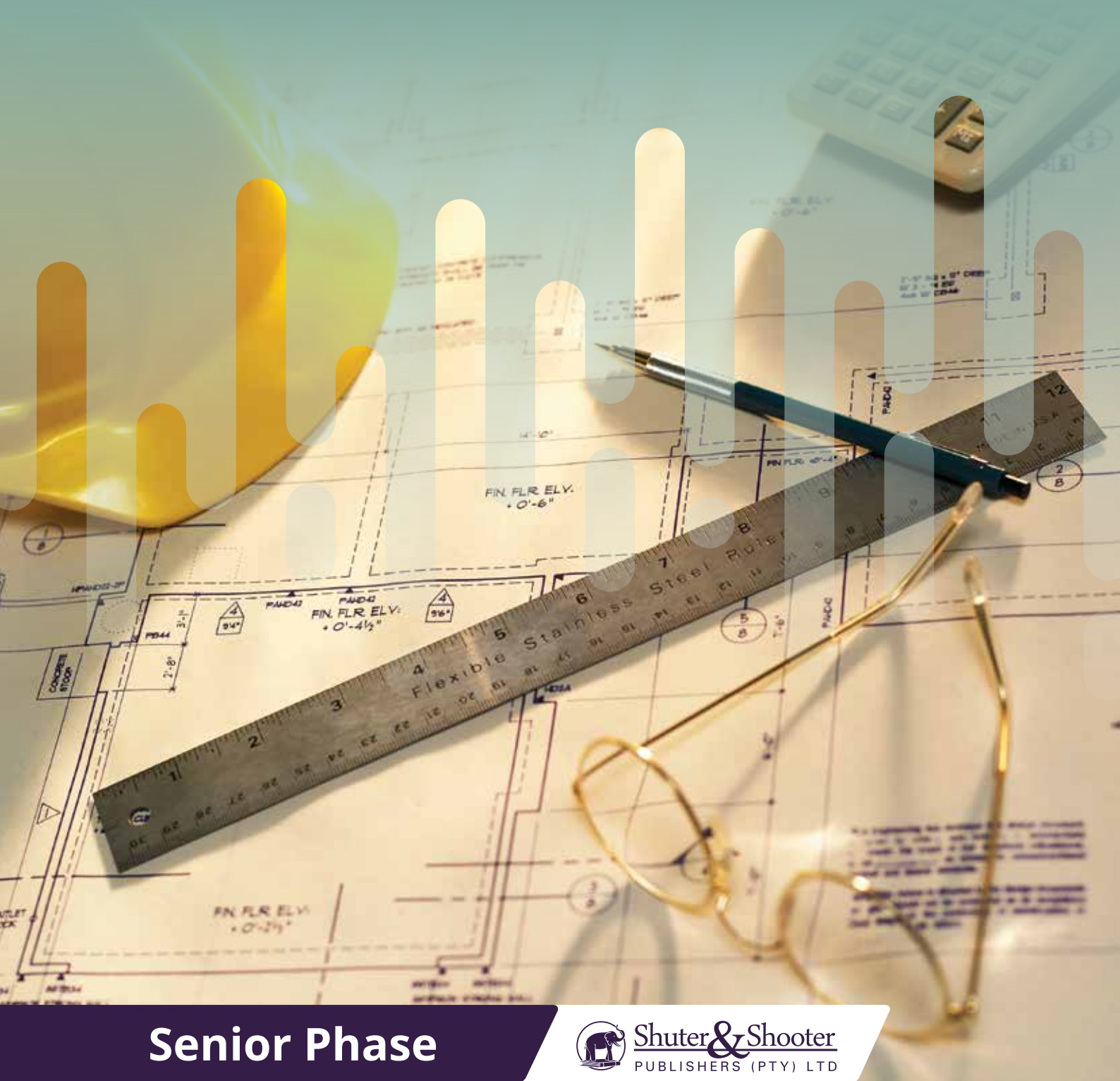


2023

Annual Teaching Plans **MATHEMATICS**



Senior Phase



Shuter & Shooter
PUBLISHERS (PTY) LTD



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Shuter & Shooter Publishers (Pty) Ltd
Shuters Business Park, 45 Willowton Road, Willowton, Pietermaritzburg 3201, South Africa
PO Box 61, Mkondeni 3212, South Africa
<http://www.shuters.co.za>

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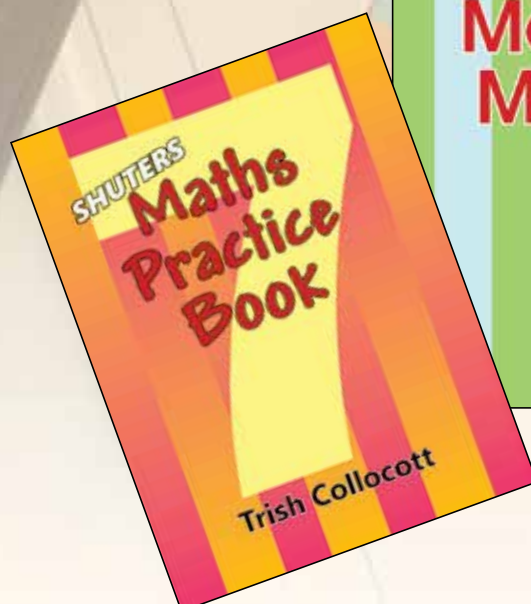
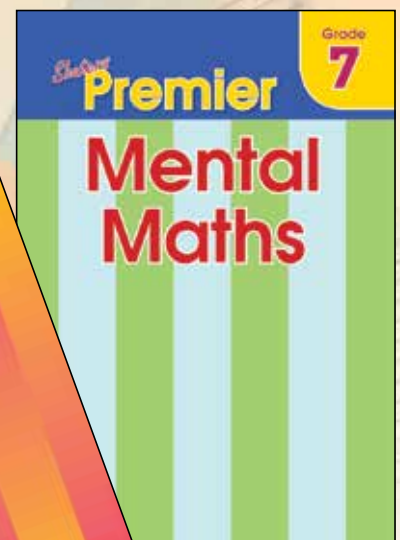
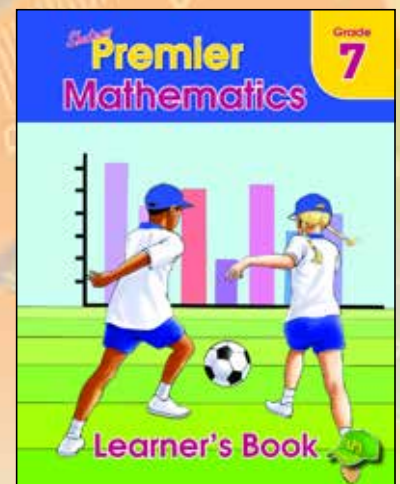
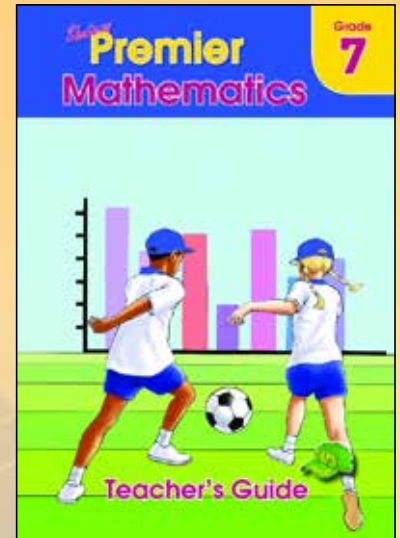
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Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Whole numbers	Revision: - Ordering and comparing whole numbers - Properties of operations with whole numbers - Calculations using all operations with whole numbers Calculation techniques - Use any strategy to perform and check written and mental calculations of whole numbers including: - long division - adding, subtracting and multiplying in columns - estimation - rounding off and compensating - using a calculator (only used to check correctness of the answer).	Weeks 3–5	Unit 1: Whole numbers	1–21	1–9
	Multiples and factors - List prime factors of numbers to at least 3-digit whole numbers - Find the LCM and HCF of whole numbers by inspection or factorisation				
	Solving problems - Solve problems involving whole numbers, including: - Comparing of two or more quantities of the same kind (ratio) - Comparing two quantities of different kinds (rate) - Sharing in a given ratio where the whole is given - Solve problems that involve whole numbers, percentages and decimal fractions in financial contexts, such as: - profit, loss, and discount - budgets - accounts - loans - simple interest				
	Formal Assessment Task: Assignment				

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Common fractions	Ordering, comparing and simplifying common fractions - Extend to thousandths Calculations with fractions - Addition and subtraction of fractions including mixed numbers where one denominator is not a multiple of the other. - Multiplication common fractions, including mixed numbers, not limited to fractions where one denominator is a multiple of another. Calculation techniques - Convert mixed numbers to common fractions in order to perform calculations with them - Use knowledge of multiples and factors to write fractions in the simplest form before or after calculations. - Use knowledge of equivalent fractions to add and subtract common fractions	Weeks 5–7	Unit 6: Common fractions	49–59	30–34
	Percentages - Calculate the percentage of part of a whole - Calculate percentage increase or decrease of whole numbers Solving problems - Solve problems in contexts involving common fractions and mixed numbers, including grouping and sharing; and finding fractions of whole numbers - Solve problems in contexts involving percentages				
Decimal fractions	Ordering and comparing decimal fractions - Count forwards and backwards in decimal fractions to at least 3 decimal places - Place value of decimals to at least 3 decimal places - Order and compare decimal fractions to at least 3 decimals - Rounding off decimal fractions to at least 2 decimal places	Weeks 7–9	Unit 7: Decimal fractions	60–65	35–39

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Decimal fractions	Calculations with decimal fractions - Addition and subtraction to decimal fractions of at least three decimal places - Multiply decimal fractions to include: - decimal fractions to at least 3 decimal places by whole numbers - Decimal fractions to at least 2 decimal places by decimal fractions to at least 1 decimal place - Divide decimal fractions to include decimal fractions to at least 3 decimal places by whole numbers	Weeks 7–9	Unit 7: Decimal fractions	60–65	35–39
	Calculation techniques - Use knowledge of place value to estimate the number of decimal places in the result before - Use rounding off and a calculator to check results where appropriate				
	Solving problems - Solve problems in context involving decimal fractions Equivalent forms - Recognise equivalence between common fraction and decimal fraction forms of the same number - Recognise equivalence between common fraction, decimal fraction and percentage forms of the same number				
Revision		Week 10			
	Formal Assessment Task: Test	Week 11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Exponents	Mental calculations - Determine squares to at least 12^2 and their square roots - Determine cubes to at least 6^3 and their cube roots	Weeks 1–2	Unit 2: Exponents	22–24	10–11
	Comparing and representing numbers in exponential form - Compare and represent whole numbers in exponential form: $a^b = a \times a \times a \dots$ for b number of factors Calculations using numbers in exponential form - Recognise and use the appropriate laws of operations with numbers involving exponents and square and cube roots - Calculations involving all four operations using numbers in exponential form, limited exponents up to 5, and square and cube roots				
Integers	Counting, ordering and comparing integers - Count forwards and backwards in integers for any interval - Recognise, order and compare integers	Weeks 2–5	Unit 18: Integers	123–129	96–99
	Calculations with integers - Add and subtract with integers Properties of integers - Recognise and use commutative and associative properties of addition for integers				
Numeric and geometric patterns	Investigate and extend patterns - Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns: - represented in physical or diagram form - not limited to sequences involving a constant difference or ratio - of learner's own creation - represented in tables - Describe and justify the general rules for observed relationships between numbers in own words	Weeks 6–7	Unit 11: Numeric and geometric patterns	84–88	64–65

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Functions and relationships	Input and output values - Determine input values, output values or rules for patterns and relationships using: - flow diagrams - tables - formulae Equivalent forms - Determine, interpret and justify equivalence of different descriptions of the same relationship or rule presented: - verbally - in flow diagrams - in tables - by formulae - by number sentences	Weeks 8–9	Unit 8: Functions and relationships	66–68	40
Revision		Week 10			
	Formal Assessment Task: Test	Week 11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Construction of geometric figures, and Geometry of straight lines	Measuring angles - Accurately use a protractor to measure and classify angles: < 90° (acute angles) - Right-angles > 90° (obtuse angles) - Straight angles > 180° but less than 360° (reflex angles) Constructions - Accurately construct geometric figures appropriately using a compass, ruler and protractor, including: - angles, to one degree of accuracy - circles - parallel lines - perpendicular lines - Describe and name parts of a circle Define: - Line segment - Ray - Straight line - Parallel lines - Perpendicular lines	Weeks 1–4	Unit 3: Construction of geometric figures Unit 5: Geometry of straight lines	25–30 38–42	12–13 16–18
Geometry of 2D shapes	Classifying 2D shapes - Describe, sort, name and compare triangles according to their sides and angles, focussing on: - equilateral triangles - isosceles triangles - right-angled triangles - Describe, sort, name and compare quadrilaterals in terms of: - length of sides - parallel and perpendicular sides - size of angles (right angles or not) Similar and congruent 2D shapes - Recognise and describe similar and congruent figures by comparing: - shape - size Solving problems - Solve simple geometric problems involving unknown sides and angles in triangles and quadrilaterals, using known properties	Weeks 5–6	Unit 4: Geometry of 2D shapes	31–37	14–15

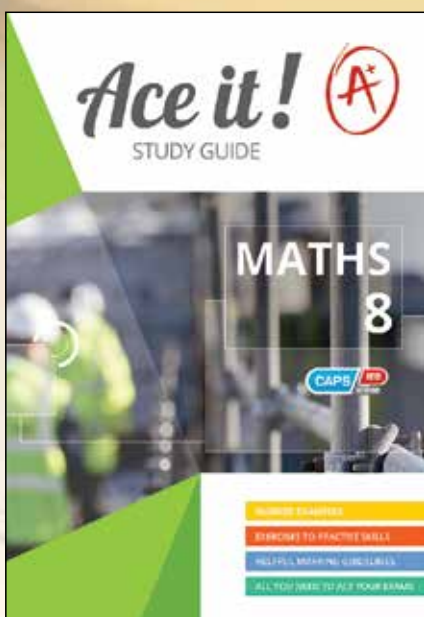
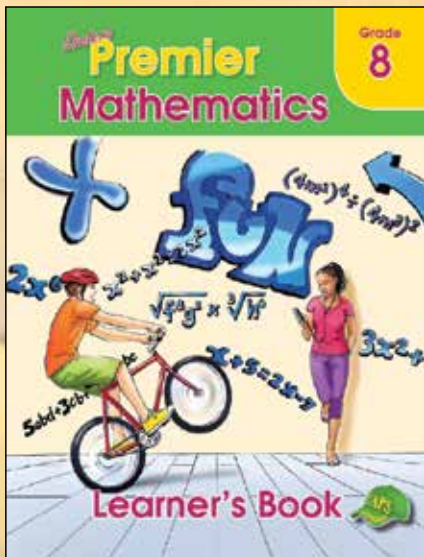
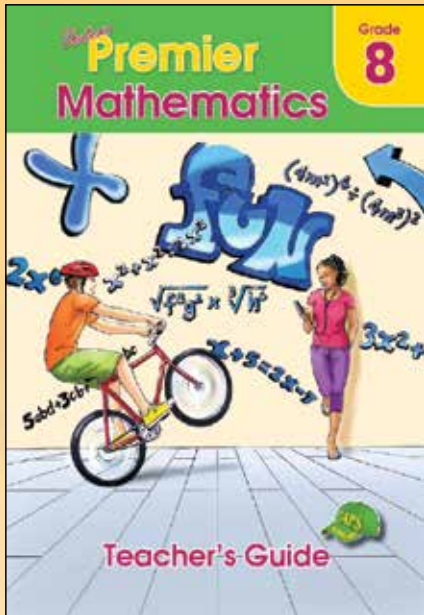
Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Transformation geometry	Transformations - Recognise, describe and perform translations, reflections and rotations with geometric figures and shapes on squared paper - Identify and draw lines of symmetry in geometric figures Enlargements and reductions - Draw enlargements and reductions of geometric figures on squared paper and compare them in terms of shape and size	Weeks 7–8	Unit 16: Transformation Geometry	106–111	76–81
Revision		Week 9			
	Formal Assessment Task: Test	Weeks 10–11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Area and perimeter of 2D shapes	Area and perimeter • Calculate the perimeter of regular and irregular polygons • Use appropriate formulae to calculate perimeter and area of: – squares – rectangles – triangles Calculations and solving problems • Solve problems involving perimeter and area of polygons • Calculate to at least 1 decimal place • Use and convert between appropriate SI units, including: – $mm^2 \leftrightarrow cm^2$ – $cm^2 \leftrightarrow m^2$	Weeks 1–2	Unit 9: Area and perimeter of 2D shapes	69–74	41
Surface area and volume of 3D objects	Surface area and volume • Use appropriate formulae to calculate the surface area, volume and capacity of: – cubes – rectangular prisms • Describe the interrelationship between surface area and volume of the objects mentioned above Calculations and solving problems • Solve problems involving surface area, volume and capacity • Use and convert between appropriate SI units, including: – $mm^2 \leftrightarrow cm^2$ – $cm^2 \leftrightarrow m^2$ – $mm^3 \leftrightarrow cm^3$ – $cm^3 \leftrightarrow m^3$ • Use equivalence between units when solving problems: – $1\ cm^3 \leftrightarrow 1\ ml$ – $1\ m^3 \leftrightarrow 1\ kl$	Weeks 3–4	Unit 10: Surface area and volume of 3D shapes	75–78	43–44

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Data handling	Collect data; • Pose questions relating to social, economic, and environmental issues in own environment • Select appropriate sources for the collection of data (including peers, family, newspapers, books, magazines) • Distinguish between samples and populations and suggest appropriate samples for investigation • Design and use simple questionnaires to answer questions with: – yes/no type responses – multiple choice responses Organise and summarise data • Organise (including grouping where appropriate) and record data using – tally marks – tables – stem-and-leaf displays • Group data into intervals • Summarise and distinguishing between ungrouped numerical data by determining: – mean – median – mode • Identify the largest and smallest scores in a data set and determine the difference between them in order to determine the spread of the data (range) Represent data • Draw a variety of graphs by hand/ technology to display and interpret data (grouped and ungrouped) including: – bar graphs and double bar graphs – histograms with given intervals – pie charts	Weeks 5–6	Unit 23: Collect, organise, summarise, represent, analyse, interpret and report data	143–153	108–112

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 7		
			Unit	LB	TG
Data handling	Interpret data - Critically read and interpret data represented in: - words - bar graphs - double bar graphs - pie charts - histograms	Weeks 5–6	Unit 23: Collect, organise, summarise, represent, analyse, interpret and report data	143–153	108–112
	Analyse data - Critically analyse data by answering questions related to: - data categories, including data intervals - data sources and contexts - central tendencies (mean, mode, median) - scales used on graphs				
	Report data - Summarise data in short paragraphs that include: - drawing conclusions about the data - making predictions based on the data - identifying sources of error and bias in the data - choosing appropriate summary statistics for the data (mean, median, mode)				
Revision		Weeks 7–8			
	Formal Assessment Task: Examination	Weeks 9–10			

8



Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Whole numbers	Properties of whole numbers - Revise the properties done in previous grades - Recognise the division property of 0, whereby any number divided by 0 is undefined Calculations using whole numbers Revise: - Calculations using all four operations on whole numbers, estimating and using calculators where appropriate Calculation techniques - Use a range of strategies to perform and check written and mental calculations with whole numbers including: - Estimation - Adding, subtracting and multiplying in columns - Long division - Rounding off and compensating - Using a calculator Multiples and factors Revise: - Prime factors of numbers to at least 3-digit whole numbers - LCM and HCF of whole numbers, by inspection or factorisation Solving problems Revise: - Solve problems involving whole numbers, including: - Comparing two or more quantities of the same kind (ratio) - Comparing two quantities of different kinds (rate) - Sharing in a given ratio where the whole is given - Extend to increasing or decreasing of a number in a given ratio - Solve problems that involve whole numbers, percentages and decimal fractions in financial contexts	Weeks 1–3	Unit 1: Whole numbers	1–13	1–9

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Integers	Calculations with integers - Revise addition and subtraction with integers - Multiply and divide with integers - Perform calculations involving all four operations with integers - Perform calculations involving all four operations with numbers that involve squares, cubes, square roots and cube roots of integers	Weeks 4–6	Unit 2: Integers	14–25	10–16
	Properties of integers - Recognise and use commutative, associative and distributive properties of addition and multiplication for integers - Recognise and use additive and multiplicative inverses for integers				
	Formal Assessment Task: Assignment				
Common fractions	Calculations with fractions - Divide whole numbers and common fractions by common fractions - Calculate the squares, cubes, square roots and cube roots of common fractions - Calculate amounts if given percentage increase or decrease - Calculations and solving problems	Weeks 6–8	Unit 13: Common fractions	119–129	84–89
	Calculation techniques - Use knowledge of reciprocal relationships to divide common fractions Percentage - Calculate amounts if given percentage increase or decrease Solving problems - Solve problems in contexts involving common fractions and mixed numbers, including grouping, sharing and finding fractions of whole numbers - Solve problems in contexts involving percentages				

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Decimal fractions	Calculations with decimal fractions • Multiplication of decimal fractions by decimal fractions not limited to one decimal place • Division of decimal fractions by decimal fractions • Calculate the squares, cubes, square roots and cube roots of decimal fractions	Weeks 8–9	Unit 14: Decimal fractions	130–141	90–94
	Calculation techniques • Use knowledge of place value to estimate the number of decimal places in the result before performing calculations • Use rounding off and a calculator to check results where appropriate				
	Solving problems • Solve problems in contexts involving common fractions and mixed numbers, including grouping, sharing and finding fractions of whole numbers • Solve problems in contexts involving percentages				
Revision		Week 10			
	Formal Assessment Task: Test	Week 11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Exponents	Comparing and representing numbers in exponential form - Revise compare and represent whole numbers in exponential form - Compare and represent integers in exponential form - Compare and represent numbers in scientific notation, limited to positive exponents Calculations using numbers in exponential form - Establish general laws of exponents, limited to: $a^m \times a^n = a^{m+n}$ $a^m \div a^n = a^{m-n}$ if $m > n$ $(a^m)^n = a^{m \times n}$ $(a \times t)^n = a^n \times t^n$ $a^0 = 1$ - Recognise and use the appropriate laws of operations using numbers involving exponents and square and cube roots - Perform calculations involving all four operations with numbers that involve squares, cubes, square and cube roots of integers - Calculate the squares, cubes, square and cube roots of rational numbers Solving problems - Solve problems in contexts involving numbers in exponential form	Weeks 1–3	Unit 3: Exponents	26–36	17–24
Numeric and geometric patterns	- Investigate and extend patterns - Revise investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns: - represented in physical or diagram form - not limited to sequences involving a constant difference or ratio - of learner’s own creation - represented in tables - Extend investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns represented algebraically - Describe and justify the general rules for observed relationships between numbers in own words or in algebraic language	Weeks 4–6	Unit 4: Numeric and geometric patterns	37–43	25–28

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Functions and relationships	Input and output values - Revise, determine input values, output values or rules for patterns and relationships using: - flow diagrams - tables - formulae - Extend determine input values, output values or rules for patterns and relationships using equations	Weeks 6–8	Unit 5: Functions and relationships	44–49	29–31
	Equivalent forms - Revise determine, interpret and justify equivalence of different descriptions of the same relationship or rule presented: - verbally - in flow diagrams - in tables - by formulae - by number sentences - Extend determine, interpret and justify equivalence of different descriptions of the same relationship or rule presented by equations				
Algebraic expressions	Algebraic language - Recognise and identify conventions for writing algebraic expressions - Identify and classify like and unlike terms in algebraic expressions - Recognise and identify coefficients and exponents in algebraic expressions Expand and simplify algebraic expressions - Use commutative, associative and distributive laws for rational numbers and laws of exponents - Add and subtract like terms in algebraic expressions	Weeks 8–9	Unit 6: Algebraic expressions	50–57	32–37
	Revision				
Formal Assessment Task: Test		Week 10			
		Week 11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Algebraic expressions	Expand and simplify algebraic expressions • Use commutative, associative and distributive laws for rational numbers • and laws of exponents to: • Add and subtract like terms in algebraic expressions • Multiply integers and monomials by: – monomials – binomials – trinomials • Divide the following by integers or monomials: – monomials – binomials – trinomials • Simplify algebraic expressions involving the above operations • Determine the squares, cubes, square roots and cube roots of single algebraic terms or like algebraic terms • Determine the numerical value of algebraic expressions by substitution	Weeks 1–2	Unit 8: Algebraic expressions	66–74	32–37
Algebraic equations	Equations • Use substitution in equations to generate tables of ordered pairs • Extend solving equations to include: – using additive and multiplicative inverses – using laws of exponents	Weeks 3–4	Unit 9: Algebraic equations	75–79	38–40
Geometry of straight lines	Angle relationships • Recognise and describe pairs of angles formed by: – perpendicular lines – intersecting lines – parallel lines cut by a transversal Solving problems • Solve geometric problems using the relationships between pairs of angles described above	Weeks 5–6	Unit 12: Geometry of straight lines	103–113	71–75

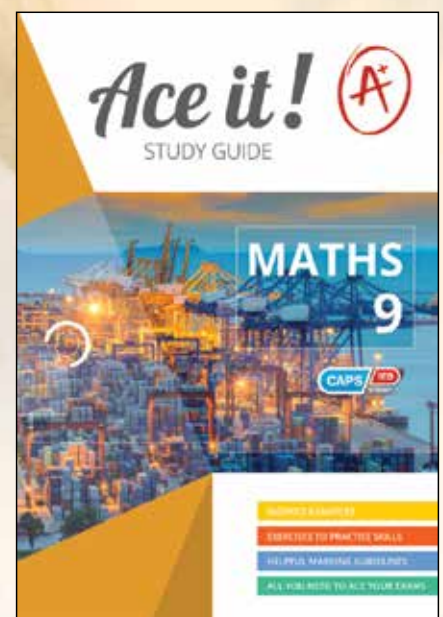
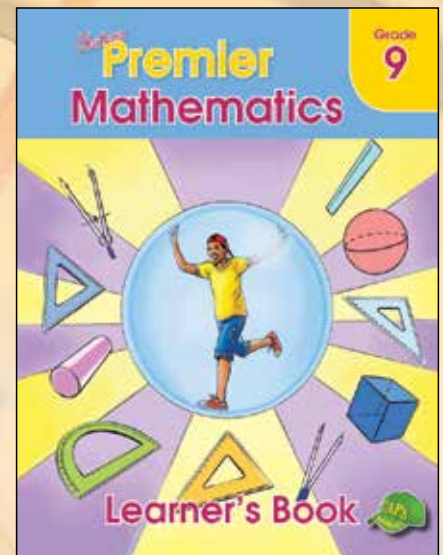
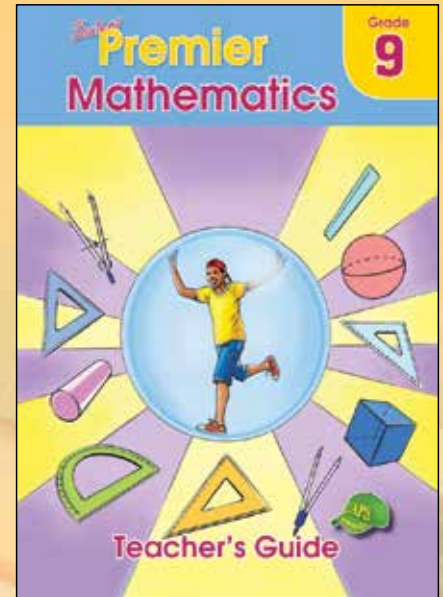
Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Geometry of 2D shapes	Classifying 2D shapes - Identify and write clear definitions of triangles in terms of their sides and angles, distinguishing between: - equilateral triangles - isosceles triangles - right-angled triangles Constructions Investigating properties of geometric figures - Investigate the angles in a triangle, focusing on: - the sum of the interior angles of triangles - the size of angles in an equilateral triangle - the sides and base angles of an isosceles triangle	Weeks 7–9	Unit 11: Geometry of 2D shapes	93–102	68–70
	Classifying 2D shapes - Identify and write clear definitions of quadrilaterals in terms of their sides and angles, distinguishing between: - parallelogram - rectangle - square - rhombus - trapezium - kite Constructions Investigating properties of geometric figures - Investigate sides and angles in quadrilaterals, focusing on: - the sum of the interior angles of quadrilaterals - the sides and opposite angles of parallelograms Solving problems - Solve geometric problems involving unknown sides and angles in triangles and quadrilaterals, using known properties and definitions.				

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Geometry of 2D shapes	Similar and congruent 2D shapes - Identify and describe the properties of congruent shapes - Identify and describe the properties of similar shapes Solving problems - Solve geometric problems involving unknown sides and angles in triangles and quadrilaterals, using known properties and definitions.	Weeks 7–9	Unit 11: Geometry of 2D shapes	93–102	68–70
Revision		Week 10			
	Formal Assessment Task: Test	Week 11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Graphs	Interpreting graphs • Revise: Analyse and interpret global graphs of problem situations, with special focus on the following trends and features: – linear or non-linear – constant, increasing or decreasing • Analyse and interpret global graphs of problem situations, with a special focus on the following trends and features: – maximum or minimum – discrete or continuous Drawing graphs • Draw global graphs from given descriptions of a problem situation, identifying features listed above • Use tables or ordered pairs to plot points and draw graphs on the Cartesian plane	Weeks 1–2	Unit 21: Graphs	201–217	135–142
Theorem of Pythagoras	Develop and use the Theorem of Pythagoras • Investigate the relationship between the lengths of the sides of a right-angled triangle to develop the Theorem of Pythagoras • Determine whether a triangle is right-angled triangle or not if the lengths of the three sides of the triangle is known • Use the Theorem of Pythagoras to calculate the missing length in a right-angled triangle, leaving irrational answers in surd form.	Weeks 3–4	Unit 15: The Theorem of Pythagoras	142–146	95–96
Area and perimeter of 2D shapes	Area and perimeter • Use appropriate formulae to calculate perimeter and area of: circles • Calculate the areas of polygons, to at least 2 decimal places, by decomposing them into rectangles and/or triangles • Use and describe the relationship between the radius, diameter and circumference of a circle in calculations • Use and describe the relationship between the radius and area of a circle in calculations	Weeks 5–6	Unit 16: Area and perimeter of 2D shapes	147–152	97–102

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 8		
			Unit	LB	TG
Area and perimeter of 2D shapes	Calculations and solving problems - Solve problems, with or without a calculator, involving perimeter and area of polygons and circles to at least 2 decimal places - Use and describe the meaning of the irrational number π (π) in calculations involving circles - Use and convert between appropriate SI units, including: $mm^2 \leftrightarrow cm^2 \leftrightarrow m^2 \leftrightarrow km^2$	Weeks 5–6	Unit 16: Area and perimeter of 2D shapes	147–152	97–102
Revision	Revise Term 3 and Term 4	Week 7			
	Formal Assessment Task: Examination	Weeks 8–10			

9



Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 9		
			Unit	LB	TG
Whole numbers	Properties of numbers - Describe the real number system by recognising, defining and distinguishing properties of: - natural numbers, whole numbers, integers, rational numbers, irrational numbers Multiples and factors - Use prime factorisation of numbers to find LCM and HCF Solving problems - Solve problems in contexts involving: - Ratio and rate - Direct and indirect proportion Solve problems that involve whole numbers, percentages and decimal fractions in financial contexts, such as: - commission - rentals - compound interest	Weeks 1–2	Unit 1: Whole numbers	1–17	1–5
Integers	Calculations with integers - Revise: - addition and subtraction with integers - Multiplication and division with integers - perform calculations involving all four operations with integers - perform calculations involving all four operations with numbers that involve the squares, cubes, square roots and cube roots of integers Properties of integers - Revise: - Commutative, associative and distributive properties of addition and multiplication for integers - Additive and multiplicative inverses for integers Formal Assessment Task: Assignment	Weeks 3–5	Unit 2: Integers	18–24	6–8

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 9		
			Unit	LB	TG
Exponents	Calculations using numbers in exponential form • Revise the following general laws of exponents: – $a^m \times a^n = a^{m+n}$ – $a^m \div a^n = a^{m-n}$, if $m > n$ – $(a^m)^n = a^{m \times n}$ – $(a \times t)^n = a^n \times t^n$ – $a^0 = 1$ • Extend the general laws of exponents to include: – integer exponents – $a - m = \frac{1}{a^m}$ • Perform calculations involving all four operations using numbers in exponential form	Weeks 6–7	Unit 5: Exponents	33–39	15–18
Numeric and geometric patterns	Investigate and extend numeric patterns • Investigate and extend numeric and geometric patterns looking for relationships between numbers including patterns: – represented in physical or diagram form, not limited to sequences involving a constant difference or ratio, of learner's own creation, represented in tables, represented algebraically • Describe and justify the general rules for observed relationships between numbers in own words or in algebraic language	Weeks 8–9	Unit 6: Numeric and geometric patterns	40–50	19–22
Revision		Week 10			
	Formal Assessment Task: Test	Week 11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 9		
			Unit	LB	TG
Algebraic expressions	Algebraic language - Revise the following: - Recognise and identify conventions for writing algebraic expressions - Identify and classify like and unlike terms in algebraic expressions - Recognise and identify coefficients and exponents in algebraic expressions - Recognise and differentiate between monomials, binomials and trinomials Expand and simplify algebraic expressions - Revise the following: using the commutative, associative and distributive laws for rational numbers and laws of exponents to: - add and subtract like terms in algebraic expressions. - multiply integers and monomials by: monomials, binomials, trinomials - divide the following by integers or monomials: monomials, binomials, trinomials - simplify algebraic expressions involving the above operations - determine the squares, cubes, square roots and cube roots of single algebraic terms or like algebraic terms - Extend the above algebraic manipulations to include: - multiply integers and monomials by polynomials, - divide polynomials by integers or monomials, - the product of two binomials, the square of a binomial Factorise algebraic expressions - Factorise algebraic expressions that involve: - common factors - difference of two squares - trinomials of the form: $x^2 + bx + c$ $ax^2 + bx + c$, where a is a common factor - Simplify algebraic expressions that involve the above factorisation processes. - Simplify algebraic fractions using factorisation	Weeks 1–5	Unit 8: Algebraic expressions	61–68	29–35

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 9		
			Unit	LB	TG
Algebraic equations	Revise the following: – set up equations to describe problem situations – analyse and interpret equations that describe a given situation – Solve equations by inspection – using additive and multiplicative inverses – using laws of exponents – Solve equations by substitution – Use substitution in equations to generate tables of ordered pairs • Extend solving equations to include: – using factorisation • equations of the form: a product of factors = 0	Weeks 6–7	Unit 9: Algebraic equations	69–75	36–43
Functions and relationships	Input and output values • Determine input values, output values or rules for patterns and relationships using: – flow diagrams – tables – formulae – equations Equivalent forms • Determine, interpret and justify equivalence of different descriptions of the same relationship or rule presented: – verbally – in flow diagrams – in tables – by formulae – by equations • by graphs on a Cartesian plane	Week 8	Unit 7: Functions and relationships	51–57	23–26
Revision		Week 10			
	Formal Assessment Task: Test	Week 11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 9		
			Unit	LB	TG
Graphs	Interpreting graphs - Extend the focus on features of graphs with special focus on the following features of linear graphs: - x-intercept and y-intercept - Gradient	Weeks 1–3	Unit 18: Graphs	155–168	113–122
	Drawing graphs - Use tables of ordered pairs to plot points and draw graphs on the Cartesian plane - Extend drawing of graphs with special focus on: - drawing linear graphs from given equations - determining equations from given linear graphs				
Geometry of straight lines	Angle relationships - Revise and write clear descriptions of the relationship between angles formed by: - perpendicular lines - intersecting lines - parallel lines cut by a transversal	Weeks 3–5	Unit 12: Geometry of straight lines	102–109	60–63
	Solving problems Solve geometric problems using the relationships between pairs of angles described above				
Geometry of 2D shapes and construction of geometric figures	Classifying 2D shapes - Revise properties and definitions of triangles in terms of their sides and angles, distinguishing between: - equilateral triangles - isosceles triangles - right-angled triangles	Weeks 8–9	Unit 10: Construction of geometric figures	79–90	48–53
	Constructions Investigate the angles in a triangle, focusing on the relationship between the exterior angle of a triangle and its interior angles				
	Classifying 2D shapes Revise and write clear definitions of quadrilaterals in terms of their sides, angles and diagonals, distinguishing between:				

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 9		
			Unit	LB	TG
Geometry of 2D shapes and construction of geometric figures	– parallelogram – rectangle – square – rhombus – trapezium – kite Constructions • Investigate sides and angles. and diagonals in quadrilaterals, focusing on: – exploring the sum of the interior angles of – polygons – the diagonals of rectangles, squares, – parallelograms, rhombi and kites Similar and congruent triangles • Through investigation, establish the minimum conditions for congruent triangles • Through investigation, establish the minimum conditions for similar triangles Constructions • Solve geometric problems involving unknown sides and angles in triangles and quadrilaterals, using known properties of triangles and quadrilaterals, as well as properties of congruent and similar triangles	Weeks 8–9	79–90	48–53	
	Revision		Week 10		
	Formal Assessment Task: Test	Week 11			

Topic	Content	Time allocation	Where to find it in Premier Mathematics Grade 9		
			Unit	LB	TG
Transformation geometry	- Transformations - Recognise, describe and perform transformations with points, line segments and simple geometric figures on a co-ordinate plane, focusing on: - reflection in the x-axis or y-axis - reflection in the line $y = x$ - translation within and across quadrants	Weeks 1–2	Unit 20: Transformation geometry	187–201	141–145
Area and perimeter of 2D shapes	- Use appropriate formulae and conversions between SI units, to solve problems and calculate perimeter and area of: - polygons - circles	Weeks 3–4	Unit 14: Area and perimeter of 2D shapes	120–127	76–80
Surface area and volume of 3D objects	- Use appropriate formulae and conversions between SI units to solve problems and calculate the surface area, volume and capacity of: - rectangular prisms - triangular prisms - cylinders	Week 5–6	Unit 19: Surface area and volume	169–180	123–127
Revision		Week 7			
	Formal Assessment Task: Examination	Weeks 8–10			

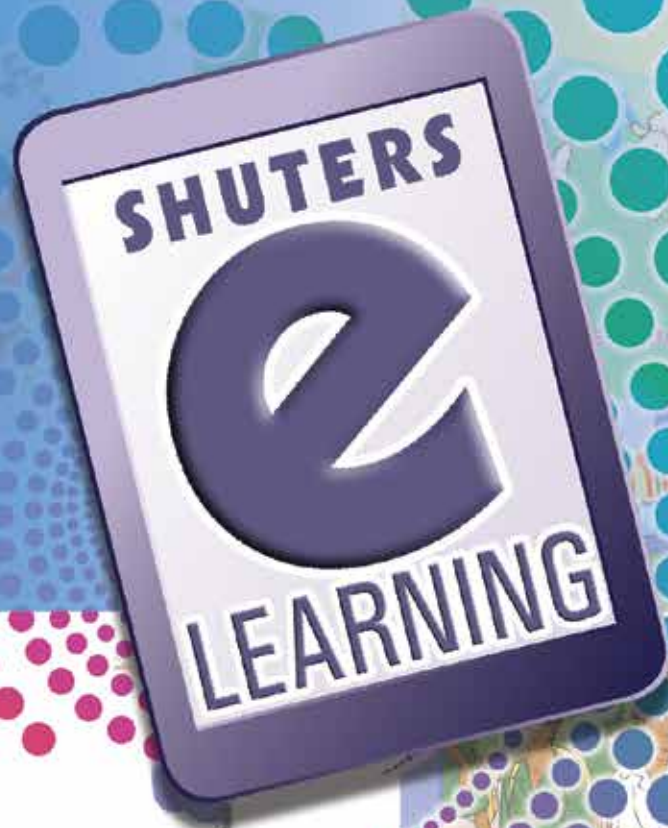
PROGRAMME OF ASSESSMENT

Grade 7		
Term	Assessment task	Page references
1	Assignment: Whole numbers (Weeks 4-5)	LB page 43 TG page 19
	Test (Week 11)	TG page 48
2	Investigation	LB page 73 TG page 42
	Test (Week 11)	TG page 48
3	Test (Weeks 10-11)	TG page 75
4	Examination (Week 9-10)	TG page 124

Grade 8		
Term	Assessment task	Page references
1	Assignment • Whole numbers • Integers (Week 6)	LB page 62 TG page 41
	Test (Week 11)	TG page 44
2	Investigation	LB page 114
	Test (Week 11)	TG page 46
3	Project	LB page 153 TG page 103
	Test (Week 11)	TG page 121
4	Examination (Weeks 8–10)	TG page 170

Grade 9		
Term	Assessment task	Page references
1	Assignment • Whole numbers • Integers (Week 5)	LB page 58 TG page 27
	Test (Week 11)	TG page 46
2	Investigation	LB page 128 TG page 81
	Test (Weeks 10-11)	TG page 70
3	Project	LB page 181 TG page 128
	Test (Week 11)	TG page 137
4	Examination (Weeks 8–10)	TG page 166

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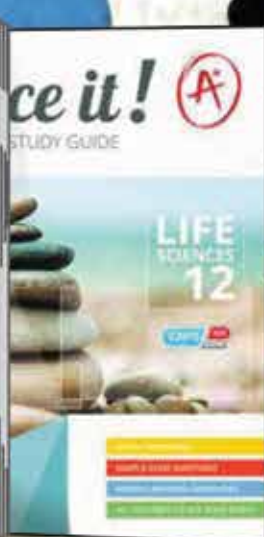
8-12

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SALES CONTACTS

TVET Colleges	Vaasna Parbhodeen	063 251 8566	vaasna@shuter.co.za
Booksellers	Vaasna Parbhodeen	063 251 8566	vaasna@shuter.co.za
Eastern Cape	Sydney Nquma	083 253 6761	sydney@shuters.com
Free State	Dimakatso Makhurane	083 215 6835	dimagatso@shuters.com
Gauteng	Themba Msimanga	082 445 6435	themba@shuters.com
	Amanda Mamabolo	083 287 6855	amanda@shuters.com
	Eugenia Sibeko	083 287 6899	eugenia@shuters.com
KwaZulu-Natal	Khanyo Cele	083 281 0849	khanyo@shuters.com
	Phumzile Ngcobo	083 272 9029	phumzile@shuters.com
	Gloria Mthethwa	081 046 1735	gloria@shuters.com
Limpopo	Dimakatso Makhurane	083 215 6835	dimagatso@shuters.com
Mpumalanga	Dimakatso Makhurane	083 215 6835	dimagatso@shuters.com
Northern Cape	Colette van der Merwe	071 851 1814	colette@shuters.com
North West	Phemelo Maiphehlo	083 378 8725	phemelo@shuters.com
Western Cape	Colette van der Merwe	071 851 1814	colette@shuters.com
Shuters Academy	Vickesh Thandray	060 545 2264	vickesh@shuters.com

CUSTOMER SERVICES:

Nhlanhla Zondi	+27 (0) 33 846 8779	nhlanhla@shuter.co.za
Mbali Kunene	+27 (0) 33 846 8722	mbali@shuter.co.za
Thandeka Ngcobo	+27 (0) 33 846 8724	thandeka@shuter.co.za
Zandile Mthethwa	+27 (0) 33 846 8721	zandilem@shuter.co.za
Sylvie Doarsamy	+27 (0) 33 846 8723	sylvie@shuter.co.za

HEAD OFFICE

Tel: +27 (0) 33 846 8721 / 22 / 23 / 24 / 79

Fax: +27 (0) 33 846 8701

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