Appendix B

Summary of Contents of *Syllabuses for Primary Schools: Mathematics, 1983*

The mathematics contents for Key Stage 2 (P.4-P.6) shown below are extracted and reorganized from *Syllabuses for Primary Schools: Mathematics, 1983*, according to the different Learning Dimensions to which they belong. For easy reference by teachers, unit numbers used in the Syllabus are retained in the following reorganization of teaching content.

1. NUMBER Dimension

Class/Level	Contents
Primary 4	Unit 4.1 Multiples . Listing the multiples of numbers . Finding the common multiples of two numbers through listing their multiples . Finding the lowest common multiples of two numbers from their common multiples Unit 4.2 Factors . Listing the factors of numbers . Finding the common factors of two numbers through listing their factors . Finding the highest common factor of two numbers from their common factors . Finding H.C.F. by short division Unit 4.3 Multiplication . Recognition of the associative property of multiplication . Use of the commutative and associative properties of multiplication in the multiplication process . Long multiplication with multiplier 2 digits and multiplicand up to 3 digits . Solving problems on multiplication Unit 4.4 Division . Idea of 'trial quotient' in the division process . Division with divisor 2 dights and dividend up to 4 digits . Solving problems on division Unit 4.5 Direct Proportion . Idea of direct proportion . Solving simple problems on direct proportion by the unitary method

Class/Level	Contents
Primary 4	Unit 4.6 Fractions . Recognition of proper fractions, improper fractions and mixed numbers . Changing improper fractions to mixed numbers and vice versa . The concept of equivalent fractions and the rules of changing fractions . Addition and subtraction of fractions with the same denominator Unit 4.7 Decimals . Recognition of decimals as another way of recording fractions . Concept of place value in decimals . Use of decimals in everyday life . Addition and subtraction of decimals up to two places of decimals . Mixed operations with decimals with the number of operations not exceeding three Unit 4.11 Brackets . Use and removal of square brackets, simple brackets in mixed operations of addition, subtraction, multiplication and division; the number of operations in the sum is at most four Unit 4.12 Division . Division with divisor 3 digits and dividend up to 4 digits Unit 4.13 Fractions . Comparing fractions through idea of common denominator . Simple addition and subtraction of fractions with different denominators Unit 4.14 Decimals . Multiplication of decimals by whole numbers . Division of decimals involving decimals divided by whole numbers and whole numbers divided by whole numbers . Approximation by rounding off numbers . Mixed operations with decimals with the number of operations not exceeding three Unit 4.15 Averages . Calculating the average of a small group of data

Class/Level	Contents
Primary 5	Unit 5.1 Large numbers . Reading and writing of large numbers . Estimation of large quantities . Rounding off large numbers in thousands, ten thousands, hundred thousands or million Unit 5.2 Prime numbers and composite numbers . Recognition of prime numbers and composite numbers . Finding prime numbers within 100 by the Sieve of Eratosthenes . Discussing the properties of prime numbers Unit 5.3 Fractions . Multiplication of fractions . Division of fractions . Simple problems on fractions excluding those on finding the original number Unit 5.4 Distributive property of multiplication . Recognition of the distributive property of multiplication . Use of the distributive property of multiplication Unit 5.10 Factorization . Finding out all the prime numbers within 200 by divisibility tests . Expressing a composite number as the product of prime numbers . Introducing the index notation . Finding HCF and LCM of not more than three numbers by factorization Unit 5.11 Inverse proportion . Introducing the idea of inverse proportion . Solving simple problems by unitary method Unit 5.12 Decimals . Changing decimals into fractions . Changing fractions into decimals, rounding off the answers to the nearest hundredths . Multiplication of decimals, with numbers up to 2 places of decimals . Division of decimals with divisor up to 2 places of decimals

Class/Level	Contents
Primary 5	Unit 5.14 Percentages . Introducing percentages . Changing decimals or fractions into percentages and vice versa . Simple problems on percentages: (a) Expressing a quantity as a percentage of another (b) Finding the value of a percentage of a quantity, excluding problems on finding the original quantity
Primary 6	Unit 6.1 Ancient Numerals . Recognition of Chinese numerals and its notation . Recognition of Roman numerals and its notation . Advantages of the system of notation of Hindu-Arabic numerals over those of the above two systems Unit 6.2 Divisibility . Recognition of divisibility tests for 2, 3, 4, 5, 6, 9, 10, 11 through observation of the properties of the multiples of numbers and their patterns on the number board Unit 6.3 Highest common factor and lowest common multiple . Finding LCM by short division . Solving simple problems on HCF and LCM Unit 6.5 Percentages . Application of percentages including problems on discounts, simple interest and those within pupils' experience . Solving problems on percentages including finding the original quantity Unit 6.10 Squares and square roots . Finding squares of numbers . Finding square roots of numbers by inspection of factorization . Finding approximate square roots of numbers from the graph of numbers against their squares Δ Unit 6.12 Recurring decimals . Introducing recurring decimals Unit 6.14 Positive and negative numbers . Introducing negative numbers . Use of positive and negative numbers in recording facts

Note: Δ indicating optional items

Class/Level	Contents
Primary 6	Unit 6.15 Stories of calculating devices . Brief accounts of the development of calculating devices Δ Discussion of the notation of the Chinese abacus Δ Addition and subtraction on the Chinese abacus

2. MEASURES Dimension

Class/Level	Contents
Primary 4	Unit 4.8 Capacity . Introducing "millilitre" Unit 4.17 Changing units in metric system . Changing units in the metric system working with kilo, unit and milli . Introducing examples involving small numbers, changing between neighbouring units and recording quantities in single unit Unit 4.19 Area . Idea of area through comparison of the size of surfaces . Recognizing units of area - square centimetre and square metre . Finding the area of shapes (including irregular shapes) by counting squares . Finding the area of a rectangle or a square by counting in rows and establishing the formula
Primary 5	Unit 5.6 Time . Changing units on time involving at most two units only . Calculation practice of simple four rules Unit 5.7 Area . Finding areas of parallelograms, triangles and trapeziums by counting squares . Establishing the formula of the area of the parallelogram and triangle by dividing and fitting together shapes . Finding areas of polygons (including trapeziums) through dissection Unit 5.15 Time . Recognizing 24-hour clock from practical examples

Note: Δ indicating optional items

Class/Level	Contents
Primary 5	Unit 5.17 Volume . Recognizing the relationship between litre/millilitre and cubic centimetre . Concept of capacity and volume . Establishing the formula of the volume of a cuboid through building shapes with cm cubes . Finding the volume of irregular solids by displacement of water or other methods . Introducing 'cubic metre' and its use
Primary 6	Unit 6.6 Angles . Comparing angles . Introducing 'degree' and making angles by folding paper . Measuring and drawing angles up to 360° using a protractor Unit 6.7 Circumference . Recognizing the relationship between the circumference and the diameter of a circle from the circumference/diameter graph . Working out π, the ratio of the circumference to the diameter . Solving problems on circumference using $\pi = 3.14$ Unit 6.13 Speed . Idea of speed . Recognizing the units 'metre per second' and 'kilometre per hour' through daily-life examples . Solving simple problems on speed Unit 6.17 Area of a circle . Finding the area of a circle by counting squares . Establishing the formula of the area of a circle through practical activities . Calculating the area of circles using $\pi = 3.14$ Unit 6.18 Simple surveying . Using scale to draw plans Δ Finding the height of an object by scale drawing

Note: Δ indicating optional items

3. ALGEBRA Dimension

Class/Level	Contents
Primary 4	Unit 4.16 Algebraic symbols . Using a symbol to present a number . Recording with algebraic symbols . Finding the unknown from an equality
Primary 5	Unit 5.5 Simple equations . Recognizing the principle of solving an equation with the use of an equalizer . Solving simple equations which require one step to the solution . Solving simple problems by equation Unit 5.13 Simple equations . Solving simple equations which require at most two steps to the solution . Solving simple problems by equation
Primary 6	Unit 6.4 Simple equations . Solving simple equations involving fractions and decimals . Solving simple problems by equation Unit 6.11 Number pattern . Finding out the interesting properties of numbers such as rectangular numbers, triangular numbers through activities . Finding out the interesting properties of simple magic squares (3 x 3 squares only)

4. SHAPE & SPACE Dimension

Class/Level	Contents
Primary 4	Unit 4.9 Solids . Making frameworks of pyramids and prisms . Discovering the relationship among the sides of the base, the edges and the vertices of a pyramid or a prism . Studying and designing nets for solids Unit 4.18 Quadrilaterals . Sorting quadrilaterals . Constructing quadrilaterals . Comparing the sides and angles of different quadrilaterals . Classifying shapes according to two attributes . Making the framework of a quadrilateral rigid

Class/Level	Contents
Primary 5	Unit 5.8 Directions . Introducing the eight compass points . Finding directions with a compass . Making and using a direction board Unit 5.16 Circles . Drawing circles by various methods . Recognizing the properties of a circle . Measuring the circumference of a circle by various methods
Primary 6	Δ Unit 6.8 Curve stitching . Appreciating samples of curve stitching . Making and designing patterns Δ Unit 6.16 Symmetry . Recognizing shapes with line symmetry and finding out all the lines of symmetry . Introducing rotational symmetry . Finding symmetrical shapes from the environment . Drawing pictures or patterns using symmetry Unit 6.18 Simple surveying . Measuring directions using compass bearings . Marking out the positions of objects from the measurement of directions and distances . Use of compass bearings in everyday life Δ Introducing the concepts of horizontal and vertical Δ Finding the angle of elevation of an object with a clinometer

5. DATA HANDLING Dimension

Class/Level	Contents
Primary 4	Unit 4.10 Pictograms . Making and discussing pictograms using one-to-ten or one-to-hundred representation . Rounding off data to the nearest unit to avoid the use of a part of a symbol Unit 4.20 Compound bar charts . Making and discussing bar charts of greater frequency counts using one-to-ten or one-to-hundred representation . Making and discussing compound bar charts

Note : Δ indicating optional items

Class/Level	Contents
Primary 5	Unit 5.9 Graphs . Making graphs of large frequency counts using one-to-thousand or one-to-ten thousand representation or even smaller scales . Appropriate grouping of items . Estimating from a bar chart the average value of the data . Introducing and discussing line graphs Unit 5.18 Straight line graphs . Making and discussing straight line graphs . Solving problems of direct proportion by straight line graphs
Primary 6	Unit 6.9 Pie charts . Making and discussing pie charts Unit 6.19 Graphs . Making and interpreting graphs . Graphs of discrete or continuous data . Looking for relations, patterns or trends from graphs Δ Making simple curve graphs

Note : Δ indicating optional items