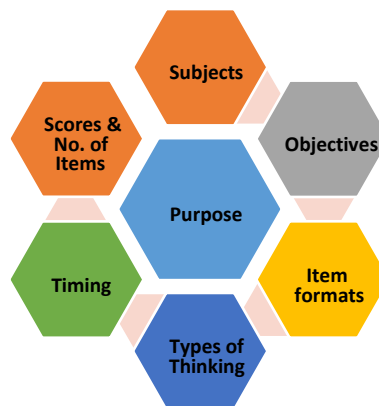




REPUBLIC OF TRINIDAD & TOBAGO  
MINISTRY OF EDUCATION

**REVISED ASSESSMENT FRAMEWORK**  
**FOR THE**  
**SECONDARY ENTRANCE ASSESSMENT**  
**2021 - 2023**



Ministry of Education  
Education Tower, A St Vincent Street, Port of Spain

September 2020

|  |    |
|--|----|
| Foreword.....  | 3  |
| Components of Secondary Entrance Assessment 2021-2023 .....                            | 4  |
| Revision to Time and Order of Papers .....   | 4  |
| English Language Arts (ELA) Writing Paper.....   | 5  |
| General Assessment Objectives for ELA Writing .....                                    | 5  |
| Revision to ELA Writing.....   | 5  |
| ELA - Spelling, Punctuation, Capitalisation, Grammar, and Reading Comprehension .....  | 6  |
| Spelling in context.....   | 6  |
| Revision to Spelling.....  | 7  |
| Capitalisation and Punctuation in context.....   | 7  |
| Revision to Capitalisation and Punctuation .....                                       | 7  |
| Grammar in context.....  | 7  |
| Revision to Grammar .....  | 8  |
| Assessment Objectives for the English Language Arts Paper: Reading Comprehension ..... | 8  |
| Reading Comprehension Thinking Processes .....   | 9  |
| Revision to Reading Comprehension.....   | 9  |
| Mathematics .....  | 10 |
| Distribution of Marks by Section .....   | 10 |
| Revision to Mathematics .....  | 11 |

## Foreword

The **Revised Assessment Framework for the Secondary Entrance Assessment (SEA) 2021-2023** specifies the *proposed* purpose, components, format and content of the SEA. The revised guidelines acknowledge the impact of the COVID-19 pandemic measures on the education system and propose several adjustments to the framework in terms of content and/or the number of test items. Briefly, these include:

1. Prior disclosure of the type of text that will be administered for the 2021<sup>1</sup> SEA English Language Arts Writing.
2. Reduction in the number of test items in the Reading Comprehension component of English Language Arts
3. Reduction in the number of test items in Mathematics
4. Adoption of the revised framework for the period 2021 – 2023

Some aspects of SEA are unchanged such as the:

1. The types of thinking skills that will be assessed for both Mathematics and English Language Arts
2. The time for administration of the SEA
3. The scoring of the examination scripts
4. Criteria for placement

The Assessment is based on the English Language Arts and Mathematics Curriculum Guides (2013). The specific English Language Arts skills to be assessed are English Language Arts Writing, Spelling, Grammar, Punctuation, Capitalisation and Reading Comprehension. In Mathematics, Number, Measurement, Geometry and Statistics are assessed.

**The main purpose of the Secondary Entrance Assessment is to facilitate the transition from primary to secondary school.** The Assessment Framework for SEA 2021 - 2023 is intended to assist teachers and all those involved in the preparation of students for secondary school. It is anticipated that the specifications for each paper will allow teachers to better assist students in understanding the format and requirements of the Secondary Entrance Assessment.

---

<sup>1</sup> **Note: This is for a specific time and will not be a normal feature of the SEA Administration**

It is hoped that through use of a student-centred approach to teaching, with a focus on the development of a range of skills at different levels of thinking, our students will be better prepared for the opportunities available at the secondary level and life in general.

## Components of Secondary Entrance Assessment 2021-2023

The SEA is a public examination that facilitates placement of students in secondary schools in Trinidad and Tobago based on the following criteria:

- Parents' choices
- Students' performance by order of merit
- Principals' 20% selection (Denominational schools)
- Gender
- Residence
- Multiple births

The Secondary Entrance Assessment comprises three papers that all candidates must attempt:

1. English Language Arts Writing
2. Mathematics
3. English Language Arts (Spelling, Punctuation, Capitalisation, Grammar, and Reading Comprehension)

The duration of each paper is indicated in Table 1.

Table 1: Duration of SEA Papers

| <b>Paper</b>                  | <b>Time Allotment</b>     |
|-------------------------------|---------------------------|
| English Language Arts Writing | Fifty (50) minutes        |
| Mathematics                   | Seventy-five (75) minutes |
| English Language Arts         | Seventy-five (75) minutes |

Revision to Time and Order of Papers

**No revision to the time and order of administration**

## English Language Arts (ELA) Writing Paper

The English Language Arts Writing paper will contain three items assigned in any one year:

Either (i) Three (3) narrative items

Or (ii) Three (3) expository items

Students will be asked to respond to one item which will be scored by two persons. Each response will be *holistically* scored based on the following criteria:

- Content
- Language Use
- Grammar and Mechanics
- Organisation

### General Assessment Objectives for ELA Writing

Students will:

- Demonstrate knowledge of narrative and expository writing
- Write stories and simple reports (expository)
- Use descriptive language and sensory details appropriate to stories
- Use figurative language appropriate to stories
- Use factual details appropriate to reports
- Use formal language and tone appropriate to reports
- Express written ideas clearly and coherently
- Generate a variety of sentence types
- Demonstrate accurate use of grammar, spelling and mechanics
- Demonstrate effective organisation of ideas

### Revision to ELA Writing

**Narrative Writing will be explicitly declared as the type of writing to be assessed in 2021.**

**This and subsequent types will be indicated via memorandum to schools.**

## ELA - Spelling, Punctuation, Capitalisation, Grammar, and Reading Comprehension

The English Language Arts assessment will comprise Spelling, Punctuation, Capitalisation Grammar, and Reading Comprehension. The assessment objectives are taken from Standards Three, Four and Five as specified in the National Primary School Curriculum (2013). This is built on the understanding that many of the foundation skills developed during Infant and Junior school act as building blocks.

The English Language Arts paper is designed to assess spelling, punctuation, capitalisation and grammar in context. This means that discrete sentences will be replaced by short continuous text to which students will be required to respond. The reading comprehension section will assess different levels of thinking. Passages will be complemented by simple visuals designed to reflect authentic reading material. Additionally, prose material, introduced for the first time, will be alternated with the other type of texts. Vocabulary will be assessed in context; that is, in the Reading Comprehension component of Section II.

### Spelling in context

Apply spelling rules when writing.

Discover and correct misspelt words

- plural forms in which ‘y’ is changed to ‘i’ and ‘f’ to ‘v’ before adding an “es” ending
- words that double the final consonant before adding endings
- words that drop the final ‘e’ before an ending
- ‘ie’ and ‘ei’ words
- words with hard and soft ‘c’ and ‘g’
- words with silent letters
- convert compound words into plural forms
- when a word ends in a silent ‘-e’, drop the ‘-e’ before adding -ing
- for action words that end in ‘-ie’, change the ‘-ie’ to a ‘-y’ before adding ‘ing’
- when the suffix -full is added to the end of a base word, drop one ‘-l’

- double the last letter of words ending in a short vowel followed by a single consonant before adding a ‘-y’ e.g. bag - baggy
- add a ‘-y’ to words ending with two consonants to form describing words e.g. dirt-dirty
- for words ending in a silent ‘-e’, drop the ‘-e’ before adding ‘-y’ e.g. ice-icy

### Revision to Spelling

**No revision to this section. The number of item (6) and the sub total score (12) are unchanged**

### Capitalisation and Punctuation in context

Use punctuation marks and capital letters correctly in writing

- use the colon and quotation marks for dialogue, titles and direct speech
- use the following punctuation marks in sentences: full stop, question mark, exclamation mark, apostrophe in contractions and possessives, quotation marks, colons and commas
- use capital letters in sentences for: first word in a quotation; title of books, chapters, poems; title of proper names; important words in headlines, subject heading
- edit capitalisation and punctuation in sentences

### Revision to Capitalisation and Punctuation

**No revision to this section. The number of item (6) and the sub total score (6) are unchanged**

### Grammar in context

Use parts of speech with correct verb tense and concord in writing

- ensure noun and pronoun concord
- ensure agreement of subject and verb and subject and pronoun

- use Nouns: common, proper, collective and abstract in sentences
- use Adjectives: comparative and superlative degree
- use Pronouns: Personal, Possessive, Reflexive and Relative Pronoun.
- use Adverbs: comparative and superlative forms
- use Prepositions in context
- use Conjunctions to combine ideas and sentences
- use verbal forms: simple present, past, future, present continuous tense, past perfect tense
- use the correct form of the verb in writing
- use regular and irregular verb forms
- choose verbs to agree with subjects in number
- ensure concord in sentences that contain parenthetical phrases
- recognize the function of prepositions, adverbs, adjectives, nouns, verbal forms and conjunctions in context

#### Revision to Grammar

**No revision to this section. The number of item (6) and the sub total score (12) are unchanged**

#### Assessment Objectives for the English Language Arts Paper: Reading Comprehension

The SEA English Language Arts assessment objectives are embedded in the Republic of Trinidad and Tobago Primary School Curriculum - English Language Arts (2013).

Educators are directed to the English Language Arts programmes for Standards Three, Four and Five. Based on the comprehension purposes and levels, the SEA will assess students' ability to understand the following:

- Non-fiction text or fiction text
- Poetry
- Graphic text

It should be noted that “all texts are not equal and can vary with regard to length, syntactic complexity, abstractness of ideas, and organizational structure” (Mullis, Martin, Sainsbury, 2016, p. 18). However, all passages will be selected based on the appropriate readability levels.



## Reading Comprehension Thinking Processes

The SEA will assess three types of reading comprehension thinking processes within each of the three texts, these are:

- Literal
- Inferential
- Evaluation and appreciation

Table 2 displays the Reading Comprehension and the percent associated with each type of text and thinking processes. **All the objectives as contained in the Assessment Framework for the Secondary Entrance Assessment 2019-2023 are valid for the Revised Framework.**

Table 2: Reading Comprehension Processes by Text and Thinking Processes

| Type of Text        | No. of Items | Thinking Processes |                |                             | Total Marks |
|---------------------|--------------|--------------------|----------------|-----------------------------|-------------|
|                     |              | Literal            | Inferential    | Evaluation/<br>Appreciation |             |
| Fiction/Non-Fiction | <b>7</b>     | <b>2</b>           | <b>3</b>       | <b>2</b>                    | 13          |
| Poetry              | <b>7</b>     | <b>2</b>           | <b>3</b>       | <b>2</b>                    | 13          |
| Graphic             | <b>4</b>     | <b>1</b>           | <b>2</b>       | <b>1</b>                    | 8           |
| <b>Total</b>        | <b>18</b>    | <b>5 (28%)</b>     | <b>8 (44%)</b> | <b>5 (28%)</b>              | 34          |

## Revision to Reading Comprehension

**There is a reduction in the number of test items in each text type:**

Fiction/Non-Fiction: from 10 to 7 test items

Poetry: from 10 to 7

Graphic: from 5 to 4

**There are alterations in the thinking processes and the marks/scores as a consequence of the reduction in the items.**

## Mathematics

The **Mathematics paper consists of 40 items** and encompasses the four strands of the syllabus.

- Number
- Measurement
- Geometry
- Statistics

The SEA will assess three types of thinking processes within each of the four strands. These processes – knowing, applying and reasoning – have incorporated those currently used in the Republic of Trinidad and Tobago Primary School Curriculum- Mathematics (2013) and are in conformity with international best practices (Grønmo, Lindquist, Arora, & Mullis, 2015).

### Distribution of Marks by Section

The paper is divided into three sections as displayed in Table 3. Details in terms of the allocation of marks and items by strands and thinking processes are identified at Tables 3a. **Section I remains unchanged in terms of the number of items and the score for each. Section II comprises 16 items; some are worth 2 marks and others 3 marks. Section III contains 4 items; each is worth 4 marks.**

**Table 3.:** Distribution of Mathematics Items and Marks by Section

| Section     | No. of Items | Marks per Item |
|-------------|--------------|----------------|
| Section I   | 20           | 1              |
| Section II  | 16           | 2 or 3         |
| Section III | 4            | 4              |

**Table 3a.:** Number of Items by Strands

| Strands      | Knowing         | Applying        | Reasoning      | Total Marks |
|--------------|-----------------|-----------------|----------------|-------------|
| Number       | 9               | 6               | 4              | 34          |
| Measurement  | 3               | 4               | 2              | 18          |
| Geometry     | 3               | 2               | 1              | 11          |
| Statistics   | 3               | 2               | 1              | 12          |
| <b>Total</b> | <b>18 (45%)</b> | <b>14 (35%)</b> | <b>8 (20%)</b> | <b>75</b>   |

## Revision to Mathematics

**Reduction in the number of test items:**

Section II: from 20 items to 16

Section III: from 5 item to 4

**There are alterations in the thinking processes and the marks/scores because of the reduction in the items. Several objectives have been removed (14), whereas others have been reduced (3) as indicated in the table pertaining to the objectives and thinking processes listed below for the four strands in Mathematics.**

**NUMBER STRAND****Objectives and Thinking Processes**

| Objectives   | Processes | Revision |
|--|-----------|----------|
| <b>Whole Numbers</b>   |           |          |
| 1. <b>Represent any number up to one million using numerals or word names.</b>                                 | Knowing   | None     |
| 2. <b>Represent whole numbers to 1 000 000 using multiple models and connect to numerals and number names.</b> | Knowing   | None     |
| 3. <b>Represent a number up to one million concretely, pictorially, symbolically.</b>                          | Applying  | None     |
| 4. <b>State the value or place value of a digit in any whole number up to one million.</b>                     | Knowing   | None     |
| 5. <b>Express a whole number up to one million using expanded notation.</b>                                    | Knowing   | None     |
| 6. <b>Write the numeral represented by a given expanded notation.</b>  | Knowing   | None     |
| 7. <b>Order whole numbers to one million.</b>  | Knowing   | None     |
| 8. <b>Compare whole numbers to one million</b>   | Knowing   | None     |

| Objectives  | Processes | Revision |
|---|-----------|----------|
| 9. <b>Round whole numbers to the nearest thousand.</b>  | Knowing   | None     |
| 10. <b>Solve problems in addition (sum less than 10 000) and subtraction (minuend less than 10 000)</b>             | Applying  | None     |
| 11. <b>Multiply two, three and four digit numbers by one or two-digit multipliers.</b>                              | Knowing   | None     |
| 12. <b>Divide two, three and four digit numbers by one or two digit divisors with and without remainder.</b>        | Knowing   | None     |
| 13. <b>Use estimation strategies in problem solving contexts with whole numbers.</b>                                | Reasoning | None     |
| 14. <b>Use estimation skills to check solutions to problems and determine reasonableness of answer.</b>             | Reasoning | None     |
| 15. <b>Solve one-step word problems involving any one of the four basic operations on whole numbers.</b>            | Applying  | None     |
| 16. <b>Solve multi-step words problems involving any combination of the four basic operations on whole numbers.</b> | Reasoning | None     |
| 17. <b>Explain or demonstrate how an answer was obtained when solving problems.</b>                                 | Reasoning | None     |
| 18. <b>Calculate the square of a number.</b>  | Knowing   | None     |
| 19. <b>Differentiate between factors and multiples and prime and composite numbers and identify square numbers.</b> | Applying  | None     |
| 20. <b>Calculate the square root of a perfect square.</b>   | Knowing   | None     |
| 21. <b>List square numbers up to 144.</b>   | Knowing   | None     |
| 22. <b>Explore patterns involving square numbers up to 144.</b>   | Reasoning | None     |
| 23. <b>Explore patterns involving square roots up to 12.</b>  | Reasoning | None     |
| 24. <b>Solve problems involving the use of number patterns.</b>   | Reasoning | None     |
| 25. <b>Explore repeating, increasing and decreasing patterns.</b>   | Reasoning | None     |
| 26. <b>Calculate the unknown in number sentences involving the four operations and explain procedures used.</b>     | Applying  | None     |

| Objectives  | Processes | Revision |
|---|-----------|----------|
| 27. <b>Interpret the remainder in relation to the context of word problems.</b>   | Reasoning | None     |
| 28. <b>Explain why a remainder is obtained for some division problems.</b>  | Reasoning | None     |
| 29. <b>Identify the missing numbers in an ordered sequence or on a number line.</b>   | Reasoning | None     |
| 30. <b>Use a pattern rule to determine missing elements for a given pattern and to extend or predict subsequent elements in patterns.</b> | Reasoning | None     |
| <b>Fractions</b>  |           | None     |
| 31. <b>Represent a fraction using pictorial and symbolic representations.</b>   | Applying  | None     |
| 32. <b>Generate equivalent fractions using a variety of models.</b>   | Applying  | None     |
| 33. <b>Order proper fractions with unlike denominators using equivalent forms.</b>  | Reasoning | None     |
| 34. <b>Demonstrate an understanding of proper fractions, improper fractions and mixed numbers.</b>  | Reasoning | None     |
| 35. <b>Express improper fractions as mixed numbers.</b>   | Knowing   | None     |
| 36. <b>Express mixed numbers as improper fractions.</b>   | Knowing   | None     |
| 37. <b>Add and subtract fractions involving same denominator.</b>   | Knowing   | None     |
| 38. <b>Add and subtract fractions involving one denominator as a multiple of the other.</b>   | Knowing   | None     |
| 39. <b>Subtract a fraction from a whole number.</b>   | Applying  | None     |
| 40. <b>Add a fraction to a whole number.</b>  | Applying  | None     |
| 41. <b>Subtract two fractions (including whole/mixed numbers).</b>  | Applying  | None     |
| 42. <b>Calculate fractions of a collection or set.</b>  | Knowing   | None     |
| 43. <b>Express one quantity as a fraction of another.</b>   | Knowing   | None     |
| 44. <b>Calculate the whole given a part as a unit fraction.</b>   | Knowing   | None     |
| 45. <b>Solve problems involving the multiplication of a fraction by a whole number.</b>   | Applying  | None     |

| Objectives   | Processes | Revision |
|--|-----------|----------|
| <del>46. Solve problems involving the multiplication of a fraction by a fraction</del>     | Applying  | Removed  |
| <del>47. Solve problems involving the multiplication of a fraction by mixed numbers.</del> | Applying  | Removed  |
| 48. Divide a whole number by a fraction.   | Applying  | None     |
| 49. Divide a fraction by a whole number.   | Applying  | None     |
| <del>50. Divide a fraction by a fraction.</del>  | Applying  | Removed  |
| 51. Multiply fractions by whole numbers.   | Applying  | None     |
| 52. Solve one-step problems involving fractions.   | Applying  | None     |
| 53. Solve multi-step problems involving fractions.   | Reasoning | None     |
| 54. Solve real-life problems involving fractions and using the algorithms developed.       | Reasoning | None     |
| Decimals   |           |          |
| 55. State the place value of digits in decimal fractions up to hundredths.                 | Knowing   | None     |
| 56. Explore the place value of decimals to hundredths including expanded notation.         | Applying  | None     |
| 57. State the value of digits in decimal fractions up to hundredths.                       | Knowing   | None     |
| 58. Compare and order decimals up to hundredths.   | Applying  | None     |
| 59. Express decimal fractions using expanded notation.                                     | Knowing   | None     |
| 60. Convert expanded notation to decimal fractions.  | Knowing   | None     |
| 61. Arrange decimal fractions in ascending and descending order (up to hundredths).        | Knowing   | None     |
| 62. Round decimals to the nearest whole number and tenths.                                 | Knowing   | None     |
| 63. Solve problems involving the addition and subtraction of decimals including money.     | Reasoning | None     |
| 64. Solve problems involving the multiplication of a decimal by a whole number.            | Applying  | None     |
| <del>65. Solve problems involving the multiplication of tenths by tenths.</del>            | Applying  | Removed  |
| 66. Relate decimals to fractions and money.  | Applying  | None     |

| Objectives   | Processes | Revision |
|--|-----------|----------|
| 67. <b>Solve problems involving the division of a decimal fraction by a whole number (dividend up to 2 decimal places).</b>  | Reasoning | None     |
| 68. <b>Use a number of strategies to solve routine and non-routine problems involving decimals.</b>  | Reasoning | None     |
| 69. <b>Express decimals as common fractions.</b>   | Knowing   | None     |
| 70. <b>Use decimal notation as another form of writing base ten fractions (tenths, hundredths).</b>  | Knowing   | None     |
| 71. <b>Solve real-world problems involving the addition and subtraction of decimals to hundredths using the algorithm.</b>   | Reasoning | None     |
| Per cent   |           |          |
| 72. <b>Calculate simple per cent of quantities e.g. 10% of \$200 = 1/10 of \$200 = \$20.</b>   | Knowing   | None     |
| 73. <b>Express percentages (e.g. 50%, 25%, 20% and 10%) as fractions (e.g. <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{1}{10}</math>).</b>   | Knowing   | None     |
| 74. <b>Express percentages (e.g. 50%, 25%, 20% and 10%) as decimals (e.g. 0.5, 0.25, 0.2 and 0.1).</b>   | Knowing   | None     |
| 75. <b>Order fractions, decimals and percentages.</b>  | Applying  | None     |
| 76. <b>Express quantities as percentages of other quantities.</b>  | Applying  | None     |
| 77. <b>Solve one – step problems involving percentages (no gain and loss per cent, no calculation of whole quantities given parts expressed as percent and no calculations of part of quantities given another part expressed as a per cent).</b>    | Applying  | None     |
| 78. <b>Solve multi – step problems involving percentages (no gain and loss per cent, no calculation of whole quantities given parts expressed as per cent and no calculations of part of quantities given another part expressed as a per cent).</b> | Reasoning | None     |
| 79. <b>Identify coins, bills, their value and the value of a set of coins/bills (up to 100 cents and \$100).</b>   | Knowing   | None     |
| 80. <b>Determine the possible combinations of coins/bills, which are equal to given amounts (up to 100 cents and \$100).</b>   | Reasoning | None     |
| 81. <b>Record money values using decimals.</b>   | Knowing   | None     |
| 82. <b>Calculate total cost and the change in money transactions.</b>  | Applying  | None     |
| 83. <b>Solve real-life, one-step problems involving whole numbers, (including profit and loss, best buy, discount, savings, salaries, wages, loans, simple interest, VAT).</b>   | Applying  | Reduced  |

| Objectives  | Processes | Revision |
|---|-----------|----------|
| 84. <b>Solve real-life, multi-step problems involving whole numbers, (including profit and loss, best buy, discount, <del>savings, salaries, wages, loans, simple interest, VAT</del>).</b> | Reasoning | Reduced  |
| 85. <b>Solve problems involving direct proportions.</b>   | Reasoning | None     |
| 86. <b>Solve problems involving unequal sharing (not including the use of ratio).</b>   | Reasoning | None     |

## MEASUREMENT STRAND

### Objectives and Thinking Processes

| Objective  | Processes | Revision |
|--|-----------|----------|
| <b>Linear Measure</b>  |           |          |
| 87. <b>Select and use the most appropriate standard unit for measuring various lengths/distances.</b>                    | Knowing   | None     |
| 88. <b>Convert linear measure from one form to the other (millimetres, centimetres, metres, kilometres).</b>             | Knowing   | None     |
| 89. <b>Apply decimal knowledge to record measurements. e.g. 123cm = 1.23m</b>  | Applying  | None     |
| 90. <b>Solve computational problems involving the metre and the centimetre by using the relationship between them.</b>   | Reasoning | None     |
| 91. <b>Write and explain the formulae for finding the perimeter of any given rectangle and square.</b>                   | Reasoning | None     |
| 92. <b>Calculate and compare perimeters of squares and rectangles.</b>   | Applying  | None     |
| 93. <b>Construct or draw two or more rectangles for a given perimeter in a problem-solving context.</b>                  | Reasoning | None     |
| <del>94. <b>Find the perimeters of simple composite figures that may be dissected into rectangles and squares.</b></del> | Applying  | Removed  |
| 95. <b>Solve problems in real-life contexts involving perimeter.</b>   | Reasoning | None     |
| 96. <b>Solve problems involving length.</b>  | Reasoning | None     |
| <del>97. <b>Solve problems involving perimeter of compound shapes.</b></del>   | Reasoning | Removed  |



| Objective   | Processes | Revision |
|---|-----------|----------|
| <b>Area</b>   |           |          |
| 98. <b>Select the appropriate unit of measure when measuring surfaces of varying sizes and explain the suitability of the unit.</b>                                     | Knowing   | None     |
| 99. <b>Write and explain the formula for finding the area of squares and rectangles.</b>  | Reasoning | None     |
| 100. <b>Compare and order area of surfaces and explain reasoning using appropriate vocabulary.</b>  | Reasoning | None     |
| 101. <b>Approximate the area of surfaces to the nearest square metre or square centimetre</b>   | Reasoning | None     |
| 102. <b>Estimate and verify the area of shapes using square metres and centimetres, and determine reasonableness of answer.</b>   | Reasoning | None     |
| <del>103. <b>Develop and use formula to calculate the area of squares and rectangles.</b></del>   | Reasoning | Removed  |
| 104. <b>Draw different shapes of a given area on grids.</b>   | Reasoning | None     |
| 105. <b>Calculate area of shapes drawn on a grid with unit squares.</b>   | Applying  | None     |
| <del>106. <b>Calculate the areas of compound shapes that may be dissected into rectangles and squares.</b></del>  | Applying  | Removed  |
| 107. <b>Solve problems involving area and perimeter of plane shapes</b>   | Reasoning | None     |
| 108. <b>Solve problems in real-life contexts involving area.</b>  | Reasoning | None     |
| <b>Volume and Capacity</b>  |           |          |
| 109. <b>State the relationship between the litre and millilitre and convert from one to the other.</b>  | Knowing   | None     |
| <del>110. <b>Identify the cubic centimetre and cubic metre (<math>\text{cm}^3</math> and <math>\text{m}^3</math>) as the standard units for measuring volume.</b></del> | Knowing   | Removed  |
| 111. <b>Measure the volume of boxes by stacking and packing cubic blocks into them and counting to determine the volume.</b>  | Reasoning | None     |

|  |           |          |
|--|-----------|----------|
| Objective  | Processes | Revision |
| <del>112. Calculate the volume of cubes and cuboids.</del>   | Applying  | Removed  |
| <del>113. State the relationship between the metric units of volume and capacity — (e. g. 1L = 1000 cm<sup>3</sup>).</del>                         | Knowing   | Removed  |
| 114. Solve problems involving capacity, number and money.  | Reasoning | None     |
| <del>115. Solve problems involving volume/capacity.</del>  | Reasoning | Removed  |
| <b>Mass</b>  |           |          |
| 116. Measure and compare the masses/weights of objects in kilograms and grams using a set of scales.   | Knowing   | None     |
| 117. Convert kilograms to grams and vice versa.  | Knowing   | None     |
| 118. State the relationship between the kilogram and gram  | Knowing   | None     |
| 119. Determine the most appropriate standard unit for measuring mass/weight.   | Knowing   | None     |
| <del>120. Calculate unknown mass/weight on a balance (including the use of algebraic reasoning).</del>   | Reasoning | Removed  |
| 121. Solve problems involving different units of mass/weight (e.g. Find the total mass/weight of three items weighing 50g, 750g and 2.5kg).        | Reasoning | None     |
| 122. Solve computational and real-life problems involving grams and kilograms  | Reasoning | None     |
| 123. Solve real-life problems involving mass/weight, number and money.   | Reasoning | None     |
| <b>Time</b>  |           |          |
| 124. Tell time in five minute intervals using the digital and analog clocks.   | Knowing   | None     |
| 125. State the time after given intervals on analog and digital clocks.  | Knowing   | None     |
| 126. Match times shown on standard digital clocks, <del>24-hour digital</del> digital clocks and analog clocks to the minute, and record the time. | Knowing   | Reduced  |

| Objective   | Processes | Revision |
|---|-----------|----------|
| 127. <b>Calculate the duration of events using starting and finishing times (elapsed time).</b>                 | Applying  | None     |
| 128. <b>Convert minutes to hours.</b>   | Knowing   | None     |
| 129. <b>Convert hours to minutes.</b>   | Knowing   | None     |
| 130. <b>Interpret simple time schedules (e.g. the calendar).</b>  | Knowing   | None     |
| 131. <b>Solve computational and real-life problems involving hours and minutes.</b>                             | Reasoning | None     |
| <del>132. <b>Solve problems involving time and other related concepts (using proportional reasoning).</b></del> | Reasoning | Removed  |

## GEOMETRY STRAND

### Objectives and Thinking Processes

| Objective  | Processes | Revision |
|--|-----------|----------|
| <b>Solids and Plane Shapes</b>   |           |          |
| 133. <b>Recognize solids from pictorial representations.</b>   | Knowing   | None     |
| 134. <b>Draw the faces of solids and explore their properties.</b>   | Applying  | None     |
| 135. <b>Describe the properties of solids in relation to number and types of faces, edges and vertices.</b>  | Knowing   | None     |
| 136. <b>Name the solids with uniform cross-sections.</b>   | Knowing   | None     |
| 137. <b>Solve problems involving solids.</b>   | Reasoning | None     |
| 138. <b>Recognize plane shapes from pictorial representations.</b>   | Knowing   | None     |
| 139. <b>Investigate the properties of solids by examining their cross-sections, base, height and angles.</b>   | Applying  | None     |
| 140. <b>Solve problems involving plane shapes.</b>   | Applying  | None     |
| 141. <b>Construct and draw regular and irregular polygons given their properties using the principles of parallel and perpendicular lines, angles and number of sides.</b>               | Applying  | None     |
| 142. <b>Differentiate between regular and irregular polygons (triangles, quadrilaterals, pentagons, hexagons, octagons).</b>   | Knowing   | None     |
| 143. <b>Describe the properties of specific quadrilaterals (rectangle, square, trapezium, parallelogram and rhombus)</b>   | Knowing   | None     |
| 144. <b>Describe a given pattern (repeating, increasing or decreasing)</b>   | Applying  | None     |
| 145. <b>Determine the pattern rule and extend the pattern using concrete materials or pictorial representation.</b>  | Applying  | None     |
| 146. <b>Classify and compare quadrilaterals according to their attributes (no. of sides and angles, no. of equal sides, no. of pairs of parallel sides, no. of perpendicular sides).</b> | Applying  | None     |
| 147. <b>Classify triangles (same, similar or different) based on properties of sides and angles.</b>   | Applying  | None     |
| 148. <b>Identify and name triangles as scalene, right angled, isosceles and equilateral.</b>   | Knowing   | None     |
| 149. <b>Compare and describe the properties of the sides and angles of the scalene, right angled, isosceles and equilateral triangles.</b>   | Applying  | None     |

| Objective   | Processes | Revision |
|---|-----------|----------|
| <b>150. Create repeating, increasing and decreasing patterns using solids or plane shapes (concrete and pictorial) and explain the pattern rule.</b>    | Reasoning | None     |
| <b>151. Insert the missing elements in given patterns (concrete or pictorial) and explain the reasoning.</b>  | Reasoning | None     |
| <b>Symmetry</b>   |           |          |
| <b>152. Determine whether plane shapes, letters and numerals are symmetrical.</b>   | Knowing   | None     |
| <b>153. Complete a symmetrical shape given half of the shape and a line of symmetry.</b>  | Applying  | None     |
| <b>154. Determine the number of lines of symmetry in plane shapes – (regular, irregular and curved) and in numerals and letters.</b>                    | Applying  | None     |
| <b>155. Create symmetrical shapes</b>   | Reasoning | None     |
| <b>156. Solve problems involving line symmetry.</b>   | Reasoning | None     |
| <b>Angles</b>   |           |          |
| <b>157. Describe an amount of turn (e.g. whole turn, three quarter turn, half turn or quarter turn).</b>  | Applying  | None     |
| <b>158. Recognize an angle as an amount of turn.</b>  | Knowing   | None     |
| <b>159. Identify angles on faces of solids or plane shapes that are right angles, greater than right angles or smaller than right angles.</b>           | Knowing   | None     |
| <b>160. Investigate angles (right angles, angles greater than and smaller than right angles) in regular and irregular polygons and faces of solids.</b> | Applying  | None     |
| <b>161. Describe an angle as a measure of turn and name the quarter turn as a right angle or the angle formed when perpendicular lines meet</b>         | Knowing   | None     |
| <b>162. Draw shapes with angles of various sizes and describe the angles.</b>   | Reasoning | None     |

## STATISTICS STRAND

### Objectives and Thinking Processes

| Objective  | Processes | Revision |
|--|-----------|----------|
| <b>163. Represent data using tally charts, frequency tables and graphs (pictographs, block graphs, bar graphs) using various scale factors</b>                 | Applying  | None     |
| <b>164. Interpret the findings displayed in the tables, charts (including tally charts, no pie charts) and graphs (pictographs, block graphs, bar graphs).</b> | Reasoning | None     |

|  |           |      |
|--|-----------|------|
| <b>165. Compare the effectiveness of different representations of the same data.</b>                         | Reasoning | None |
| <b>166. Determine a suitable scale for data and record the scale in a key.</b>                               | Reasoning | None |
| <b>167. Use analysed data to solve problems, draw conclusions and make decisions.</b>                        | Reasoning | None |
| <b>168. Communicate findings and decisions made using appropriate vocabulary associated with statistics.</b> | Reasoning | None |
| <b>169. Determine the mode of a given set of data.</b>   | Knowing   | None |
| <b>170. Apply findings from analysis of data to solve problems.</b>  | Applying  | None |
| <b>171. Evaluate decisions made based on analysis of data represented in tables, charts and graphs.</b>      | Reasoning | None |
| <b>172. Calculate the mean of a given set of data.</b>   | Knowing   | None |
| <b>173. Solve problems involving mean/average.</b>   | Reasoning | None |