Section 5:

Primary Mathematics Syllabus

Syllabus Organisation

Content by Level

5. PRIMARY MATHEMATICS SYLLABUS

Section 5 presents the organisation and content for Primary Mathematics. A level-by-level elaboration of the content[5] is given.

Syllabus Organisation

The concepts and skills covered in the syllabus are organised along 3 content strands.

Concept and Skills		
Number and Algebra	Measurement and Geometry	Statistics

[5] In 2025, the 2021 primary mathematics syllabus applies to Primary 1 to Primary 5 only. Students in Primary 6 will continue to use the 2013 syllabus. The 2021 mathematics syllabus will be applicable to Primary 6 from 2026 onwards.

Content by Level [6]

PRIMARY ONE

NUMBER AND ALGEBRA

SUB-STRAND: WHOLE NUMBERS

1. Numbers up to 100

1.1 counting to tell the number of objects in a given set
1.2 number notation, representations and place values (tens, ones)
1.3 reading and writing numbers in numerals and in words
1.4 comparing the number of objects in two or more sets
1.5 comparing and ordering numbers
1.6 patterns in number sequences
1.7 ordinal numbers (first, second, up to tenth) and symbols (1st, 2nd, 3rd, etc.)

2. Addition and Subtraction

2.1 concepts of addition and subtraction
2.2 use of +, – and =
2.3 relationship between addition and subtraction
2.4 adding more than two 1-digit numbers
2.5 adding and subtracting within 100
2.6 adding and subtracting using algorithms
2.7 mental calculation involving addition and subtraction
- within 20
- of a 2-digit number and ones without renaming
- of a 2-digit number and tens

3. Multiplication and Division

3.1 concepts of multiplication and division
3.2 use of x
3.3 multiplying within 40
3.4 dividing within 20

SUB-STRAND: MONEY

1. Money

1.1 counting amount of money
- in cents up to $1
- in dollars up to $100

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PRIMARY ONE

MEASUREMENT AND GEOMETRY

SUB-STRAND: MEASUREMENT

1. Length

1.1 measuring length in centimetres
1.2 use of abbreviation cm
1.3 comparing and ordering lengths in cm
1.4 measuring and drawing a line segment to the nearest cm

2. Time

2.1 telling time to 5 minutes
2.2 use of 'am' and 'pm'
2.3 use of abbreviations h and min
2.4 duration of one hour/half hour

SUB-STRAND: GEOMETRY

1. 2D Shapes

1.1 identifying, naming, describing and classifying 2D shapes
- rectangle
- square
- triangle
- circle
- half circle
- quarter circle

1.2 forming different 2D figures with
- rectangle
- square
- triangle
- half circle
- quarter circle

1.3 identifying the 2D shapes that make up a given figure
1.4 copying figures on dot grid or square grid

STATISTICS

SUB-STRAND: DATA REPRESENTATION AND INTERPRETATION

1. Picture Graphs

1.1 reading and interpreting data from picture graphs

PRIMARY TWO

NUMBER AND ALGEBRA

SUB-STRAND: WHOLE NUMBERS

1. Numbers up to 1000

1.1 counting in tens/hundreds
1.2 number notation, representations and place values (hundreds, tens, ones)
1.3 reading and writing numbers in numerals and in words
1.4 comparing and ordering numbers
1.5 patterns in number sequences
1.6 odd and even numbers

2. Addition and Subtraction

2.1 addition and subtraction algorithms (up to 3 digits)
2.2 mental calculation involving addition and subtraction of a 3-digit number and ones/tens/hundreds

3. Multiplication and Division

3.1 multiplication tables of 2, 3, 4, 5 and 10
3.2 use of ÷
3.3 relationship between multiplication and division
3.4 multiplying and dividing within the multiplication tables
3.5 mental calculation involving multiplication and division within multiplication tables of 2, 3, 4, 5 and 10

SUB-STRAND: FRACTIONS

1. Fraction of a Whole

1.1 fraction as part of a whole
1.2 notation and representations of fractions
1.3 comparing and ordering fractions with denominators of given fractions not exceeding 12
- unit fractions
- like fractions

2. Addition and Subtraction

2.1 adding and subtracting like fractions within one whole with denominators of given fractions not exceeding 12

SUB-STRAND: MONEY

1. Money

1.1 counting amount of money in dollars and cents
1.2 reading and writing money in decimal notation
1.3 comparing two or three amounts of money
1.4 converting an amount of money in decimal notation to cents only, and vice versa

PRIMARY TWO

MEASUREMENT AND GEOMETRY

SUB-STRAND: MEASUREMENT

1. Length, Mass and Volume

1.1 measuring
- length in metres
- mass in kilograms/grams
- volume of liquid in litres

1.2 using appropriate units of measurement and their abbreviations m, g, kg, ℓ

1.3 comparing and ordering
- lengths
- masses
- volumes

2. Time

2.1 telling time to the minute

2.2 measuring time in hours and minutes

2.3 converting time in hours and minutes to minutes only, and vice versa

SUB-STRAND: GEOMETRY

1. 2D Shapes

1.1 making/completing patterns with 2D shapes according to one or two of the following attributes
- size
- shape
- colour
- orientation

2. 3D Shapes

2.1 identifying, naming, describing and classifying 3D shapes
- cube
- cuboid
- cone
- cylinder
- sphere

STATISTICS

SUB-STRAND: DATA REPRESENTATION AND INTERPRETATION

1. Picture Graphs with Scales

1.1 reading and interpreting data from picture graphs with scales

PRIMARY THREE

NUMBER AND ALGEBRA

SUB-STRAND: WHOLE NUMBERS

1. Numbers up to 10 000

1.1 counting in hundreds/thousands
1.2 number notation, representations and place values (thousands, hundreds, tens, ones)
1.3 reading and writing numbers in numerals and in words
1.4 comparing and ordering numbers
1.5 patterns in number sequences

2. Addition and Subtraction

2.1 addition and subtraction algorithms (up to 4 digits)
2.2 mental calculation involving addition and subtraction of two 2-digit numbers

3. Multiplication and Division

3.1 multiplication tables of 6, 7, 8 and 9
3.2 multiplying and dividing within the multiplication tables
3.3 division with remainder
3.4 multiplication and division algorithms (up to 3 digits by 1 digit)
3.5 mental calculation involving multiplication and division within multiplication tables

SUB-STRAND: FRACTIONS

1. Equivalent fractions

1.1 equivalent fractions
1.2 expressing a fraction in its simplest form
1.3 comparing and ordering unlike fractions with denominators of given fractions not exceeding 12
1.4 writing the equivalent fraction of a fraction given the denominator or the numerator

2. Addition and Subtraction

2.1 adding and subtracting two related fractions within one whole with denominators of given fractions not exceeding 12

SUB-STRAND: MONEY

1. Money

1.1 adding and subtracting money in decimal notation

PRIMARY THREE

MEASUREMENT AND GEOMETRY

SUB-STRAND: MEASUREMENT

1. Length, Mass and Volume

1.1 measuring
- length in kilometres (km)
- volume of liquid in millilitres (ml)

1.2 measuring length/mass/volume (of liquid) in compound units

1.3 converting a measurement in compound units to the smaller unit, and vice versa
- kilometres and metres
- metres and centimetres
- kilograms and grams
- litres and millilitres

(numbers involved should be within easy manipulation)

2. Time

2.1 measuring time in seconds

2.2 finding the starting time, finishing time or duration given the other two quantities

2.3 24-hour clock

SUB-STRAND: AREA AND VOLUME

1. Area and Perimeter

1.1 concepts of area and perimeter of a plane figure

1.2 measuring area in square units, cm^2 and m^2, excluding conversion between cm^2 and m^2

1.3 perimeter of
- rectilinear figure
- rectangle
- square

1.4 area of rectangle/square

SUB-STRAND: GEOMETRY

1. Angles

1.1 concepts of angle

1.2 right angles, angles greater than/smaller than a right angle

2. Perpendicular and Parallel Lines

2.1 perpendicular and parallel lines

2.2 drawing perpendicular and parallel lines

STATISTICS

SUB-STRAND: DATA REPRESENTATION AND INTERPRETATION

1. Bar Graphs

1.1 reading and interpreting data from bar graphs

1.2 using different scales on axis

PRIMARY FOUR

NUMBER AND ALGEBRA

SUB-STRAND: WHOLE NUMBERS

1. Numbers up to 100 000

1.1 number notation, representations and place values (ten thousands, thousands, hundreds, tens, ones)
1.2 reading and writing numbers in numerals and in words
1.3 comparing and ordering numbers
1.4 patterns in number sequences
1.5 rounding numbers to the nearest 10, 100 or 1000
1.6 use of ≈

2. Factors and Multiples

2.1 factors, multiples and their relationship
2.2 determining if a 1-digit number is a factor of a given number within 100
2.3 finding the common factors of two given numbers
2.4 determining if a number is a multiple of a given 1-digit number
2.5 finding the common multiples of two given 1-digit numbers

3. Four Operations

3.1 multiplication algorithm
- up to 4 digits by 1 digit
- up to 3 digits by 2 digits

3.2 division algorithm (up to 4 digits by 1 digit)

SUB-STRAND: FRACTIONS

1. Mixed Numbers and Improper Fractions

1.1 mixed numbers, improper fractions and their relationship

2. Fraction of a Set

2.1 fraction as part of a set

3. Addition and Subtraction

3.1 adding and subtracting fractions with denominators of given fractions not exceeding 12 and not more than two different denominators

PRIMARY FOUR

SUB-STRAND: DECIMALS

1. Decimals up to 3 decimal places

1.1 notation, representations and place values
(tenths, hundredths, thousandths)
1.2 comparing and ordering decimals
1.3 expressing decimals as fractions
1.4 expressing fractions as decimals when the denominator is a factor of 10 or 100
1.5 rounding decimals to
- the nearest whole number
- 1 decimal place
- 2 decimal places

2. Addition and Subtraction

2.1 adding and subtracting decimals (up to 2 decimal places)

3. Multiplication and Division

3.1 multiplying and dividing decimals (up to 2 decimal places) by a 1-digit whole number
3.2 dividing a whole number by a whole number with quotient as a decimal
3.3 rounding answers to a specified degree of accuracy

PRIMARY FOUR

MEASUREMENT AND GEOMETRY

SUB-STRAND: AREA AND VOLUME

1. Area and Perimeter

1.1 finding one dimension of a rectangle given the other dimension and its area/perimeter
1.2 finding the length of one side of a square given its area/perimeter
1.3 finding the area and perimeter of composite figures made up of rectangles and squares

SUB-STRAND: GEOMETRY

1. Angles

1.1 using notation such as ∠ABC and $\angle a$ to name angles
1.2 measuring angles in degrees
1.3 drawing an angle of given size

2. Rectangle and Square

2.1 properties of rectangle and square, excluding diagonal properties
2.2 drawing rectangles and squares

3. Line Symmetry

3.1 identifying symmetric figures
3.2 determining whether a straight line is a line of symmetry of a symmetric figure
3.3 completing a symmetric figure with respect to a given line of symmetry on square grid

4. Nets

4. Nets

4.1 identifying 2D representations of
- cube
- cuboid
- cone
- cylinder
- prism
- pyramid

4.2 drawing 2D representations of
- cube
- cuboid
- prism
- pyramid

4.3 identifying the nets of 3D solids
- cube
- cuboid
- prism
- pyramid

4.4 identifying the solid which can be formed by a given net

PRIMARY FOUR

STATISTICS
SUB-STRAND: DATA REPRESENTATION AND INTERPRETATION
1. Tables, Line Graphs and Pie Charts
1.1 completing a table from given data 1.2 reading and interpreting data from tables/line graphs/pie charts

PRIMARY FIVE

NUMBER AND ALGEBRA

SUB-STRAND: WHOLE NUMBERS

1. Numbers up to 10 million

1.1 reading and writing numbers in numerals and in words

2. Four Operations

2.1 multiplying and dividing by 10, 100, 1000 and their multiples **without calculator**
2.2 order of operations **without calculator**
2.3 use of brackets **without calculator**

SUB-STRAND: FRACTIONS

1. Fraction and Division

1.1 dividing a whole number by a whole number with quotient as a fraction
1.2 expressing fractions as decimals

2. Four Operations

2.1 adding and subtracting mixed numbers
2.2 multiplying a proper/improper fraction and a whole number **without calculator**
2.3 multiplying a proper fraction and a proper/ improper fractions **without calculator**
2.4 multiplying two improper fractions
2.5 multiplying a mixed number and a whole number

SUB-STRAND: DECIMALS

1. Four Operations

1.1 multiplying and dividing decimals (up to 3 decimal places) by 10, 100, 1000 and their multiples **without calculator**
1.2 converting a measurement from a smaller unit to a larger unit in decimal form, and vice versa
- kilometres and metres
- metres and centimetres
- kilograms and grams
- litres and millilitres

SUB-STRAND: PERCENTAGE

1. Percentage

1.1 expressing a part of a whole as a percentage
1.2 use of %
1.3 finding a percentage part of a whole
1.4 finding discount, GST and annual interest

SUB-STRAND: RATE

1. Rate

1.1 rate as the amount of a quantity per unit of another quantity
1.2 finding rate, total amount or number of units given the other two quantities

PRIMARY FIVE

MEASUREMENT AND GEOMETRY

SUB-STRAND: AREA AND VOLUME

1. Area of Triangle

1.1 concepts of base and height of a triangle
1.2 area of triangle
1.3 finding the area of composite figures made up of rectangles, squares and triangles

2. Volume of Cube and Cuboid

2.1 building solids with unit cubes
2.2 measuring volume in cubic units, cm^3/m^3, excluding conversion between cm^3 and m^3
2.3 drawing cubes and cuboids on isometric grid
2.4 volume of a cube/cuboid
2.5 finding the volume of liquid in a rectangular tank
2.6 relationship between ℓ (or ml) with cm^3

SUB-STRAND: GEOMETRY

1. Angles

1.1 angles on a straight line
1.2 angles at a point
1.3 vertically opposite angles
1.4 finding unknown angles

2. Triangle

2.1 properties of
- isosceles triangle
- equilateral triangle
- right-angled triangle

2.2 angle sum of a triangle
2.3 finding unknown angles without additional construction of lines

3. Parallelogram, Rhombus and Trapezium

3.1 properties of
- parallelogram
- rhombus
- trapezium

3.2 finding unknown angles without additional construction of lines

PRIMARY SIX

NUMBER AND ALGEBRA

SUB-STRAND: FRACTIONS

1. Four Operations

1.1 dividing a proper fraction by a whole number **without calculator**
1.2 dividing a whole number/proper fraction by a proper fraction **without calculator**

SUB-STRAND: PERCENTAGE

1. Percentage

1.1 finding the whole given a part and the percentage
1.2 finding percentage increase/decrease

SUB-STRAND:RATIO

1. Ratio

1.1 notation, representations and interpretation of a:b and a:b:c, where a, b and c are whole numbers, excluding ratios involving fractions and decimals
1.2 equivalent ratios
1.3 dividing a quantity in a given ratio
1.4 expressing a ratio in its simplest form
1.5 finding the ratio of two or three given quantities
1.6 finding the missing term in a pair of equivalent ratios
1.7 relationship between fraction and ratio

SUB-STRAND: ALGEBRA

1. Algebra

1.1 using a letter to represent an unknown number
1.2 notation, representations and interpretation of simple algebraic expressions such as
- $a \pm 3$
- $a \times 3$ or $3a$
- $a \div 3$ or $\frac{a}{3}$

1.3 simplifying simple linear expressions excluding brackets
1.4 evaluating simple linear expressions by substitution
1.5 simple linear equations involving whole number coefficient only

PRIMARY SIX

MEASUREMENT AND GEOMETRY

SUB-STRAND: AREA AND VOLUME

1. Area and Circumference of Circle

1.1 area and circumference of circle
1.2 finding the area and perimeter of
- semicircle
- quarter circle

1.3 finding the area and perimeter of composite figures made up of square, rectangle, triangle, semicircle and quarter circle

2. Volume of Cube and Cuboid

2.1 finding one dimension of a cuboid given its volume and the other dimensions
2.2 finding the length of one edge of a cube given its volume
2.3 finding the height of a cuboid given its volume and base area
2.4 finding the area of a face of a cuboid given its volume and one dimension
2.5 use of $\sqrt{\ }$, $\sqrt[3]{\ }$

SUB-STRAND: GEOMETRY

1. Special Quadrilaterals

1.1 finding unknown angles, without additional construction of lines, in composite geometric figures involving
- square
- rectangle
- triangle
- parallelogram
- rhombus
- trapezium

STATISTICS

SUB-STRAND: DATA ANALYSIS

1. Average of a Set of Data

1.1 average as 'total value ÷ number of data'
1.2 relationship between average, total value and number of data