

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 1	Theta 2	1.1 Calculations	5th (grade 3)	5th (grade 3)	Use written methods to add and subtract with decimals. Calculate mentally. Calculate with money.
2	11/09/2017	RICK TASK 24: NIM			
3	18/09/2017	Estimate answers to calculations.			
	1.2 Calculating with positive 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. Use index notation.
	Theta 2	1.5 Multiple and factors	5th (grade 3)	6th (grade 3)	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. Find areas of compound shapes.
6	09/10/2017	INVESTIGATION: MATCHSTICKS MODELS (OCR)			
	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. Calculate the surface area of cubes and cuboids.	
	INVESTIGATION: THE FENCING PROBLEM				
7	16/10/2017	PROBLEM-SOLVING: REVISION			
HALF TERM TEST					
SPRING					
	3 Calculating with fractions	4th (grade 2)	7th (grade 4)		
8	19/02/2018	3.1 Adding and subtracting fractions	4th (grade 2)	5th (grade 3)	Add and subtract fractions with any size denominator.
9	26/02/2018	3.2 Multiplying fractions	5th (grade 3)	7th (grade 4)	Multiply integers and fractions by a fraction. Use appropriate methods for multiplying fractions.
	3.3 Fractions, decimals and reciprocals	5th (grade 3)	7th (grade 4)	Convert fractions to decimals. Write one amount as a fraction of another. Find the reciprocal of a number.	
	3.4 Dividing fractions	5th (grade 3)	7th (grade 4)	Divide integers and fractions by a fraction. Use strategies for dividing fractions.	
	3.5 Calculating with mixed numbers	5th (grade 3)	7th (grade 4)	Use the four operations with mixed numbers.	
10	05/03/2018	PROBLEM-SOLVING ACTIVITIES			
SPRING					
	3.6 Straight line graphs	5th (grade 3)	7th (grade 4)	Recognising when values are in direct proportion.	
11	12/03/2018	3.7 Direct proportion on graphs	5th (grade 3)	6th (grade 3)	Plotting graphs and reading values to solve problems.
12	19/03/2018	3.8 Gradients	5th (grade 3)	7th (grade 4)	Plot a straight line graph and work out its gradient.
	3.9 Equations of straight lines	6th (grade 3)	6th (grade 3)	Plot the graphs of linear functions. Find midpoints of line segments.	
	3.10 STEAM: Direct proportion problems	6th (grade 3)	6th (grade 3)	Write the equations of straight line graphs in the form $y = mx + c$. Identify and describe practical examples of direct proportion. Solve problems involving direct proportion with or without a graph.	
13	26/03/2018				

TERM	UNIT / LESSON	STEPS (GRADES) FROM ...	STEPS (GRADES) FROM ...	LEARNING OUTCOME	
SPRING					
	6 Decimals and ratio	5th (grade 3)	7th (grade 4)		
14	01/01/2018	6.1 Ordering decimals and rounding	6th (grade 3)	7th (grade 4)	Round whole numbers and decimals. Writing large numbers as a decimal number of millions. Ordering positive and negative decimals.
15	08/01/2018				
	6.2 Place value calculations	5th (grade 3)	6th (grade 3)	Using the symbols $>$ and $<$ between two negative decimals. Multiplying larger numbers. Multiplying decimals with up to two decimal places. Multiplying any number by 0.1 and 0.01.	
	6.3 Calculations with decimals	6th (grade 3)	6th (grade 3)	Adding and subtracting decimals of any size. Multiplying and dividing by decimals. Dividing by 0.1 and 0.01.	
	6.4 Ratio and proportion with decimals	5th (grade 3)	6th (grade 3)	Using ratios involving decimals. Solving proportion problems involving decimals.	
	6.5 STEAM: Using ratios	5th (grade 3)	6th (grade 3)	Solving engineering problems using ratio and proportion. Using unit ratios.	
17	15/01/2018	PROBLEM-SOLVING ACTIVITIES			
SPRING					
	7 Lines and angles	5th (grade 3)	6th (grade 3)		
18	22/01/2018	7.1 Quadrilaterals	5th (grade 3)	6th (grade 3)	Matching quadrilaterals to their descriptions.
19	29/01/2018	RICH TASK 20: DIAGONALS OF RECTANGLES			
	7.2 Alternate angles and proof	5th (grade 3)	6th (grade 3)	Using known facts about quadrilaterals to solve problems. Using alternate angles to find unknown angles. Using reasoning to complete mathematical proofs.	
	7.3 Geometrical problems	5th (grade 3)	6th (grade 3)	Solving geometrical problems using side and angle properties of triangles and quadrilaterals.	
	RICK TASK 30: TILED SQUARES				
	7.4 Exterior and interior angles	6th (grade 3)	6th (grade 3)	Identifying corresponding angles. Solving problems using properties of angles in parallel intersecting lines. Calculating the sum of the interior and exterior angles of a polygon.	
	7.5 Solving geometric problems	6th (grade 3)	6th (grade 3)	Calculating the interior and exterior angles of a polygon. Finding unknown angles by forming and solving equations.	
	INVESTIGATION: ROUTES ON POLYEDRA (OCR)				
20	05/02/2018	PROBLEM-SOLVING: REVISION			
HALF TERM TEST					
SPRING					
	8 Calculating with fractions	4th (grade 2)	7th (grade 4)		
21	19/02/2018	8.1 Adding and subtracting fractions	4th (grade 2)	5th (grade 3)	Add and subtract fractions with any size denominator.
22	26/02/2018	8.2 Multiplying fractions	5th (grade 3)	7th (grade 4)	Multiply integers and fractions by a fraction. Use appropriate methods for multiplying fractions.
	8.3 Fractions, decimals and reciprocals	5th (grade 3)	7th (grade 4)	Convert fractions to decimals. Write one amount as a fraction of another. Find the reciprocal of a number.	
	8.4 Dividing fractions	5th (grade 3)	7th (grade 4)	Divide integers and fractions by a fraction. Use strategies for dividing fractions.	
	8.5 Calculating with mixed numbers	5th (grade 3)	7th (grade 4)	Use the four operations with mixed numbers.	
23	05/03/2018	PROBLEM-SOLVING ACTIVITIES			
SPRING					
	8.6 Straight line graphs	5th (grade 3)	7th (grade 4)	Recognising when values are in direct proportion.	
24	12/03/2018	8.7 Direct proportion on graphs	5th (grade 3)	6th (grade 3)	Plotting graphs and reading values to solve problems.
25	19/03/2018	8.8 Gradients	5th (grade 3)	7th (grade 4)	Plot a straight line graph and work out its gradient.
	8.9 Equations of straight lines	6th (grade 3)	6th (grade 3)	Plot the graphs of linear functions. Find midpoints of line segments.	
	8.10 STEAM: Direct proportion problems	6th (grade 3)	6th (grade 3)	Write the equations of straight line graphs in the form $y = mx + c$. Identify and describe practical examples of direct proportion. Solve problems involving direct proportion with or without a graph.	
26	26/03/2018				

STEPS REFER TO THE 12-STEP PEARSON MODEL					
TERM	UNIT / LESSON	STEPS (GRADES) FROM ...	STEPS (GRADES) FROM ...	LEARNING OUTCOME	
SUMMER					
	10 Percentages, decimals and fractions	5th (grade 3)	7th (grade 4)		
27	16/04/2018	10.1 Fractions and decimals	5th (grade 3)	6th (grade 3)	Recall equivalent fractions and decimals. Order fractions by converting them to decimals or equivalent fractions.
28	23/04/2018				
	10.2 Equivalent proportions	5th (grade 3)	6th (grade 3)	Recall equivalent fractions, decimals and percentages. Use different methods to find equivalent fractions, decimals and percentages. Use the equivalence of fractions, decimals and percentages to compare proportions.	
	10.3 Writing percentages	5th (grade 3)	6th (grade 3)	Working out one number as a percentage of another. Working out percentage increase and decrease.	
	10.4 Percentages of amounts	6th (grade 3)	7th (grade 4)	Use a multiplier to calculate percentage increase and decrease. Use the unitary method to solve percentage problems.	
	10.5 FINANCE: Solving problems	6th (grade 3)	6th (grade 3)	Use strategies for calculating fractions and decimals of a given number. Use mental strategies of conversion and equivalence of fractions, decimals and percentages to solve word problems generally.	
29	30/04/2018	PROBLEM-SOLVING ACTIVITIES			
SUMMER					
	11 Statistics, graphs and charts	4th (grade 2)	7th (grade 4)		
30	07/05/2018	Theta 3 lesson 3.1 Planning a survey	4th (grade 2)	7th (grade 4)	Identify sources of primary and secondary data. Choose a suitable sample size and what data to collect. Identify factors that may affect data collection and plan to reduce bias.
31	14/05/2018	Theta 3 lesson 3.2 Collecting data	5th (grade 3)	6th (grade 3)	Design a good questionnaire. Design and use data collection sheets and tables.
	Theta 2	3.1 Pie charts	4th (grade 2)	5th (grade 3)	Interpret simple pie charts. Calculate angles and draw pie charts.
	3.2 Using tables	4th (grade 2)	6th (grade 3)	Drawing and interpreting two-way tables. Calculating the mean from a simple frequency table. Tallying data into a grouped frequency table, designing a grouped frequency table, using $c \times b$ notation, finding modal class and calculating range.	
	3.3 Stem and leaf diagrams	6th (grade 3)	6th (grade 3)	Drawing and interpreting stem and leaf diagrams with different stem values. Finding mode, median and range from stem and leaf diagrams, and comparing data from different data sets.	
	3.4 Comparing data	5th (grade 3)	6th (grade 3)	Compare data using averages and range including mean calculated from frequency table. Compare data using the shape of a line graph or pie chart. Draw line graphs to compare sets of data. Decide on the most appropriate average to use.	
	3.5 Scatter graphs	5th (grade 3)	7th (grade 4)	Draw scatter graphs. Describe types of correlation. Draw a line of best fit by eye onto a scatter graph.	
	3.6 FINANCE: Misleading graphs	5th (grade 3)	7th (grade 4)	Identify graphs and charts that are misleading because of the scale used and missing axis labels, mainly in financial contexts.	
32	21/05/2018	PROBLEM-SOLVING: REVISION			
HALF TERM					
33	28/05/2018	REVISION FOR END OF YEAR TESTS			
34	04/06/2018	REVISION FOR END OF YEAR TESTS			
35	11/06/2018	REVISION FOR END OF YEAR TESTS			
36	18/06/2018	END OF YEAR TESTS: NON-CALCULATOR & CALCULATOR			
37	25/06/2018	END OF YEAR TESTS: NON-CALCULATOR & CALCULATOR			
38	02/07/2018	FINANCIAL PROJECT - CORE MATHEMATICS			
39	09/07/2018	FINANCIAL PROJECT - CORE MATHEMATICS			
40	16/07/2018	FEEDBACK FROM END OF YEAR TESTS			
41	23/07/2018	FEEDBACK FROM END OF YEAR TESTS			