

2021 Annual Teaching Plans

MATHEMATICS

Intermediate Phase



Shuter & Shooter
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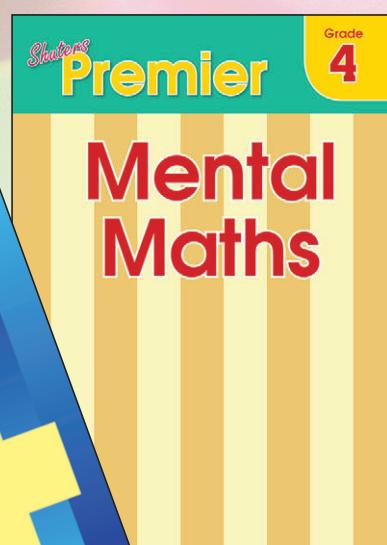
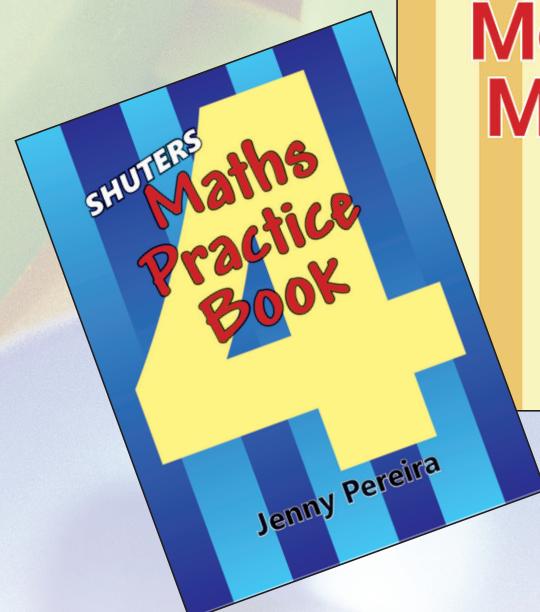
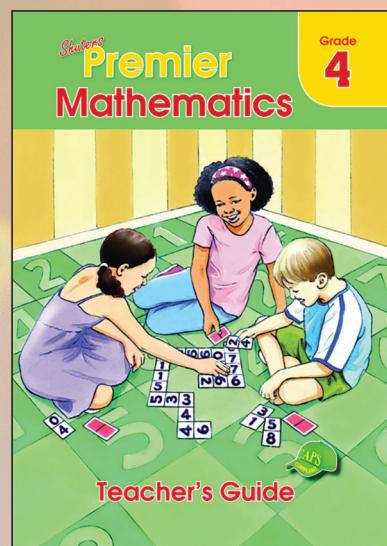
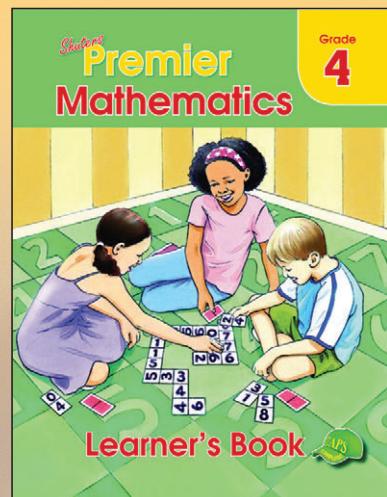
Advantages of using our books

- Improves learners' results
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CONTENTS

Grade 4	1
Term 1	2
Term 2.....	4
Term 3.....	7
Term 4.....	10
Grade 5	11
Term 1	12
Term 2.....	13
Term 3.....	16
Term 4.....	19
Grade 6	21
Term 1	22
Term 2.....	25
Term 3.....	28
Term 4.....	32
Programme of Assessment	34

4



MATHEMATICS Term 1

Topic	Content	Where to find it in Top Class Mathematics				
		Time allocation	Grade 4	Unit	LB	TG
Revision		Week 1	Weeks 2–3	Unit	1–2	4–5
	Number range for counting, ordering, comparing and representing, and place value of digits <ul style="list-style-type: none"> Count forwards and backwards (in 2s, 3s, 5s, 10s, 25s, 50s, 100s) between 0 and at least 10 000 Order, compare and represent numbers to at least 4-digit numbers Represent odd and even numbers to at least 1 000. Recognize the place value of digits in whole numbers to at least 4-digit numbers Round off to the nearest 10, 100 and 1 000. Write number sentences to describe problem situations Solve and complete number sentences by <ul style="list-style-type: none"> inspection trial and improvement Check solution by substitution Properties of whole numbers <ul style="list-style-type: none"> Recognize and use the commutative; associative and distributive properties of operations with whole numbers. 0 in terms of its additive property 	Unit 1.1: Whole numbers: Counting, ordering, comparing, representing and place value	Unit 1.2: Number sentences	3–5	6–7	

	Number range for calculations	Weeks 6–8	6–12	8–12
Whole numbers	<p>Calculation techniques</p> <ul style="list-style-type: none"> • Addition and subtraction of whole of at least 4 digits <p>Properties of whole numbers</p> <ul style="list-style-type: none"> • Use a range of techniques to perform and check written and mental calculations with whole numbers including: <ul style="list-style-type: none"> – estimation – building up and breaking down numbers – rounding off and compensating – using a number line – using addition and subtraction as inverse operations. <p>Solving problems</p> <ul style="list-style-type: none"> • Solve problems in contexts involving whole numbers, including <ul style="list-style-type: none"> – financial contexts – measurement contexts 	Unit 1.3: Whole numbers: Addition and subtraction (3-digit numbers)		
Revision		Week 9	Unit 1.10: Revision	46 39

MATHEMATICS Term 2

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 4	Unit	LB	TG
	<p>Number range for calculations:</p> <ul style="list-style-type: none"> multiplication and division (1-digit by 1 digit) <p>Number range for multiples and factors</p> <ul style="list-style-type: none"> Multiples of 1-digit numbers to at least 100 <p>Number range for calculations</p> <ul style="list-style-type: none"> Multiply at least 2-digit by 1-digit Multiplication of at least whole 2-digit by 2-digit numbers <p>Calculation techniques</p> <ul style="list-style-type: none"> Use a range of techniques to perform and check written and mental calculations of whole numbers including: <ul style="list-style-type: none"> estimation building up and breaking down numbers doubling and halving using multiplication and division as inverse operations. 	Weeks 1–2	Unit 1.5: Whole numbers: Multiplication and division (1-digit by 1-digit)	17–20	18–20	
	<p>Whole numbers</p> <p>Multiples and factors</p> <ul style="list-style-type: none"> Multiples of 1-digit numbers to at least 100 <p>Properties of whole numbers</p> <ul style="list-style-type: none"> Recognize and use the commutative, associative and distributive properties of whole numbers. <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems in contexts involving whole numbers, including: <ul style="list-style-type: none"> financial contexts measurement contexts comparing two or more quantities of the same kind (ratio) comparing two quantities of different kinds (rate). 	Weeks 3–5	Unit 1.9: Whole numbers: Multiplication and division (2-digit by 1-digit)	42–45	35–38	

<p>Number range for calculations</p> <ul style="list-style-type: none"> Division of 2-digit by 1-digit Division of at least whole 3-digit by 1-digit numbers <p>Calculation techniques</p> <ul style="list-style-type: none"> Use a range of techniques to perform and check written and mental calculations of whole numbers including: <ul style="list-style-type: none"> estimation building up and breaking down numbers using multiplication and division as inverse operations. 	<p>Weeks 5–6</p> <p>Multiples and factors</p> <ul style="list-style-type: none"> Multiples of 1-digit numbers to at least 100. <p>Properties of whole numbers</p> <ul style="list-style-type: none"> Recognize and use the distributive properties of whole numbers. 	<p>Unit 1.9: Whole numbers: Multiplication and division (2-digit by 1-digit)</p>
<p>Whole numbers</p>	<p>Solving problems</p> <ul style="list-style-type: none"> Solve problems in contexts involving whole numbers, including: <ul style="list-style-type: none"> financial contexts measurement contexts comparing two or more quantities of the same kind (ratio) comparing two quantities of different kinds (rate). grouping and equal sharing with remainders 	

MATHEMATICS Term 2

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 4	Unit	LB	TG
	Investigate and extend patterns <ul style="list-style-type: none"> Investigate and extend numeric patterns looking for relationships or rules of patterns <ul style="list-style-type: none"> sequences involving a constant difference or ratio of learner's own creation Describe observed relationships or rules for sequences involving constant difference or ratio in learner's own words Input and output values <ul style="list-style-type: none"> Determine input values, output values and rules for patterns and relationships: <ul style="list-style-type: none"> flow diagrams tables Equivalent forms <ul style="list-style-type: none"> Determine equivalence of different descriptions of the same relationship or rule presented: <ul style="list-style-type: none"> verbally in a flow diagram by a number sentence 	Week 7–8	Unit 1.4: Numeric patterns	13–16	13–17	
	Investigate and extend patterns <ul style="list-style-type: none"> Investigate and extend geometric patterns looking for relationships or rules of patterns: <ul style="list-style-type: none"> represented in physical or diagram form sequences not limited to a constant difference or ratio of learner's own creation Describe observed relationships or rules in learner's own words Input and output values <ul style="list-style-type: none"> Determine input values, output values and rules for the patterns and relationships using flow diagrams Equivalent forms <ul style="list-style-type: none"> Determine equivalence of different descriptions of the same relationship or rule presented: <ul style="list-style-type: none"> verbally in a flow diagram by a number sentence 	Week 9	Unit 2.7: Geometric patterns	80–83	61–64	
Revision		Week 10	Unit 1.10: Revision Unit 2.11: Revision	46 94	39 73	

			Week 1–3	56–61	46–50
Common fractions	<p>Describing and ordering fractions</p> <ul style="list-style-type: none"> Compare and order common fractions of different denominators (halves, thirds, quarters, fifths, sixths, sevenths, eighths) Describe and compare common fractions in diagram form. <p>Calculations with fractions</p> <ul style="list-style-type: none"> Recognize, describe and use the equivalence of division and fractions Addition of common fractions with same denominators. <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems in contexts involving fractions, including grouping and equal sharing. 	Unit 2.3: Common fractions			
Time	<p>Equivalent forms</p> <p>Recognize and use equivalent forms of common fractions (denominators which are multiples of each other)</p> <p>Reading time and time instruments</p> <ul style="list-style-type: none"> Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: <ul style="list-style-type: none"> hours minutes seconds Instruments include clocks and watches 	Weeks 4–5		21–26	21–24
	<p>Reading calendars</p> <p>Calculations and problem solving time include:</p> <ul style="list-style-type: none"> problems in contexts involving time calculation of the number of days between any two dates within the same or consecutive years calculation of time intervals where time is given in minutes or hours only 	Unit 1.6: Time			

MATHEMATICS Term 3

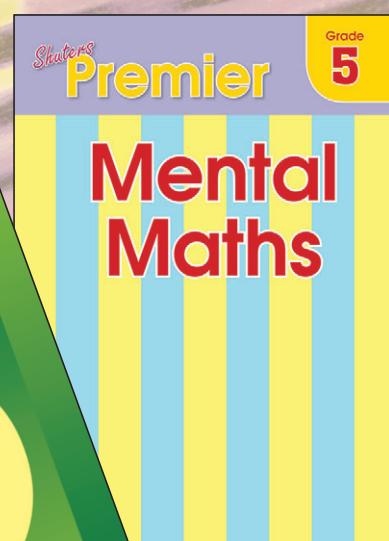
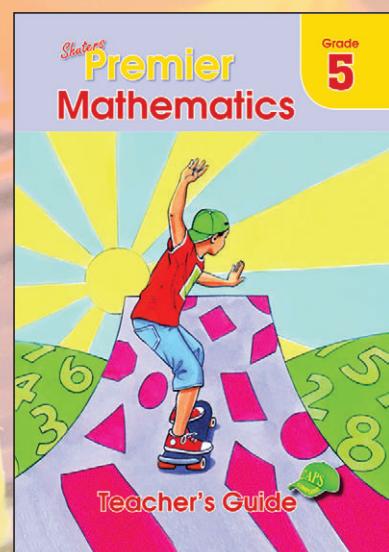
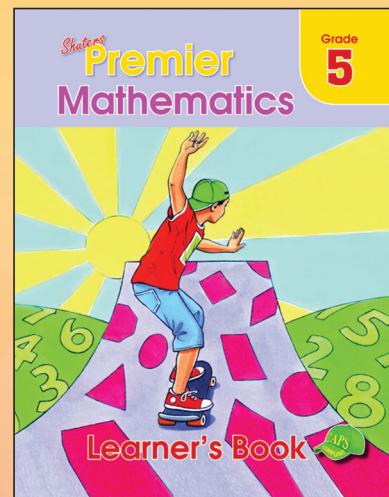
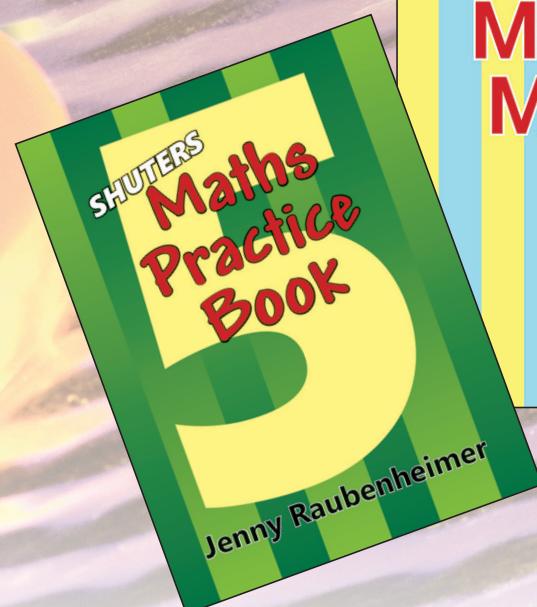
Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 4	Unit	LB	TG
Length	<p>Practical measuring</p> <ul style="list-style-type: none"> Estimate and practically measure 2D shapes and 3-D objects using measuring instruments such as: <ul style="list-style-type: none"> rulers metre sticks tape measures trundle wheels Record, compare and order lengths of shapes and objects in millimetres (mm), centimetres (cm), metres (m), kilometres (km) <p>Calculations and problem-solving</p> <ul style="list-style-type: none"> Solve problems in contexts involving length Convert between <ul style="list-style-type: none"> millimetres (mm) and centimetres (cm), centimetres (cm) and metres (m) metres (m) and kilometres (km) Conversions limited to whole numbers and common fractions 	Week 6			62–68	51–54
Properties of 2D shapes	<p>Range of shapes</p> <ul style="list-style-type: none"> Recognize, visualize and name 2-D shapes in the environment and geometric setting, focusing on regular and irregular polygons - triangles, squares, rectangles, other quadrilaterals, pentagons, hexagons, heptagons circles similarities and differences between squares and rectangles <p>Characteristics of shapes</p> <ul style="list-style-type: none"> Describe, sort and compare 2-D shapes in terms of: <ul style="list-style-type: none"> straight and curved sides number of sides <p>Further activities</p> <ul style="list-style-type: none"> Draw 2-D shapes on grid paper 	Weeks 7–8			37–41	32–34
Symmetry	<ul style="list-style-type: none"> Recognize, draw and describe line(s) of symmetry in 2-D shapes 	Week 9	Unit 2.8: Symmetry		84–85	65

	Build composite shapes <ul style="list-style-type: none">Put 2-D shapes together to make different composite 2-D shapes including some shapes with line symmetry. Tessellations <ul style="list-style-type: none">Pack out 2-D shapes to make tessellated patterns including some patterns with line symmetry.	Week 9	182–184	131
Transformations	Describe patterns <ul style="list-style-type: none">Refer to lines, 2-D shapes, 3-D objects and lines of symmetry when describing patterns<ul style="list-style-type: none">in naturefrom modern everyday lifeour cultural heritage	Unit 4.9: Transformations		
Revision		Week 10	Unit 1.10: Revision Unit 2.11: Revision Unit 4.13: Revision	46 94 192 39 73 138

MATHEMATICS Term 4

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 4	Unit	LB	TG
Perimeter and area	<p>Perimeter</p> <ul style="list-style-type: none"> Measure perimeter using rulers or measuring tapes <p>Measurement of area</p> <ul style="list-style-type: none"> Find areas of regular and irregular shapes by counting squares on grids in order to develop an understanding of square units 	Weeks 1–2	Unit 4.7: Perimeter, Area and Volume	173–178	125–128	
Capacity/ Volume	<p>Practical Measuring</p> <ul style="list-style-type: none"> Estimate and practically measure 3-D objects using measuring instruments such as: measuring spoons measuring cups, measuring jugs Record, compare and order capacity and volume of 3D objects in millilitres (ml) and litres (l) <p>Calculations and problem solving</p> <ul style="list-style-type: none"> Solve problems in contexts involving capacity/volume Convert between millilitres and litres limited to examples with whole numbers and fractions 	Week 3	Unit 3.1: Capacity/Volume Unit 4.7: Perimeter, Area and Volume	98–103 179	76–78 128	
	<p>Number sentences</p> <ul style="list-style-type: none"> Write number sentences to describe problem situations <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems in contexts involving whole numbers and fractions, including: <ul style="list-style-type: none"> financial contexts measurement contexts fractions, including grouping and equal sharing comparing two or more quantities of the same kind (ratio) comparing two quantities of different kinds (rate) 	Weeks 4–5	Unit 3.10: Whole numbers: Multiplication (2-digit by 2-digit) Unit 3.11: Number sentences Unit 4.2: Whole numbers: Addition and subtraction (4-digit numbers) Unit 4.6: Whole numbers: Division (3-digit by 1-digit)	131–134 140–142 151–154 170–172	103–105 106–170 112–114 124	
Use all four basic operations to solve problems in context		Weeks 6 to 8	Unit 3.13: Revision Unit 4.13: Revision	146 192	108 138	
Revision						

5



MATHEMATICS Term 1

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 5	Unit	LB	TG
Orientation and revision		Week 1				
Whole numbers	<p>Number range for counting, ordering, comparing and representing, and place value of digits</p> <ul style="list-style-type: none"> Order, compare and represent numbers to at least 6-digit numbers Recognize the place value of digits in whole numbers to at least 6 digit numbers Round off to the nearest 5, 10, 100 and 1 000 Write number sentences to describe problem situations Solve and complete number sentences by <ul style="list-style-type: none"> inspection trial and improvement Check solution by substitution 	Weeks 2–3	Unit 1.1: Whole numbers: Counting, ordering, comparing, representing and place value (4-digit numbers)	1–2	4–5	
Number sentences	<p>Number range for calculations</p> <ul style="list-style-type: none"> Addition and subtraction of whole numbers with at least 5-digit numbers <p>Calculation techniques</p> <ul style="list-style-type: none"> Using a range of techniques to perform and check written and mental calculations of whole numbers including: <ul style="list-style-type: none"> estimation adding and subtracting in columns building up and breaking down numbers using a number line rounding off and compensating using addition and subtraction as inverse operations 	Weeks 4–5	Unit 1.2: Number sentences	3–5	6	
Whole numbers		Weeks 6–8		6–10	7–9	Unit 1.3: Whole numbers: Addition and subtraction (5-digit numbers)
	<p>Properties of whole numbers</p> <ul style="list-style-type: none"> Recognize and use the commutative and associative properties of whole numbers 0 in terms of its additive property <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems involving whole numbers, including the following: <ul style="list-style-type: none"> financial contexts measurement contexts 					

	Number range for calculations	Weeks 1–4	60–66	47–50
	Calculation techniques			
	<ul style="list-style-type: none"> Multiplication of at least whole 3-digit by 2-digit numbers 			
	Properties of whole numbers			
Whole numbers	<ul style="list-style-type: none"> Using a range of techniques to perform and check written and mental calculations of whole numbers including: <ul style="list-style-type: none"> estimation building up and breaking down numbers doubling and halving using multiplication and division as inverse operations 	Unit 2.5: Whole numbers: Multiplication (3-digit by 2-digit)		
	Solving problems			
	<ul style="list-style-type: none"> Solve problems involving whole numbers, including <ul style="list-style-type: none"> financial contexts measurement contexts comparing two or more quantities of the same kind (ratio) comparing two quantities of different kinds (rate) 			

MATHEMATICS Term 2

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 5	Unit	LB	TG
	<p>Number range for calculations</p> <ul style="list-style-type: none"> Division of at least whole numbers 3-digit by 2-digit numbers <p>Calculation techniques</p> <ul style="list-style-type: none"> Use a range of techniques to perform and check written and mental calculations with whole numbers including <ul style="list-style-type: none"> estimation building up and breaking down numbers using multiplication and division as inverse operations <p>Properties of whole numbers</p> <ul style="list-style-type: none"> Recognize and use the distributive properties of whole numbers <ul style="list-style-type: none"> 1 in terms of its multiplicative property <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems in contexts involving whole numbers, including <ul style="list-style-type: none"> financial contexts measurement contexts comparing two or more quantities of the same kind (ratio) comparing two quantities of different kinds (rate) grouping and equal sharing with remainders 	Weeks 4–6	Unit 2.9: Whole numbers: Division (4-digit by 2-digit numbers)	79–86	61–64	

			11–14	10–14
Investigate and extend patterns <ul style="list-style-type: none"> Investigate and extend numeric patterns looking for relationships or rules of patterns <ul style="list-style-type: none"> sequences not limited to constant difference or ratio of learner's own creation Describe observed relationships or rules for sequences involving constant difference or ratio in learner's own words 	Input and output values <ul style="list-style-type: none"> Determine input values, output values and rules for patterns and relationships: <ul style="list-style-type: none"> flow diagrams tables Equivalent forms <ul style="list-style-type: none"> Determine equivalence of different descriptions of the same relationship or rule presented: <ul style="list-style-type: none"> verbally in a flow diagram by a number sentence 	Unit 1.4: Numeric patterns		
Numeric patterns			Week 9	73–76
		Investigate and extend patterns <ul style="list-style-type: none"> Investigate and extend geometric patterns looking for relationships or rules of patterns: <ul style="list-style-type: none"> represented in physical or diagram form sequences not limited to a constant difference or ratio of learner's own creation Describe observed relationships or rules in learner's own words Input and output values <ul style="list-style-type: none"> Determine input values, output values and rules for the patterns and relationships using flow diagrams Equivalent forms <ul style="list-style-type: none"> Determine equivalence of different descriptions of the same relationship or rule presented: <ul style="list-style-type: none"> verbally in a flow diagram by a number sentence 	Unit 2.7: Geometric patterns	55–58
Geometric patterns				

MATHEMATICS Term 3

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 5	Unit	LB	TG
Common fractions	<p>Describing and ordering fractions:</p> <ul style="list-style-type: none"> Count forwards and backwards in fractions Compare and order common fractions to at least twelfths <p>Calculations with fractions:</p> <ul style="list-style-type: none"> Addition and subtraction of common fractions with same denominator Addition and subtraction of mixed numbers fractions of whole numbers Fractions of whole which result in whole numbers Recognise, describe and use the equivalence of division and fractions <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems in contexts involving common fractions, including grouping and sharing <p>Equivalent forms: Recognize and use equivalent forms of common fractions with denominators which are multiples of each other</p>	Weeks 1–4	Unit 3.1: Common fractions	90–94	68–70	
Length	<p>Practical measuring</p> <ul style="list-style-type: none"> Estimate and practically measure 2D shapes and 3-D objects using measuring instruments such as: <ul style="list-style-type: none"> rulers metre sticks tape measures trundle wheels Record, compare and order lengths of shapes and objects in millimetres (mm), centimetres (cm), metres (m), kilometres (km) <p>Calculations and problem-solving</p> <ul style="list-style-type: none"> Solve problems in contexts involving length Convert between any of the following units. <ul style="list-style-type: none"> millimetres (mm), centimetres (cm), metres (m) and kilometres (km) Conversions limited to whole numbers and common fractions 	Week 4–5	Unit 2.4: Length	54–59	44–46	

Range of shapes	<ul style="list-style-type: none"> Recognize, visualize and name 2-D shapes in the environment and geometric setting, focusing on <ul style="list-style-type: none"> regular and irregular polygons - triangles, squares, rectangles, other quadrilaterals, pentagons, hexagons, heptagons circles similarities and differences between squares and rectangles 	Characteristics of shapes <ul style="list-style-type: none"> Describe, sort and compare 2-D shapes in terms of: <ul style="list-style-type: none"> straight and curved sides number of sides lengths of sides angles in shapes, limited to: <ul style="list-style-type: none"> right angles ✓ angles smaller than right angles ✓ angles greater than right angles 	Weeks 5–7 109–112 81–82
Properties of 2D shapes	<ul style="list-style-type: none"> Recognize and describe angles in 2-D shapes: <ul style="list-style-type: none"> right angles angles smaller than right angles angles greater than right angles 	Angles <ul style="list-style-type: none"> Recognize and describe angles in 2-D shapes: <ul style="list-style-type: none"> right angles angles smaller than right angles angles greater than right angles 	Unit 3.6: Properties of 2D shapes Week 7 Unit 2.8: Symmetry 77–78
Symmetry	Recognize, draw and describe line(s) of symmetry in 2-D shapes		

MATHEMATICS Term 3

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 5	Unit	LB	TG
	<p>Use transformations to make composite shapes</p> <ul style="list-style-type: none"> Make composite 2-D shapes including shapes with line symmetry by tracing and moving a 2-D shape in one or more of the following ways: <ul style="list-style-type: none"> by rotation by translation by reflection 	Week 8		113–115	83–84	
Transformations	<p>Use transformations to make tessellations</p> <ul style="list-style-type: none"> Make tessellated patterns including some patterns with line symmetry by tracing and moving 2-D in one or more of the following ways: <ul style="list-style-type: none"> by rotation by translation by reflection <p>Describe patterns</p> <ul style="list-style-type: none"> Refer to lines, 2-D shapes, 3-D objects, lines of symmetry, rotations, reflections and translations when describing patterns. 	Unit 3.7: Transformations		149–153	112–114	
	<p>Range of objects</p> <ul style="list-style-type: none"> Recognize, visualize and name 3-D objects in the environment and geometric settings, focusing on: <ul style="list-style-type: none"> rectangular prisms and other prisms cubes cylinders cones pyramids similarities and differences between cubes and rectangular prisms <p>Properties of 2D objects</p> <ul style="list-style-type: none"> Properties of 2D objects 	Weeks 8–9		Unit 4.3: Properties of 3D objects		

<p>Perimeter</p> <ul style="list-style-type: none"> Measure perimeter using rulers or measuring tapes <p>Measurement of area</p> <ul style="list-style-type: none"> Find areas of regular and irregular shapes by counting squares on grids in order to develop an understanding of square units <p>Measurement of volume</p> <p>Find volume/capacity of objects by packing or filling them in order to develop an understanding of cubic units</p>	<p>Weeks 1–3</p> <p>Unit 4.6: Perimeter, Area and Volume</p>	<p>Weeks 1–3</p>	<p>166–172 123–126</p>
<p>Perimeter, area and volume of 2D shapes</p>			
<p>Practical Measuring</p> <ul style="list-style-type: none"> Estimate and practically measure 3-D objects using measuring instruments such as: <ul style="list-style-type: none"> measuring spoons measuring cups, measuring jugs Record, compare and order capacity and volume of 3D objects in millilitres (ml) and litres (l) 	<p>Capacity/ Volume</p> <p>Weeks 3–4</p>	<p>Unit 1.8: Capacity and Volume</p>	<p>34–38 28–30</p>
<p>Calculations and problem solving</p> <ul style="list-style-type: none"> Solve problems in contexts involving capacity/volume Convert between millilitres and litres limited to examples with whole numbers and fractions 	<p>Week 5</p>	<p>21–26 20–23</p>	<p>Unit 1.6: Time</p>
<p>Reading time and time instruments</p> <ul style="list-style-type: none"> Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: <ul style="list-style-type: none"> hours minutes seconds Instruments include clocks, watches and stopwatches 	<p>Time</p>	<p>Week 5</p>	<p>21–26 20–23</p>

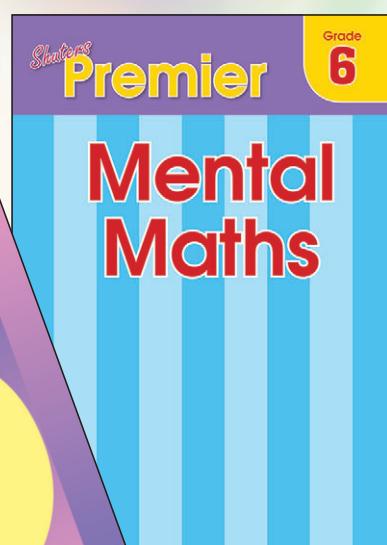
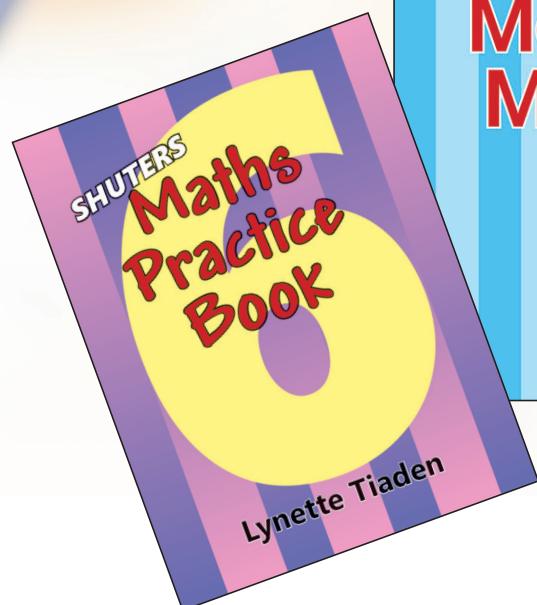
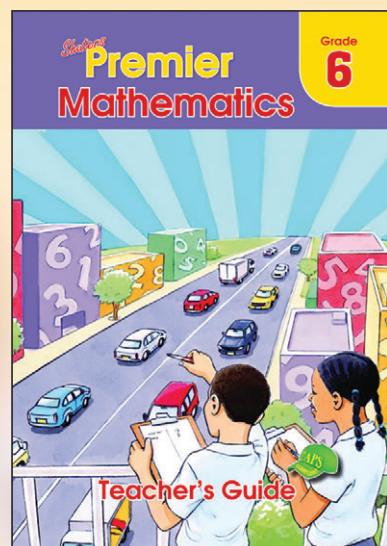
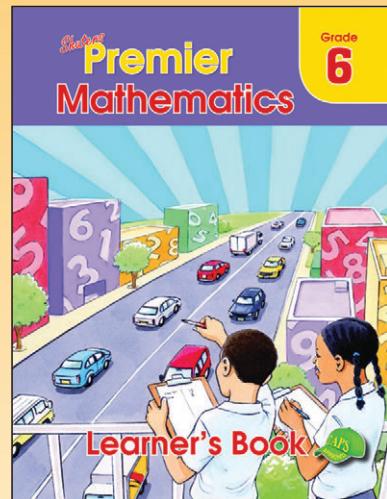
Calculations and problem solving time include:

- problems in contexts involving time
- calculation of time intervals where time is given in
 - seconds and/or minutes
 - minutes and/or hours
 - hours and/or days
 - days, weeks and/or months
 - years and/or decades

MATHEMATICS Term 4

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 5	Unit	LB	TG
<ul style="list-style-type: none"> Use all four basic operations to solve problems in context 	<p>Solving problems</p> <ul style="list-style-type: none"> Solve problems in contexts involving whole numbers and fractions, including: <ul style="list-style-type: none"> financial contexts measurement contexts fractions, including grouping and equal sharing comparing two or more quantities of the same kind (ratio) comparing two quantities of different kinds (rate) 	Weeks 6–7	Unit 4.10: Number sentences		181–183	132–133
Revision		Week 8	Unit 1.9: Revision Unit 2.10: Revision Unit 3.13: Revision Unit 4.12: Revision		39 87 140 186	31 65 104 136

6



MATHEMATICS Term 1

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 6	Unit	LB	TG
Revision		1 week				
Whole numbers	<p>Counting, ordering, comparing, representing and place value (6 – 9 digit numbers)</p> <ul style="list-style-type: none"> Order, compare and represent numbers up to at least 9-digit numbers Represent prime numbers to at least 100 Recognize the place value of digits in whole numbers to at least 9-digit numbers Round off to the nearest 5, 10, 100 and 1 000 <p>Number range for calculations</p> <ul style="list-style-type: none"> Addition and subtraction of whole numbers with at least 5-digit and 6-digit numbers <p>Calculation techniques</p> <ul style="list-style-type: none"> Using a range of techniques to perform and check written and mental calculations with whole numbers including: <ul style="list-style-type: none"> estimation adding, subtracting in columns building up and breaking down numbers rounding off and compensating using a number line using addition and subtraction as inverse operations using a calculator <p>Addition and subtraction</p> <p>Properties of whole numbers</p> <ul style="list-style-type: none"> Recognize and use the commutative, associative, distributive properties of whole numbers 0 in terms of its additive property <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems involving whole numbers and decimal fractions, including: <ul style="list-style-type: none"> financial contexts measurement contexts 	<p>Week 2</p> <p>Unit 1.1: Whole numbers: Counting, ordering, comparing, representing and place value</p> <p>Unit 2.1: Whole numbers: Counting, ordering, comparing, representing and place value (9-digit numbers)</p> <p>Weeks 3–4</p> <p>Unit 1.3: Whole numbers: Addition and subtraction (5-digit numbers)</p>	<p>1–2 54</p> <p>4–5 45</p> <p>6–12</p> <p>8–11</p>			

			Weeks 5–7	55–59	46–48
<p>Multiplication</p> <p>Number range for calculations</p> <ul style="list-style-type: none"> Multiplication of at least whole 4-digit by 3-digit numbers Multiple operations on whole numbers with or without brackets <p>Calculation techniques include</p> <ul style="list-style-type: none"> Using a range of techniques to perform and check written and mental calculations with whole numbers including: <ul style="list-style-type: none"> estimation multiplying in columns building up and breaking down numbers doubling and halving using multiplication and division as inverse operations using a calculator <p>Whole numbers</p>	<p>Number range for multiples and factors</p> <ul style="list-style-type: none"> Multiples of 2-digit and 3-digit numbers Factors of 2-digit and 3-digit whole numbers Prime factors of numbers to at least 100 <p>Properties of whole numbers</p> <ul style="list-style-type: none"> Recognize and use the commutative; associative; distributive properties of whole numbers 1 in terms of its multiplicative property <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems involving whole numbers and decimal fractions, including: <ul style="list-style-type: none"> financial contexts measurement contexts Solve problems involving whole numbers, including: <ul style="list-style-type: none"> comparing two or more quantities of the same kind (ratio) comparing two quantities of different kinds (rate) 	<p>Unit 2.2: Whole numbers: Multiplication (6-digit by 2-digit numbers)</p>			

MATHEMATICS Term 1

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 6	Unit	LB	TG
	<p>Division</p> <p>Number range for calculations</p> <ul style="list-style-type: none"> Division of at least whole 4-digit by 3-digit numbers Multiple operations on whole numbers with or without brackets <p>Calculation techniques</p> <ul style="list-style-type: none"> Using a range of techniques to perform and check written and mental calculations with whole numbers including: <ul style="list-style-type: none"> estimation between multiplication and division long division building up and breaking down numbers doubling and halving using multiplication and division as inverse operations using a calculator <p>Number range for multiples and factors</p> <ul style="list-style-type: none"> Multiples of 2-digit and 3-digit numbers Factors of 2-digit and 3-digit whole numbers Prime factors of numbers up to at least 100 <p>Properties of whole numbers</p> <ul style="list-style-type: none"> Recognize and use the commutative; associative; distributive properties of whole numbers 1 in terms of its multiplicative property <p>Solving problems</p> <ul style="list-style-type: none"> Solve problems involving whole numbers and decimal fractions, including: <ul style="list-style-type: none"> financial contexts measurement contexts Solve problems involving whole numbers, including: <ul style="list-style-type: none"> comparing two or more quantities of the same kind (ratio) comparing two quantities of different kinds (rate) grouping and equal sharing with remainders 	Weeks 7–9	Unit	73–80	58–61	

Number sentences	<ul style="list-style-type: none"> Write number sentences to describe problem situations Solve and complete number sentences by: <ul style="list-style-type: none"> inspection trial and improvement 	Weeks 1–2	Unit 1.2: Number sentences	3–5	6–7
	<p>Check solutions by substitution</p> <p>Investigate and extend patterns</p> <ul style="list-style-type: none"> Investigate and extend numeric patterns looking for relationships or rules of patterns: <ul style="list-style-type: none"> sequences involving a constant difference or ratio of learner's own creation represented in tables Describe observed relationships or rules in learner's own words 	Weeks 2–4		45–48	37–41

Numeric patterns	<p>Input and output values</p> <ul style="list-style-type: none"> Determine input values, output values and rules for the patterns and relationships using: <ul style="list-style-type: none"> flow diagrams tables 	Unit 1.8: Numeric patterns			
	<p>Equivalent forms</p> <ul style="list-style-type: none"> Determine equivalence of different descriptions of the same relationship or rule presented: <ul style="list-style-type: none"> verbally in a flow diagram by a number sentence 				

MATHEMATICS Term 2

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 6	Unit	LB	TG
	<p>Investigate and extend patterns</p> <ul style="list-style-type: none"> Investigate and extend numeric patterns looking for relationships or rules of patterns: <ul style="list-style-type: none"> represented in physical or diagram form sequences involving a constant difference or ratio of learner's own creation Describe observed relationships or rules in learner's own words <p>Input and output values</p> <ul style="list-style-type: none"> Determine input values, output values and rules for the patterns and relationships using: <ul style="list-style-type: none"> flow diagrams tables <p>Equivalent forms</p> <ul style="list-style-type: none"> Determine equivalence of different descriptions of the same relationship or rule presented: <ul style="list-style-type: none"> verbally in a flow diagram by a number sentence <p>Geometric patterns</p>	Weeks 4–5	Unit 2.4: Geometric patterns		65–70	52–56

			12–20
			13–22
			Weeks 5–7
Common fractions	<p>Calculations with fractions:</p> <ul style="list-style-type: none"> • Compare and order common fractions, including specifically tenths and hundredths • Addition and subtraction of common fractions in which one denominator is a multiple of another • Addition and subtraction of mixed numbers • Fractions of whole numbers <p>Solving problems</p> <ul style="list-style-type: none"> • Solve problems in contexts involving common fractions, including grouping and sharing <p>Percentages</p> <ul style="list-style-type: none"> • Find percentages of whole numbers 	Unit 1.4: Common fractions	
Decimal fractions	<p>Equivalent forms:</p> <ul style="list-style-type: none"> • Recognize and use equivalent forms of common fractions with 1-digit or 2-digit denominators (fractions in which one denominator is a multiple of another) • Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number <p>Recognizing, ordering and place value of decimal fractions</p> <ul style="list-style-type: none"> • Count forwards and backwards in decimal fractions to at least two decimal places • Compare and order decimal fractions to at least two decimal places • Place value of digits to at least two decimal places <p>Calculations with decimal fractions</p> <ul style="list-style-type: none"> • Addition and subtraction of decimal fractions of at least two decimal places • Multiply decimal fractions by 10 and 100 <p>Solving problems</p> <ul style="list-style-type: none"> • Solve problems in context involving decimal fractions <p>Equivalent forms:</p> <ul style="list-style-type: none"> • Recognize equivalence between common fraction and decimal fraction forms of the same number • Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number 	Weeks 8–9 Unit 2.7: Decimal fractions	81–90 62–73
Revision		Week 10	96 77

MATHEMATICS Term 3

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 6	Unit	LB	TG
Length	<p>Practical measuring</p> <ul style="list-style-type: none"> Estimate and practically measure 2D shapes and 3-D objects using measuring instruments such as: <ul style="list-style-type: none"> rulers metre sticks tape measures trundle wheels Record, compare and order lengths of shapes and objects in millimetres (mm), centimetres (cm), metres (m), kilometres (km) <p>Calculations and problem-solving</p> <ul style="list-style-type: none"> Solve problems in contexts involving length Convert between <ul style="list-style-type: none"> millimetres (mm), centimetres (cm), metres (m) and kilometres (km) to include fraction and decimal forms (to 2 decimal places) 	Weeks 1–2	Unit 3.11: Length	145–149	116–117	

Range of shapes	Weeks 2–4	Properties of 2D shapes	Unit 3.5: Properties of 2D shapes
<ul style="list-style-type: none"> Regular and irregular polygons <ul style="list-style-type: none"> triangles, squares, rectangles, parallelograms, other quadrilaterals, pentagons, hexagons, heptagons, octagons Similarities and differences between rectangles and parallelograms 			

Features of shapes

- Describe, sort and compare 2-D shapes in terms of
 - number of sides
 - length of sides
 - size of angles
 - acute
 - right
 - obtuse
 - straight
 - reflex
 - revolution

Further activities

- Draw 2-D shapes on grid paper
- Draw circles, patterns in circles and patterns with circles using a pair of compasses

Angles

- Recognize and name the following angles in 2-D shapes:
 - acute
 - right
 - obtuse
 - straight
 - reflex
 - revolution

MATHEMATICS Term 3

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 6	Unit	LB	TG
Transformations	<p>Describe patterns</p> <ul style="list-style-type: none"> Refer to lines, 2-D shapes, 3-D objects and/or lines of symmetry and/ or rotations and/or reflections and/or translations when describing patterns <ul style="list-style-type: none"> in nature from modern everyday life from our cultural heritage <p>Enlargement and reductions</p> <ul style="list-style-type: none"> Draw enlargement and reductions of 2-D shapes to compare size and shape of <ul style="list-style-type: none"> triangles quadrilaterals 	Weeks 4-5	Unit 3.6: Transformation		122-124	93
	<p>Range of objects</p> <ul style="list-style-type: none"> Recognize, visualize and name 3-D objects in the environment and geometric settings, focusing on: <ul style="list-style-type: none"> rectangular prisms cubes tetrahedrons pyramids similarities and differences between tetrahedrons and other pyramids <p>Properties of 3D objects</p> <ul style="list-style-type: none"> Describe, sort and compare 3-D objects in terms of: <ul style="list-style-type: none"> number and shape of faces number of vertices number of edges 	Week 6		164-168	131-133	
	<p>Characteristics of objects</p> <ul style="list-style-type: none"> Make 3-D models using: <ul style="list-style-type: none"> drinking straws, toothpicks etc. nets 		Unit 4.4: Properties of 3D objects			

	Perimeter	<ul style="list-style-type: none"> Measure perimeter using rulers or measuring tapes 	Weeks 7–8	169–175	134–136
	Measurement of area	<ul style="list-style-type: none"> Continue to find areas of regular and irregular shapes by counting squares on grids Develop rules for calculating the areas of squares and rectangles 		Unit 4.5: Perimeter, area and volume	
	Area, perimeter and volume	<p>Measurement of volume</p> <ul style="list-style-type: none"> Continue to find volume/capacity of objects by packing or filling them Develop an understanding of why the volume of rectangular prisms is given by length multiplied by width multiplied by height <p>Investigate:</p> <ul style="list-style-type: none"> Relationship between perimeter and area of rectangles and squares. Relationship between surface area and volume of rectangular prisms 		91–95	74–76
	Practical Measuring	<p>Practical Measuring</p> <ul style="list-style-type: none"> Estimate and practically measure 3-D objects using measuring instruments such as: <ul style="list-style-type: none"> measuring spoons measuring cups, measuring jugs Record, compare and order capacity and volume of 3D objects in millilitres (ml), litres (l) and kilolitres (kl) 	Week 9		
	Calculations and problem-solving	<p>Calculations and problem-solving</p> <ul style="list-style-type: none"> Solve problems in contexts involving capacity/volume Convert between kilolitres, litres and millilitres to include fraction and decimal forms (to 2 decimal places) 	Week 10	Unit 2.9: Revision Unit 3.12: Revision Unit 4.12: Revision	96 150 194 77 119 147
		<ul style="list-style-type: none"> Revision 			

MATHEMATICS Term 4

Topic	Content	Time allocation	Where to find it in Top Class Mathematics Grade 6	Unit	LB	TG
Mass	<p>Practical measuring</p> <ul style="list-style-type: none"> Estimate and practically measure 3-D objects using measuring instruments such as: <ul style="list-style-type: none"> bathroom scales (analogue and digital); kitchen scales (analogue and digital) balances Record, compare and order mass of objects in grams (g) and kilograms (kg). <p>Calculations and problem-solving</p> <ul style="list-style-type: none"> Solve problems in contexts involving mass Convert between grams and kilograms to include fraction and decimal forms (to 2 decimal places) 	Weeks 1–2			101–105	80–81
	<p>Reading time and time instruments</p> <ul style="list-style-type: none"> Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: <ul style="list-style-type: none"> hours minutes seconds Instruments include clocks, watches and stopwatches <p>Reading calendars</p> <p>Calculations and problem-solving related to time</p> <ul style="list-style-type: none"> Solve problems in contexts involving time Read time zone maps and calculating time differences based on time zones Calculation of time intervals where time is given in: <ul style="list-style-type: none"> seconds and/or minutes; minutes and/or hours hours and /or days days and/or weeks and/or months years and/or decades centuries, decades and years 	Weeks 2–3		23–26	21–22	
Time						Unit 1.5: Time

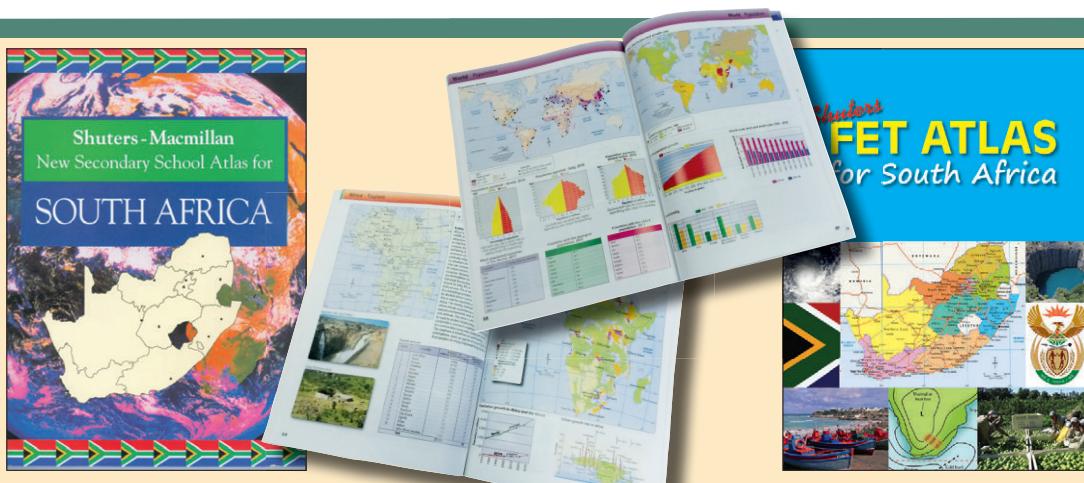
	Collecting and organising data Collect data <ul style="list-style-type: none">• Use tally marks and tables for recording• Use simple questionnaires (yes/no type response)• Order data from smallest group to largest group NB. Provide learners with data to save time.	Weeks 4–5	35–44 131–139	35–44 101–109
Data handling	Representing data <ul style="list-style-type: none">• Draw a variety of graphs to display and interpret data including:<ul style="list-style-type: none">– pictographs with many-to-one representations– bar graphs and double bar graphs Analysing, interpreting and reporting data <ul style="list-style-type: none">• Critically read and interpret data represented in:<ul style="list-style-type: none">– words– pictographs– bar graphs– double bar graphs– pie charts• Analyse data by answering questions related to:<ul style="list-style-type: none">– data categories, including data intervals– data sources and contexts– central tendencies – (mode and median)• Summarise data verbally and in short written paragraphs that include<ul style="list-style-type: none">– drawing conclusions about the data– making predictions based on the data	Unit 1.7: Data handling Unit 3.9: Data handling	184–186	142–143
	Solving problems <ul style="list-style-type: none">• Solve problems in contexts involving whole numbers and fractions, including:<ul style="list-style-type: none">• financial contexts– measurement contexts– fractions, including grouping and equal sharing– comparing two or more quantities of the same kind (ratio)– comparing two quantities of different kinds (rate)	Weeks 6–7	Unit 4.8: Number sentences	49 150 194
Revision		Week 8	Unit 1.9: Revision Unit 3.12: Revision Unit 4.12: Revision	42 119 147

PROGRAMME OF ASSESSMENT

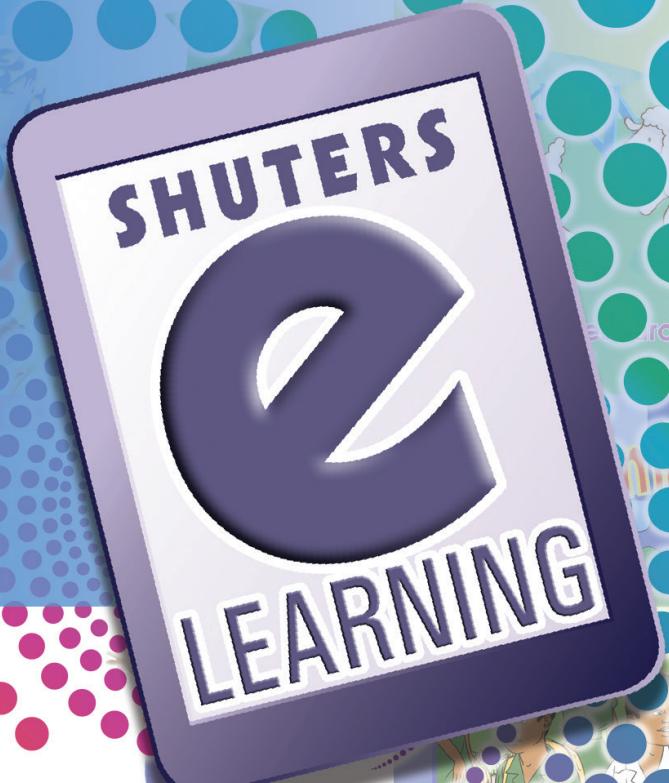
Grade 4		
Term	Assessment task	Page references
1	Assignment	TG page 210
	Test	TG page 218
2	Investigation	TG page 212
	Test	TG page 224
3	Test	TG page 230
4	Test	TG page 236

Grade 5		
Term	Assessment task	Page references
1	Assignment	TG page 206
	Test	TG page 214
2	Investigation	TG page 212
	Test	TG page 218
3	Test	TG page 224
4	Test	TG page 227

Grade 6		
Term	Assessment task	Page references
1	Assignment	TG page 221
	Test	TG page 229
2	Investigation	TG page 226
	Test	TG page 232
3	Test	TG page 235
4	Test	TG page 240



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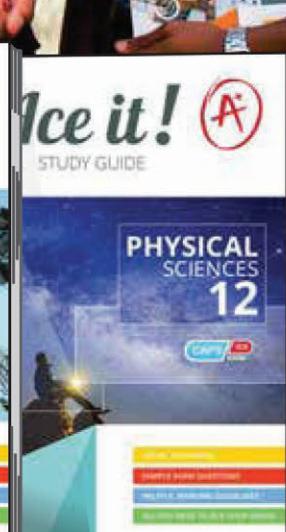
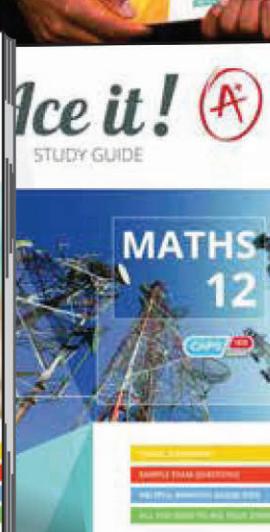
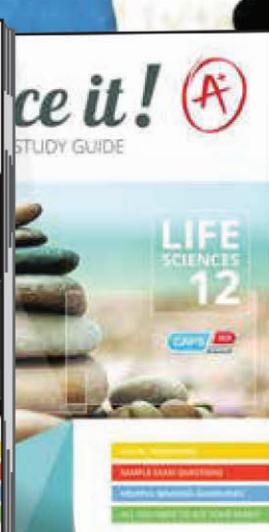
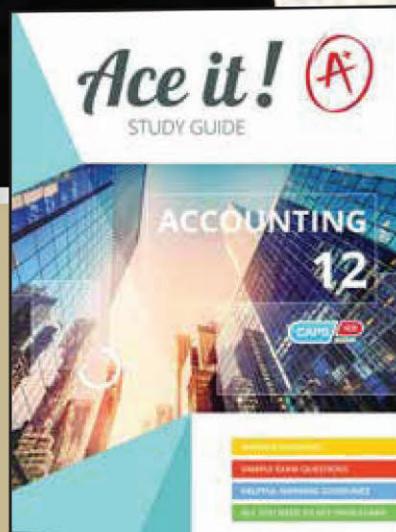
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