Overview of Structure

	Foundation	Lower Primary	Upper Primary	Middle Primary	Lower Secondary	Middle Secondary
Algebraic properties of numbers and operations		• use associative, commutative properties for addition calculations	• use associative, commutative and distributive properties in multiplication calculations	• know + & - and × & ÷ are inverse operations • expand knowledge of properties of - and ÷	• link division of fractions with multiplication by inverse • link subtraction of negatives with addition of inverse	• use properties of surds and exponents
Symbols and Expressions			• identify number patterns and describe the general rule verbally • understand both meanings of '=' • first use of a formula (area of rectangle)	• use recursion rules and formulas e.g. to calculate a sequence of numbers	• write algebraic rules from verbal descriptions and tables • recognise and make equivalent expressions (collect terms, expand, substitute, rearrange formulas, cancel)	• factorise (common factors, binomial factors etc) • use exponent laws • make equivalent expressions including four operations with simple algebraic fractions
Functions and graphs			• use column graphs	• use coordinates and line graphs • describe verbally relationships between everyday life variables and sketch informally	• represent linear functions with tables, rules and graphs • model situations with linear and other selected functions (e.g. xy = 30) • link rate of change with slope of a linear graph	• identify tables, rules and graphs of linear, quadratic and exponential functions • recognise roles of parameters in function rules • formulate functions for real world modelling
Solving Equations		• construct number sentences	• solve number sentences with missing numbers, by observation or known facts • use tables to organise guess-check-improve	• solve number sentences with missing numbers and simple word equations by guess-check-improve and in simple cases with inverse operations	• solve linear and some other equations by inspection, backtracking & inverse operations (do same to both sides) • solve equations from tables of values; graphs; guess- check-improve	• solve quadratic, simultaneous linear equations and linear inequalities algebraically & graphically. • solve equations of form f(x) = k graphically & by guess-check-improve
Sets	• form sets from descriptions • describe sets	• recognise sets and subsets		• venn diagrams and karnaugh maps showing relation between 2 attributes or 2 sets	• test validity of statements with *and, or, not, none*, *some*, *all* • power sets	• express relations between 2, then 3, sets using membership, complement, intersection, union, and subset
	Foundation	**Lower Primary**	**Upper Primary**	**Middle Primary**	**Lower Secondary**	**Middle Secondary**