| **วิชา(Subject) ....Mathematics (PSLE)....****ช่วงชั้น (Level) …2 (P.4-6)…..****20 weeks (2 periods/week): Teaching 36 periods and Examination 4 periods** |
| --- |
| **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 (6 periods)**
	1. Number notation and place values
	2. Reading and writing numbers in numerals and in words
	3. Comparing and ordering numbers
	4. Number patterns
	5. Rounding off numbers to the nearest 10 and 100
	6. Estimate number
2. **Factors and Multiples (6 periods)**
	1. Determining if a 1-digit number is a factor of a given number,
	2. Listing all factors of a given number up to 100,
	3. Finding the common factors of two given numbers,
	4. Recognizing the relationship between factor and multiple,
	5. Determining if a number is a multiple of a given 1-digit number,
	6. Listing the first 12 multiples of a given 1-digit number,
	7. Finding the common multiples of two given 1-digit numbers.
3. **Multiplication anddivision**

**(8 periods)**Multiplication:* 1. Multiplication of a 4-digit number by a 1-digit number,
	2. Multiplication of a 3-digit number by a 2-digit number,
	3. Word problems

Division:* 1. Division of a 4-digit number by a 1-digit number,
	2. Solving up to 3-step word problems involving the 4 operations
1. **Fractions (8 periods)**
	1. Concepts of mixed numbers and improper fractions,
	2. Expressingan improper fraction as a mixed number, and vice

versa,* 1. Expressingan improper fraction/mixed number in its simplestform.
	2. Compare and order fractions
	3. Addition and subtraction of like and unlike fractions
	4. Fraction of a set of objects
	5. multiplication of a proper/improper fraction and a whole

number* 1. Solving up to 2-step word problems involving addition,

subtraction and multiplication1. **Decimals (8 periods)**
	1. Notation and place values (3decimal places)
	2. Identifying the values of the digits in a decimal,
	3. Comparing and ordering decimals
	4. Conversion of a decimal to a fraction
	5. Conversion of a fraction whose denominator is a factor of 10 or

100 to a decimal* 1. Rounding off decimals tothe nearest whole number,1 and 2 decimal places.
	2. Addition and subtraction

addition of decimals (up to 2 decimal places),* 1. Multiplication and division
* division of a whole number by a whole number with answer in

decimal form,* multiplication and division of decimals (up to 2 decimal places) by a 1-digit whole number,
	1. Solving up to 2-step word problems involving the 4 operations.

**\*\*(Total 36 periods )\*\*** | 1. **Tables and Graphs (6 periods)**

Tables* 1. Completing a table from given data,
	2. Reading and interpreting tables
	3. Solving problems using information presented in tables.

Line graphs* 1. Reading and interpreting line graphs,
	2. Solving problems using information presented in line graphs.
1. **Time (6 periods)**
	1. Measurement of time in seconds (s),
	2. 24-hour clock
	3. Solving word problems involving time in 24-hour clock.
2. **Angles (6 periods)**
	1. Using notation such as ∠ABC and ∠x to name angles,
	2. Estimation and measurement of angles in degrees
	3. Drawing an angle using a protractor
	4. Associating
* ¼ turn/ right angle with 90°
* ½ turn with 180°
* ¾ turn with 270°
* a complete turn with 360°
	1. 8-point compass
1. **Rectangle andsquare (4 periods)**
	1. Properties of rectangle and square
	2. Finding unknown angles.
2. **Area and Perimeter (10 periods)**
	1. Area and perimeter of

a square and arectangle* 1. Area and perimeter of composite figures

made up of rectanglesand squares* 1. Finding one dimension of a rectangle given the other dimension

and its area/ perimeter* 1. Finding the length of one side of a square given its area/

perimeter* 1. Solving word problems involving the area/ perimeter of squares

and rectangles.1. **Symmetry (4 periods)**
	1. Identifying symmetric figures
	2. Determining whether a straight line is a line of symmetry of a

symmetric figure,* 1. Completing a symmetric figure with respect to a givenhorizontal/vertical line of symmetry,
	2. Draw symmetric figures and patterns

**\*\*(Total 36 periods )\*\*** | 1. **Whole Numbers; Numbers up to 10 million(6 periods)**
	1. Number notation and Place value
	2. Reading and writing numbers in numerals and in words,
	3. Comparing numbers within 10 million
	4. Rounding off numbers to the nearest 1000.
	5. Estimation ofnumbers.
	6. Multiplication and division by tens, hundreds and thousands.
	7. Solving word problems involving the 4 operations.

Order of operations* 1. Combined operations involving the 4 operations use of brackets.
1. **Fractions (8 periods)**
	1. Association of a fraction with division
	2. Conversion between fractions and decimals.
	3. Addition and subtraction of proper fractions
	4. Addition and subtraction of mixed numbers
	5. Multiplication of a proper fractions and a proper/ improper

fraction* 1. Multiplication of an improper fraction and an improper fraction
	2. Multiplication of a mixed number and a whole number
	3. Multiplication of a mixed number by a proper fraction/improper

fraction/mixed number* 1. Division of a proper fraction by a whole number
	2. Division of an improper fraction/mixed number by a whole

number/ proper fraction.* 1. Division by an improper fraction/ mixed number
	2. Solving word problems involving the 4 operations
1. **Decimals (6 periods)**
	1. Number notation and place values
	2. Compare and order decimals
	3. Conversion between decimals and 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. Solving word problems involving the 4 operations
2. **Percentage (4 periods)**
	1. Expressing a part of a whole as a percentage
	2. Converting fractions and decimals as percentages, and vice versa
	3. Percentage of a quantity
	4. Solving up to 2-step word problems involving percentage
3. **Angles (4 periods)**
	1. Properties of angles on a straight line
	2. Properties of angles at a point
	3. Properties of Vertically opposite angles
	4. Finding unknown angles in a triangle
4. **Triangles (4 periods)**
	1. Types of triangles
	2. Properties of Triangles
	3. Finding unknown angles interior and exterior angles
5. **Area of a Triangle (4 periods)**
	1. Identifying the base of a triangle and its corresponding height
	2. Use of formula to calculate the area of a triangle.
	3. Finding the base/ height of a triangle given its area.

\*\*(Total 36 periods )\*\* | 1. **Quadrilateral (6 periods)**
	1. kite, trapezium, parallelogram, rhombus, rectangle, and square
	2. Finding unknown angles
	3. Drawing 4-sided figures
2. **Average (6 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
3. **Rate (6 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
4. **Line Graphs (4 periods)**
	1. Read and interpret line graphs
	2. Solve problems using information presented in line graphs including average of a set ofdata
5. **Length, mass andvolume**

**(4 periods)*** 1. Conversion of 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
	1. Word problems
1. **Volume of cube and Cuboid**

**(8 periods)*** 1. Building solids with unit cubes
	2. Measurement of volume in cubic units
	3. Drawing cubes and cuboids on an isometric grid
	4. Measurement of volume in cubic centimetres (cm3)/ cubicmetres (m3)
	5. Use of formula to calculate the volume of a cube/ cuboid
	6. Finding the volume of liquid in a rectangular tank
	7. Conversion between l, ml and cm3
	8. Word problems

**\*\*(Total 36 periods )\*\*** | 1. **Algebra (8 periods)**
	1. Evaluation of simple algebraic expressions by substitution
	2. Solving word problems with simple algebraic expressions
	3. Interpretation and simplification of algebraic expressions
	4. Evaluation of simple algebraic expressions by substitution
	5. Solving word problems with simple algebraic expressions
2. **The four Operations of Fractions(6periods)**
	1. Addition and subtraction of fractions
	2. Word problems
	3. Multiplication and division of whole numbers/proper fractions by proper fractions
	4. Division of an improper fraction/mixed number by a properfraction
	5. Division by an improper fraction/mixed number.
	6. Word problems
3. **Ratio(6periods)**
	1. Expressing one quantity as a fraction of another, given theirratio, and vice versa
	2. finding how many times one quantity is as large as another,given their ratio, and vice versa
	3. Expressing one quantity as a fraction of another given the twoquantities
	4. Finding the whole/ one part when a whole is divided into parts ina given ratio
	5. Solving word problems involving2 pairs of ratios
4. **Percentage (6periods)**
	1. Finding the whole given a partand the percentage
	2. Finding percentage increase/decrease
	3. Solving word problems involving percentage
5. **Pie Charts(4periods)**
	1. Reading and interpreting pie charts
	2. Solving problems with information from pie charts
6. **Speed(6periods)**
	1. Concept of speed and average speed
	2. Relationship between distance, time and speed
	3. Calculation of speed, distance or time given the other twoquantities
	4. Writing speed in different units such as km/h, m/min, m/s andcm/s,
	5. Solving up to 3-step word problems involving speed andaverage speed.

**\*\*(Total 36 periods )\*\*** | 1. **Circles(4 periods)**
	1. Radius, diameter and circumference
	2. Area of a circle
	3. Word problems
2. **Area and Circumference of Circles(4 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
3. **Geometry(4periods)**
	1. Finding unknown angle in geometrical figures involving squares, rectangles, triangles, parallelograms, rhombuses and trapeziums
4. **Net(4periods)**
	1. 2**-D** representation of cube, cuboid, cone, cylinder, prism andpyramid
	2. Identifying nets of the following solidscube, cuboid, prism, pyramid
	3. Identifying the solid which can be formed by a given net
	4. Making 3-D solids from given nets.
5. **Area and Perimeter of Composite Figures**

**(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
1. **Volume (8periods)**
	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
2. **Review and apply to IPSLE(4periods)**

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