| **วิชา(Subject) ....Mathematics (PSLE)....****ช่วงชั้น (Level) …2 (P.4-6)…..****20 weeks (2 periods/week): Teaching 36 periods and Examination 4 periods** |
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| **ชั้นประถมศึกษาปีที่ 4 (Primary 4)** | **ชั้นประถมศึกษาปีที่ 5 (Primary 5)** | **ชั้นประถมศึกษาปีที่ 6 (Primary 6)** |
| **7** | **8** | **9** | **10** | **11** | **12** |
| **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** | **ภาคเรียนที่ (Semester) 1** | **ภาคเรียนที่ (Semester) 2** |
| 1. **Whole Numbers: Numbers to 100 000 (8 periods)**
	1. Number notation and place values
	2. Reading and writing numbers in numerals and words
	3. Numbers patterns
	4. Comparing and ordering numbers
	5. Rounding off numbers to the nearest 10, 100 or 1000
	6. Estimate number
	7. Factors and Multiples
	8. Addition and Subtraction
	9. Word problems
2. **The Four Operations of numbers (8 periods)**
	1. Addition and subtraction of numbers
	2. Multiplication:
	3. Multiplication by a 1-digit number
	4. Multiplication by a 1 or 2-digit number
	5. Multiplication by a 3-digit number by a 2-digit number
	6. Word problems
	7. Division:
	8. Division by a 1-digit number
	9. Word problems
3. **Tables and Graphs (6 periods)**
	1. Read and interpret data in a table
	2. Read and interpret line graphs
	3. Word problems
4. **Fractions (8 periods)**
	1. Express mixed numbers as improper fractions
	2. Express improper fractions as mixed numbers
	3. Equivalent and improper fractions
	4. Compare and order fractions
	5. Addition and subtraction of fractions
	6. Fraction of a set of objects
	7. Word problems
5. **Word Problems on the Four Operations of Whole Numbers (6 periods)**

**\*\*(Total 36 periods )\*\*** | 1. **Angles (6 periods)**
	1. Right angles
	2. Draw angles with a protractor
	3. Measuring and drawing angles
	4. 8-point compass
	5. Word problems
2. **Shape and Rectangles(4 periods)**
	1. Properties of squares and rectangles
	2. Word problems
3. **Decimals (8 periods)**
	1. Round off decimals
	2. Understanding of tenths, hundredths and thousandths
	3. Fraction and decimals
	4. Comparing decimals
	5. Addition and subtraction
	6. Multiplication
	7. Division
	8. The four operations of decimals
	9. Word problems
4. **Time (6 periods)**
	1. Measure time in seconds
	2. Conversion
	3. 24-hour clock
	4. Duration
	5. Word problems
5. **Area and Perimeter (8 periods)**
	1. Find one dimension of a rectangle given the other dimension and its area or perimeter
	2. Area and perimeter of composite figures
	3. Word problems
6. **Symmetry (4 periods)**
	1. Identifying symmetric figures
	2. Identifying lines of symmetry
	3. Draw symmetric figures and patterns
	4. Word problems

**\*\*(Total 36 periods )\*\*** | 1. **Whole Numbers; Order of Operations (3 periods)**
	1. Numbers to 10 million
	2. Number notation and Place value
	3. Read and write number up to 10 million in numerals and words
	4. Comparing numbers within 10 million
	5. Rounding off to the nearest thousand
	6. Rounding off to the nearest thousand and estimation
	7. Solve problems with combined operations involving the 4 operation and brackets
	8. Using a calculator (Multiply and divide by tens, hundreds and thousands)
2. **The Four Operations of Whole Numbers (2 periods)**
	1. Multiply and divide by tens, hundreds and thousands without using calculators
	2. Word problems
3. **Perimeter an Area (4 periods)**
	1. Solve problems involving perimeter and area of composite figures
4. **The Four Operations of Fractions1 (4 periods)**
	1. Fractions in its lowest terms
	2. Like and unlike fractions
	3. Adding like fractions
	4. Adding and subtracting like fractions
	5. Adding and subtracting unlike fractions
	6. Fraction and division
	7. Adding and subtracting of fractions
	8. Expressing improper fractions as mixed numbers
	9. Expressing mixed numbers as fractions
	10. Comparing fractions
	11. Converting fractions to decimals
	12. Adding and subtracting mixed numbers
	13. Word problems
5. **The Four Operations of Fractions2 (5 periods)**
	1. Product of proper fractions
	2. Product of a proper fractions and a whole number
	3. Product of an improper fractions and a proper or improper fraction
	4. Product of a proper fractions and a whole number
	5. Product of a mixed number and a whole number
	6. Dividing a fraction by a whole number
	7. Word problems
6. **Triangles; Ratio (4 periods)**
	1. Base and height of a triangle
	2. Calculate area of triangles
	3. Interpret *a : b and d : b : c,* where *a, b* and *c* are whole numbers
	4. Writing equivalent ratios
	5. Express a ratio in its simplest form/lowest terms
	6. Find the ratio of 2 or 3 given quantities
	7. Find the missing term in a pair of equivalent ratios
	8. Find 1 quantity given the order quantity and their ratio
	9. Comparing three quantities
	10. Word problems
7. **Revision on Graphs (3 periods)**
	1. Read and interpret line graphs
	2. Solve problems using information presented in line graphs.
8. **Decimals; The Four Operations of Decimals (7 periods)**
	1. Number notation and place values
	2. Compare and order decimals
	3. Converting decimals to fractions
	4. Round off decimals to: the nearest whole number/ 1 decimal place/ 2 decimal place
	5. Add, subtract, multiply and divide decimals (up to 2 decimal places)
	6. Using a calculator
	7. Word problems
9. **Measurements (4 periods)**
	1. Converting a measurements from a larger unit to a smaller unit
	2. Converting a measurements from a smaller unit to a larger unit
	3. Word problems

\*\*(Total 36 periods )\*\*  | 1. **Average (5 periods)**
	1. Interpret average as ‘total amount $÷$ number of items’
	2. Calculate the average number/ quantity
	3. Find the total amount given the average and the number of items
	4. Word problems
2. **Rate (5 periods)**
	1. Use rate to show the amount of quantity per unit of another quantity
	2. Find rate, total amount or number of units given two quantities
	3. Solve word problems involving rate
3. **Percentage (8 periods)**
	1. Express a part of a whole as a percentage
	2. Converting more fractions to percentage
	3. Percentage of a quantity
	4. Express a fraction or a decimal as a percentage
	5. Express a percentage as a fraction or a decimal
	6. Word problems
4. **Angles (4 periods)**
	1. Angles on a straight line
	2. Angles at a point
	3. Vertically opposite angles
	4. Word problems
5. **Properties of Triangles (4 periods)**
	1. Angles of a triangle
	2. Right-angled, isosceles and equilateral triangles
6. **Properties of 4-sided Figures (2 periods)**
	1. Parallelograms, rhombuses and trapeziums
7. **Properties of Triangles and 4-sided Figures (2 periods)**
	1. Right-angled, isosceles and equilateral triangles
	2. Parallelograms, rhombuses and trapeziums
8. **Geometrical Construction (2 periods)**
	1. Drawing triangles
	2. Drawing 4-sided figures
9. **Volume of cube and Cuboid (4 periods)**
	1. Drawing of cubes and cuboids
	2. Understanding and measuring volume
	3. Volume of a cuboid
	4. Building solids using unit cubes
	5. Volume of a solid
	6. Volume of a liquid
	7. Word problems

**\*\*(Total 36 periods )\*\*** | 1. **Algebra 1(2 periods)**
	1. Evaluation of simple algebraic expressions by substitution
	2. Solving word problems with simple algebraic expressions
2. **Algebra 2 (2 periods)**
	1. Interpretation and simplification of algebraic expressions
	2. Evaluation of simple algebraic expressions by substitution
	3. Solving word problems with simple algebraic expressions
3. **The four Operations of Fractions (4 periods)**
	1. Addition and subtraction of fractions
	2. Multiplication and division of whole numbers/proper fractions by proper fractions
	3. Solving word problems involving fractions
4. **Fractions (4 periods)**
	1. 4 operations with fractions
	2. Dividing by a proper fraction
	3. Word problems
5. **Ratio (6 periods)**
	1. Ratio and fraction
	2. Comparing ratios
	3. Solving word problems involving2 pairs of ratios
6. **Percentage (6 periods)**
	1. Finding the whole given a part
	2. Finding percentage increase/decrease
	3. Solving word problems involving percentage
7. **Speed (6 periods)**
	1. Concept of speed and average speed
	2. Relationship between distance, time and speed
	3. Calculation of distance, speed or time
	4. Speed in km/h, m/min, m/s and cm/s
	5. Solving word problems with speed
8. **Area and Circumference of Circles (6 periods)**
	1. Use of formulae to find the area and circumference of circles
	2. Find area and perimeter of semicircles and quarter circles
	3. Solve word problems involving area and perimeter

**\*\*(Total 36 periods )\*\*** | 1. **Area and Perimeter of Composite Figures and Nets (8 periods)**
	1. Finding the area and perimeter of composite figures made up of shapes like semicircles, quarter circles, rectangles, triangles and squares
	2. Solve word problems involving area and perimeter
	3. .Identifying nets of cuboids, prisms, cubes and pyramids
	4. Making 3-D solids from given nets
2. **Geometry (4 periods)**
	1. Finding angle in figures involving squares, rectangles, triangles, parallelograms, rhombuses and trapeziums
3. **Circles (6 periods)**
	1. Radius, diameter and circumference
	2. Area of a circle
	3. Word problems
4. **Pie Charts (8 periods)**
	1. Reading and interpreting pie charts
	2. Solving problems with information from pie charts
5. **Volume (10 periods)**
	1. Finding dimensions of cuboids and cubes
	2. Finding area of a face in a cuboid when given the volume and one dimension of the cuboid
	3. Volume of solids
	4. Volume of liquid
	5. Use of $√$ and $∛$
	6. Word problems with volume of cubes or cuboids

**\*\*(Total 36 periods )\*\*** |