	YEAR 8	MID. ATTAINING		Theta 2 and Theta 3	
	TERM	UNIT / LESSON	STEPS (GRADES) FROM …	STEPS (GRADES) FROM …	LEARNING OUTCOME
	AUTUMN	1 Number	4th (grade 2)	7th (grade 4)	
Wk.	Theta 2	1.1 Calculations	5th (grade 3)	5th (grade 3)	Use written methods to add and subtract with decimals.
1	04/09/2017				Calculate mentally.
2	11/09/2017	RICK TASK 24: NIM			Calculate with money.
3	18/09/2017				Estimate answers to calculations.
		1.2 Calculating with negative integers	4th (grade 2)	5th (grade 3)	Add, subtract, multiply and divide positive and negative numbers.
		1.3 Powers and roots	4th (grade 2)	6th (grade 3)	Calculate using squares, square roots, cubes and cube roots. Use index notation for powers of numbers. Estimate the square root of a number.
		1.4 Powers, roots and brackets	4th (grade 2)	6th (grade 3)	Use mental methods to calculate combinations of powers roots and brackets. Use a calculator to check answers. Substitute numbers into formulas involving power, roots and brackets.
	Theta 3	Theta 3: 2.1 Substituting into expressions	5th (grade 3)	7th (grade 4)	Substitute into algebraic expressions involving powers. Write expressions and formulae. Change the subject of a formula. Simplify expressions involving brackets, use rules for indices and factorise expressions. Multiply out double brackets and collect like terms.
	Theta 2	1.5 Multiples and factors	5th (grade 3)	6th (grade 3)	Use index notation. Write a number as a product of its prime factors. Use prime factor decomposition to find the HCF and LCM.
4	25/09/2017	PROBLEM-SOLVING ACTIVITIES			
	AUTUMN	2 Area and volume	4th (grade 2)	6th (grade 3)	INVESTIGATION: THE OPEN BOX PROBLEM
5	02/10/2017	2.1 Area of a triangle	5th (grade 3)	5th (grade 3)	Derive and use the formula for the area of a triangle.
6	09/10/2017	INVESTIGATION: MATCHSTICKS			Find areas of compound shapes.
		2.2 Area of a parallelogram and trapezium	5th (grade 3)	6th (grade 3)	Calculate areas of parallelograms and trapezia.
		2.3 Volume of cubes and cuboids	4th (grade 2)	6th (grade 3)	Calculate the volume of cubes and cuboids.
		2.4 3D shapes	4th (grade 2)	6th (grade 3)	Sketch nets of 3D solids.
		2.5 Surface area of cubes and cuboids	4th (grade 2)	6th (grade 3)	Calculate the surface area of cubes and cuboids.
		2.6 Problems and measures	4th (grade 2)	6th (grade 3)	Calculate the volume of cubes and cuboids.
		INVESTIGATION: THE FENCING PROBLEM			Calculate the surface area of cubes and cuboids.
7	16/10/2017	PROBLEM-SOLVING; REVISION			HALF TERM TEST

	AUTUMN	**4 Expressions and equations**	4th (grade 2)	6th (grade 3)	
	Theta 2	4.1 Algebraic powers	6th (grade 3)	6th (grade 3)	Understand and simplify algebraic powers.
8	30/10/2017				Substitute values into formulas involving powers.
9	06/11/2017	4.2 Expressions and brackets	5th (grade 3)	6th (grade 3)	Expand brackets.
					Make and simplify algebraic expressions.
	Theta 3	Theta 3: 2.2 Writing expressions and formulae	5th (grade 3)	6th (grade 3)	Substitute into algebraic expressions involving powers.
		RICK TASK 20: LEAP FROG			Write expressions and formulae.
					Change the subject of a formula.
					Simplify expressions involving brackets, use rules for indices and factorise expressions.
		INVESTIGATION: TOWERS OF HANOI			Multiply out double brackets and collect like terms.
	Theta 2	4.3 Factorising expressions	6th (grade 3)	6th (grade 3)	Factorise expressions.
		4.4 One-step equations	4th (grade 2)	6th (grade 3)	Find the inverse of a function.
					Solve simple equations using function machines.
					Solve real life problems using equations.
		4.5 Two-step equations	5th (grade 3)	5th (grade 3)	Solve two-step equations using function machines.
					Solve real life problems using equations.
		4.6 The balancing method	5th (grade 3)	6th (grade 3)	Solve equations using the balancing method.
					Solve equations with the unknown number on both sides.
10	13/11/2017	**PROBLEM-SOLVING ACTIVITIES**			
	AUTUMN	**5 Real-life graphs**	5th (grade 3)	6th (grade 3)	
11	20/11/2017	5.1 Conversion graphs	5th (grade 3)	5th (grade 3)	Reading values from conversion graphs.
12	27/11/2017				Plotting conversion graphs from a table of data.
		5.2 Distance-time graphs	5th (grade 3)	5th (grade 3)	Interpreting distance-time graphs.
					Plotting distance-time graphs from descriptive text.
					Using distance-time graphs to solve problems.
		5.3 Line graphs	5th (grade 3)	5th (grade 3)	Plotting line graphs from tables of data.
					Interpreting line graphs.
		5.4 Complex line graphs	5th (grade 3)	5th (grade 3)	Reading values from real-life graphs.
					Describing trends and making predictions based on information presented graphically.
					Working out percentages.
		5.5 STEM: Graphs of functions	5th (grade 3)	6th (grade 3)	Draw, use and interpret conversion graphs.
					Draw, use and interpret distance-time graphs.
					Draw and interpret line graphs.
					Draw, use and interpret real-life graphs.
					Discuss and interpret linear and non-linear graphs.
		5.6 More real-life graphs	6th (grade 3)	6th (grade 3)	Interpreting graphs.
					Drawing and using real-life graphs.
		INVESTIGATION: MOBILE PHONES			Using graphs to solve problems and make predictions.
13	04/12/2017	**PROBLEM-SOLVING ACTIVITIES**			
14	11/12/2017	**PROBLEM-SOLVING; REVISION**			**END OF TERM TEST**