraic sequences	Finding the nth term of a linear sequence Finding missing values in triangle and square numbers The next term in a quadratic sequence	
	Statistics	Stem and leaf Two-way table	
	Enlargement &Transformations	Identifying scale factor Basic enlargement (no centre) Finding the centre Enlargement from centre, positive integers Congruency in shapes	
	Problem solving		