

## Correlation Chart: R-7 SACSA Mathematics Teaching Resource

### Knowledge, skills and understandings

|  | Core Skills<br>Mathematics 6 |                    | Mathematics<br>for Year 6<br>(second edition) |         |
|--|------------------------------|--------------------|---|---------|
|  | Chapter                      | Unit               | Chapter                                       | Unit    |
| <b>STRAND: Exploring, analysing and modelling data</b>   |                              |                    |   |         |
| <b>Data collection and representation</b>  |                              |                    |   |         |
| • conduct surveys to collect data  |                              |                    | 9   | A, B    |
| • utilise tally system   |                              |                    |   |         |
| • present data graphically, e.g., frequency table  | 9                            | 62                 | 9   | B       |
| • construct graphs on grid paper (e.g., pictographs, bar graphs, composite bar graphs, column graphs, line graphs)   | 9                            | 62, 63, 64, 65, 66 | 9   | C       |
| • construct tables and graphs using graphing software  | 9                            | 64                 | 9   | D       |
| • label graphs with titles, axes, key and scales   | 9                            | 62, 63, 64, 65, 66 | 9   | C       |
| • interpret graphs, including pie graphs, from various sources   | 9                            | 67                 | 9   | C, D, E |
| • calculate the mean (average) of a set of data  | 9                            | 68                 | 9   | F       |
| <b>Chance and probability</b>  |                              |                    |   |         |
| • describe the likelihood of events in everyday situations using appropriate everyday language (e.g., likely, unlikely, possible, probable, certain, impossible)   | 13                           | 93                 | 13  | A, B, C |
| • order the terms from impossible to certain   | 13                           | 93                 | 13  | C, D    |
| • describe the likelihood of events in everyday situations using appropriate mathematical terminology (e.g., 50:50 chance, 1 in 4 chance, no chance, equal chance) | 13                           | 95                 | 13  | C       |
| • utilise graphic organisers (e.g., tree diagrams) to develop lists of possible outcomes   | 13                           | 94                 | 13  | B       |
| • predict and record possible outcomes of an event   | 13                           | 94, 95             | 13  | B       |
| • use data to order chance events from least likely to most likely   | 13                           | 93, 94, 95         | 13  | C, D, E |
| • explain the differences between predicted results and actual results of an experiment (e.g., coin tossing)   | 13                           | 94                 | 13  | B       |
| • use samples to make predictions about a larger population from which the sample comes (e.g., coin tossing – predict the result from a sample of 100 tosses)      | 13                           | 94                 | 13  | B, E, F |
| <b>STRAND: Measurement</b>   |                              |                    |   |         |
| <b>Length, perimeter and area</b>  |                              |                    |   |         |
| • select and use the appropriate device and unit to measure lengths or distances   | 6                            | 39                 | 6   | A       |
| • measure and record lengths or distances, including kilometres  | 6                            | 39                 | 6   | A       |
| • convert between units of length (e.g., mm to cm, cm to m, m to km)   | 6                            | 40                 | 6   | B       |
| • calculate lengths or distances using decimals to three decimal places  | 6                            | 40                 | 6   | B       |
| • estimate length and perimeter with a reasonable degree of accuracy and confirm by measuring them accurately  | 6                            | 40, 41             | 6   | C, D, E |
| • compare perimeters of different shapes   | 6                            | 41                 | 6   | D       |
| • construct a square metre using a variety of lengths and widths   | 6                            | 44                 | 6   | F       |
| • understand and show that perimeter of shapes can be the same regardless of length of sides   | 6                            | 40, 41             | 6   | C, D, E |
| • estimate and record areas in square metres and square centimetres (cm <sup>2</sup> )   | 6                            | 42, 43, 44         | 6   | G, H, I |
| • explain that the area of squares and rectangles can be found by multiplying the length by the breadth: $A=L \times W$ or $A=L \times B$                          | 6                            | 43                 | 6   | I       |
| • calculate the area of irregular shapes composed of square and rectangular sections   | 6                            | 44                 | 6   | J       |
| • apply knowledge of length, perimeter and area through practical problem solving activities   | 6                            | 44                 | 6   | K       |

|   | Core Skills<br>Mathematics 6 |      | Mathematics<br>for Year 6<br>(second edition) |      |
|---|------------------------------|------|---|------|
|   | Chapter                      | Unit | Chapter                                       | Unit |
| <b>Volume and capacity</b>  |                              |      |   |      |
| • understand the concept of kilolitre (i.e., 1000 litres = 1 kilolitre)   | 6                            | 46   | 6   | M    |
| • use the abbreviation for millilitres (mL), litres (L) and kilolitres (kL)   | 6                            | 46   | 6   | M    |
| • construct 3-D objects using cubic centimetre blocks and measure volume by counting the number of blocks   | 6                            | 45   | 6   | L    |
| • use the abbreviations for cubic centimetres (cm <sup>3</sup> ) and cubic metres (m <sup>3</sup> )   | 6                            | 45   | 6   | L    |
| • estimate the volume of rectangular prisms using cubic centimetres   | 6                            | 45   | 6   | L    |
| • explain that the volume of rectangular prisms can be found by multiplying the length by the width by the height: $V=L \times W \times H$                                | 6                            | 45   | 6   | N    |
| • select and use the appropriate device and unit to measure capacity  | 6                            | 46   | 6   | M    |
| • calculate capacity using millilitres and litres to 3 decimal places   | 6                            | 46   | 6   | N    |
| <b>Mass</b>   |                              |      |   |      |
| • estimate the mass of familiar objects   | 8                            | 60   | 8   | F    |
| • select and use the appropriate device and unit to measure mass  | 8                            | 60   | 8   | F    |
| • compare the mass of different objects   | 8                            | 60   | 8   | F    |
| • use the abbreviations for milligrams (mg), grams (g), tonnes (t) and kilograms (kg)   | 8                            | 60   | 8   | F    |
| • convert between milligrams, kilograms, grams and tonnes to 3 decimal places   | 8                            | 60   | 8   | F    |
| • apply the knowledge of mass to practical problem solving situations   | 8                            | 60   | 8   | F    |
| <b>Time</b>   |                              |      |   |      |
| • use a stopwatch to accurately time events to hundredths of seconds  | 10                           | 74   | 10  | D    |
| • tell the time using analogue, 24-hour and digital clocks  | 10                           | 73   | 10  | D    |
| • convert between analogue, 24-hour and digital time  | 10                           | 73   | 10  | D    |
| • convert from one time unit to another (e.g., ‘How many seconds are there in one hour?’)   | 10                           | 71   | 10  | B, F |
| • calculate the duration of an event using starting and finishing times   | 10                           | 75   | 10  | B, F |
| • use a calendar as a planning tool   | 10                           | 72   | 10  | C    |
| • read a simple timetable   | 10                           | 75   | 10  | F    |
| • understand terminology such as AD, BC, CE, BCE  | 10                           | 70   | 10  | A    |
| • read and construct a timeline, including AD and BC  | 10                           | 70   | 10  | A    |
| <b>Temperature</b>  |                              |      |   |      |
| • determine and record temperature variations   | 10                           | 76   | 10  | H    |
| • estimate and read maximum and minimum temperatures  | 10                           | 76   | 10  | I    |
| • calculate and interpret average temperatures  | 10                           | 76   | 10  | I    |
| <b>STRAND: Number</b>   |                              |      |   |      |
| <b>Whole numbers</b>  |                              |      |   |      |
| • recognise the existence of different number systems (e.g., Greek, Roman, Hindu-Arabic)  | 1                            | 1    | 1   | A    |
| • provide examples of the use of number in everyday life  | 1                            | 4    | 1   | B, C |
| • read, write and record number to one million, using numerals and words  | 1                            | 2    | 1   | D    |
| • explain place value of digits in number to 1 000 000  | 1                            | 3    | 1   | H    |
| • write numbers to 1 000 000 in expanded form   | 1                            | 2    | 1   | D    |
| • round to the nearest 10, 100, 1000, 10 000 and 100 000  | 1                            | 4    | 1   | F    |
| • place numbers in descending and ascending order   | 1                            | 2    | 1   | D    |
| • compare numbers and use symbols (e.g., =, ≠, < and >)   | 1                            | 2    | 1   | D    |
| • explain mental strategies used to solve and subtraction problems  | 3                            | 13   | 3   | A, F |
| • choose appropriately between mental, written and calculator methods for addition and subtraction problems   | 3                            | 13   | 3   | A, C |
| • use rounding and a mental strategy to multiply a 2 digit number by a 2 digit number to obtain an approximate answer (e.g., $67 \times 53 \approx 70 \times 50 = 3500$ ) | 3                            | 15   | 3   | D    |
| • multiply a 2 digit number by a 2 digit number using the extended form (long multiplication)   | 3                            | 15   | 3   | D    |

|   | Core Skills<br>Mathematics 6 |        | Mathematics<br>for Year 6<br>(second edition) |            |
|---|------------------------------|--------|---|------------|
|   | Chapter                      | Unit   | Chapter                                       | Unit       |
| • divide a number with 3 or more digits by multiples of 10 (including remainders)   | 3                            | 16     | 3   | E          |
| • select and use appropriate operations to solve contextual word problems   | 3                            | 16     | 3   | F          |
| <b>Fractions, decimals, percentages, ratios and rates</b>   |                              |        |   |            |
| • provide examples of the use of decimals in everyday life  | 5                            | 30     | 5   | B, D       |
| • explain the place value of tenths, hundredths and thousandths   | 5                            | 32     | 5   | D          |
| • read and write decimals to thousandths, in both numerals and words  | 5                            | 32     | 5   | D          |
| • write decimals in expanded form (e.g., $1.25=1u+2t+5h$ or $1+0.2+0.05$ )  | 5                            | 32     | 5   | D          |
| • round to the nearest whole number, tenth or hundredth   | 5                            | 37     | 5   | P          |
| • compare and order decimals (descending and ascending)   | 5                            | 32     | 5   | D          |
| • use symbols (e.g., =, ≠, < and >) to compare decimals   | 5                            | 32     | 5   | D          |
| • add or subtract decimal numbers that have a different number of decimal places  | 5                            | 33     | 5   | F, G       |
| • multiply and divide tenths, hundredths and thousandths by a single digit to terminating numbers   | 5                            | 36     | 5   | L          |
| • multiply and divide decimal numbers, including money, by 10, 100 and 1000   | 5                            | 34     | 5   | H          |
| • multiply and divide decimal numbers, including money, by single digit numbers in everyday contexts (e.g., cost of 3 computer games at \$29.95 each, cost of 1 iceblock if a pack of 8 costs \$3.90)                         | 5                            | 36, 37 | 5   | L, M, N, O |
| • continue, create and describe patterns involving fractions (e.g., $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}, 1$ )  | 4                            | 23     | 4   | F          |
| • convert fractions to lowest terms   | 4                            | 24     | 4   | H          |
| • convert improper fractions to mixed numbers by division   | 4                            | 25     | 4   | I          |
| • convert mixed numbers to improper fractions   | 4                            | 25     | 4   | I          |
| • add and subtract simple fractions by changing one denominator (e.g., $\frac{2}{3} + \frac{1}{6}$ )  | 4                            | 26, 27 | 4   | J, K       |
| • demonstrate understanding of addition and subtraction of fractions through everyday problem solving (e.g., ‘I ate half a pie and my friend ate two-thirds of a pie. How many pies did we need? How much pie is left over?’) | 4                            | 27     | 4   | L          |
| • convert simple decimals to fractions (e.g., $0.125 = \frac{125}{1000} = \frac{1}{8}$ ; $0.25 = \frac{25}{100} = \frac{1}{4}$ )  | 5                            | 35     | 5   | J          |
| • convert fractions to decimals (e.g., $\frac{3}{4} = \frac{75}{100} = 0.75$ )  | 5                            | 35     | 5   | I          |
| • explain the use of percentages in everyday life   | 5                            | 35     | 5   | E, J       |
| • express everyday percentages as fractions and decimals (e.g., 10%, 20%, 25%, 50%, 75%, 100%)  | 5                            | 35     | 5   | K          |
| • express simple fractions and decimals as percentages (e.g., $50\% = \frac{50}{100} = \frac{1}{2}$ )   | 5                            | 35     | 5   | K          |

**STRAND: Pattern and algebraic reasoning****Algebra**

|   |    |        |    |         |
|---|----|--------|----|---------|
| • build a simple numerical or geometric pattern using materials (e.g., matchstick patterns)                                   | 11 | 78, 79 | 11 | A, B, C |
| • complete the pattern for a numerical or geometric series (e.g., 2, 4, 8, 16)  | 11 | 78, 79 | 11 | A, B, C |
| • calculate the value of a missing number in a series of values   | 11 | 80     | 11 | D       |
| • explain how the answers in a series of values are determined  | 11 | 80     | 11 | D       |
| • determine and record a rule, in words, to describe the pattern presented in a table   | 11 | 81     | 11 | E       |
| • apply a rule to a table to calculate the missing values   | 11 | 80     | 11 | D       |
| • calculate the value of missing number in a number sentence (e.g., $7 \times \Delta = 42$ , what is the value of $\Delta$ ?) | 11 | 84     | 11 | I       |

**STRAND: Spatial sense and geometric reasoning****Lines & Angles**

|  |   |      |   |      |
|--|---|------|---|------|
| • use symbols for ‘is parallel to’ ( $\parallel$ ) and ‘is perpendicular to’ ( $\perp$ ) | 2 | 7, 8 | 2 | A, D |
| • identify and draw perpendicular lines  | 2 | 7    | 2 | D    |

|  | Core Skills<br>Mathematics 6 |        | Mathematics<br>for Year 6<br>(second edition) |         |
|--|------------------------------|--------|---|---------|
|  | Chapter                      | Unit   | Chapter                                       | Unit    |
| • name and label lines, rays and line segments (e.g., AB, AB, AB)  | 2                            | 7      | 2   | A       |
| • use common conventions to indicate right angles, equal angles and parallel lines   | 2                            | 7, 8   | 2   | A, C    |
| • classify and identify angles as right, acute, obtuse, reflex, straight or a revolution   | 2                            | 8      | 2   | C       |
| • construct, label and name angles using angle ABC notation  | 2                            | 8      | 2   | C       |
| • estimate and measure angles in degrees using a protractor and geometry software  | 2                            | 8      | 2   | C       |
| • construct an angle of a given size using a protractor  | 2                            | 8      | 2   | C       |
| • apply your understanding of angles to spatial sense and geometric reasoning activities (e.g., movement of the hands of a clock)  | 2                            | 8      | 2   | C       |
| • prove and use the fact that the sum of the interior angles of a triangle is $180^\circ$  | 2                            | 10     | 2   | F       |
| • prove and use the fact that the sum of the interior angles of a quadrilateral is $360^\circ$   | 2                            | 11     | 2   | G       |
| • understand the meaning of the term congruence  | 12                           | 87     | 12  | A       |
| • recognise congruence in lines, shapes and solids   | 12                           | 87     | 12  | A       |
| <b>2-D and 3 -D shape</b>  |                              |        |   |         |
| • construct a model of a simple 3-D shape from drawings of different views   | 8                            | 59     | 8   | B, D    |
| • use the terminology in describing 3-D objects including base, edge, surface, vertex and face   | 8                            | 55, 56 | 8   | A       |
| • visualise and sketch simple solids from different views  | 8                            | 59     | 8   | B, D    |
| • construct a model of a simple solid from an isometric drawing  | 8                            | 57, 59 | 8   | B, C, D |
| • identify and name the properties of rectangular prisms and triangular prisms   | 8                            | 56     | 8   | A       |
| • identify and name the properties of square-based and triangular-based pyramids   | 8                            | 56     | 8   | A       |
| • use the formal names for prisms and identify pyramids  | 8                            | 56     | 8   | A       |
| • compare and describe the side and angle properties of isosceles, equilateral and scalene triangles   | 2                            | 9      | 2   | E       |
| • identify isosceles, scalene and equilateral triangles  | 2                            | 9      | 2   | E       |
| <b>Transformation</b>  |                              |        |   |         |
| • rotate shapes clockwise/anticlockwise  | 12                           | 90     | 12  | D       |
| • identify and name shapes that have rotational symmetry   | 12                           | 90     | 12  | D       |
| • use both pen and paper, and geometry software to construct a shape that has rotational symmetry  | 12                           | 90     | 12  | D       |
| • recognise tessellations in the everyday environment (e.g., weaving)  | 12                           | 88     | 12  | B       |
| • make enlargements and reductions of 2-D shapes, pictures and maps using pen and paper or using geometry software   | 12                           | 91     | 12  | E       |
| • discuss similarities and differences of the same object or scene represented in different sizes (e.g., drawings enlarged on photocopier, drawings or pictures using geometry software) | 12                           | 91     | 12  | E       |
| <b>Location and position</b>   |                              |        |   |         |
| • use a coordinate grid to make simple 2-D shapes  | 7                            | 49, 53 | 7   | B, D    |
| • read and interpret maps, plans, scale drawings and diagrams which have been drawn to scale   | 7                            | 50, 52 | 7   | C, E    |
| • read and write scales in words and through diagrams (e.g., 1 cm represents 5 km; 1:500 000)  | 7                            | 48     | 7   | A       |
| • use a magnetic compass to find North and hence the direction associated with the other three major compass points  | 7                            | 51     | 7   | D       |
| • identify and record familiar routes, locations   | 7                            | 50, 52 | 7   | C, E    |