

**PACE ACADEMY
MATHEMATICS 4
CURRICULUM GUIDE
S.Y. 2020-2021**

MOST ESSENTIAL LEARNING COMPETENCIES	LESSONS
FIRST QUARTER	
Reads and writes numbers, in symbols and in words, up to ten millions place with emphasis on 100 000 to 99 000 000	Lesson 1.1 Reading and Writing Numbers through Ten Millions
Visualizes numbers up to hundred billions place.	Lesson 1.2 Numbers through Hundred Billions
Compares large numbers using relation symbols and orders large numbers in increasing or decreasing order.	Lesson 1.3 Comparing and Ordering Whole Numbers
Rounds numbers up to the nearest hundred billions.	Lesson 1.4 Rounding Off Whole Numbers
Adds and subtracts large numbers with and without regrouping.	Lesson 1.5 Adding and Subtracting Large Numbers
Solves word problems involving addition and subtraction.	Lesson 1.6 Solving Two-step Word Problems
Multiplies numbers up to 3-digit numbers by up to 2-digit numbers without or with regrouping.	Lesson 1.7 Multiplying by One- to Three-digit Numbers
Multiplies mentally 2-digit by 1-to 2-digit numbers and solves non-routine problems.	Lesson 1.8 Estimating Products and Multiplying Numbers Mentally
Divides 2- to 4-digit numbers by tens or hundreds or by 1 000 without and with remainder.	Lesson 1.9 Dividing by Multiples of 10,100, and 1 000
Estimates the quotient of 3- to 4-digit dividends by 1- to 2-digit divisors with reasonable results.	Lesson 1.10 Estimating Quotients and Dividing Numbers Mentally
Performs a series of two or more operations applying Multiplication, Division, Addition, Subtraction (MDAS) correctly.	Lesson 1.11 Order of Operations
Solves multi-step routine and non-routine problems involving division and any of the other operations of whole numbers including money using appropriate problem solving strategies and tools	Lesson 1.12 Solving Multi-step Word Problems
SECOND QUARTER	
Identifies odd and even numbers and finds the factors of a number.	Lesson 2.1 Factors of a Number
Differentiates prime from composite numbers.	Lesson 2.2 Prime and Composite Numbers
Finds the prime factorization of a number.	Lesson 2.3 Prime Factorization
Finds the common factors, greatest common factor (GCF), common multiples and least common multiple (LCM) of two numbers using the following methods: listing, prime factorization, and continuous division.	Lesson 2.4 Greatest Common Factor and Least Common Multiple
Tells whether a fraction is a proper fraction or an improper fraction.	Lesson 2.3 Concept of Fractions
Changes improper fraction to mixed numbers and vice versa.	
Differentiates similar fractions from dissimilar fractions.	Lesson 2.4 Comparing and Ordering Fractions

Solves routine and non-routine problems involving addition and/or subtraction of fractions using appropriate problem solving strategies and tools.	Lesson 2.5 Adding and Subtracting Similar Fractions and Mixed Numbers
Visualizes decimal numbers using models like blocks, grids, number lines and money to show the relationship to fractions.	Lesson 2.6 Concept of Decimals
Recognizing the place value of decimals.	
Compares and orders decimals.	Lesson 2.7 Comparing, Ordering, and Rounding Off Decimals
Rounds off decimals up to the nearest ones, tenths, and hundredths.	
Adds and subtracts decimals with or without regrouping.	Lesson 2.8 Adding and Subtracting Decimals and Money
Multiplies and divides decimals with or without regrouping.	Lesson 2.9 Multiplying and Dividing of Decimals
THIRD QUARTER	
Describes and draws parallel, intersecting, and perpendicular lines using ruler and set square.	Lesson 3.1 Basic Geometric Ideas
Describes and illustrates different angles (right, acute, and obtuse) using protractor.	Lesson 3.2 Measuring Angles Using Protractor
Describes the attributes/properties of triangles and quadrilaterals using concrete objects or models.	Lesson 3.3 Polygons
Identifies and describes triangles according to sides and angles.	
Identifies and describes the different kinds of quadrilaterals: square, rectangle, parallelogram, trapezoid, and rhombus.	
Relates triangles to quadrilaterals	
Relates one quadrilateral to another quadrilateral (e.g. square to rhombus)	Lesson 3.4 Patterns and Sequences
Determines the missing term/s in a sequence of numbers (e.g. odd numbers, even numbers, multiples of a number, factors of a number, etc.) e.g. 3,6,9,__, 4,8,12,16,__ (e.g. odd numbers, even numbers, multiples of a number, factors of a number, etc.) 1 2 3 4 5 6 7 ____.	
Determines the amount of time spent in an activity.	
Finds the perimeter of regular and irregular polygons.	Lesson 3.5 Duration of Time
Solves routine and non-routine problems in real-life situations involving perimeter of squares and rectangles, triangles, parallelograms, and trapezoids.	Lesson 3.6 Perimeter
Differentiates perimeter from area.	Lesson 3.7 Area of Common Plane Figures
Converts sq. cm to sq. m and vice versa.	
Finds the area of triangles, parallelograms and trapezoids using sq. cm and sq. m.	
Solves routine and non-routine problems involving squares, rectangles, triangles, parallelograms, and trapezoids.	Lesson 3.8 Solving Word Problems Involving Area

FOURTH QUARTER	
Finds the area of irregular figures made up of squares and rectangles using sq. cm and sq. m.	Lesson 4.1 Area of Common Irregular Plane Figures

Visualizes the volume of solid figures in different situations using nonstandard (e.g. marbles, etc.) and standard units.	Lesson 4.2 Volume of Prisms
Finds the volume of a rectangular prism using cu. cm and cu. m.	
Solves routine and non-routine problems involving the volume of a rectangular prism.	
Collects data on two variables using any source.	Lesson 4.3 Tables and Bar Graphs
Organizes data in tabular form and presents them in a single/double horizontal or vertical bar graph.	
Interprets data presented in different kinds of bar graphs (vertical/horizontal, single/double bars)	Lesson 4.4 Constructing Bar Graphs
Solves routine and non-routine problems using data presented in a single or double-bar graph.	
Draws inferences based on data presented in a double-bar graph.	
Records favorable outcomes in a simple experiment (e.g. tossing a coin, spinning a wheel, etc.)	Lesson 4.5 Favorable Outcomes
Expresses the outcome in a simple experiment in words, symbols, tables, or graphs.	
Explains the outcomes in an experiment.	
Solves routine and non-routine problems involving a simple experiment.	

Reference:

Degolacion, R. J., dela Cruz, E. O., Glorial, J. C. & Rapacon, C. R. (2017). *Soaring 21st Century Mathematics 4* (2017). Phoenix Publishing House,, Inc.

Time Allotment: Four (4) synchronous sessions (40 minutes per session); Five (5) asynchronous sessions (40 minutes per session)

Promotion/Retention:

- Assessments will be categorized as the following with the corresponding weight:
 - Short Quizzes (20%)
 - Written Outputs (35%)
 - Product and Performance Tasks (45%)
- **Short Quizzes.** These include summative assessments after every lesson, group of related lessons, or chapter.
- **Written Outputs.** These include data recording and analyses, geometric and statistical analyses, graphs, charts, or maps, problem sets, and surveys.
- **Product and Performance Tasks.** These include diagrams, mathematical investigatory projects, models or making models of geometric figures, number representations, constructing graphs from survey conducted, multimedia presentation, outdoor math, probability experiments, problem-posing, reasoning and proof through recitation, using manipulatives to show math concepts or solve problems, and using measuring tools and devices.