**PACE ACADEMY**
**MATHEMATICS 6**
**CURRICULUM GUIDE**
**A.Y. 2020-2021**

| Most Essential Learning Competencies | Math Lessons |
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| **FIRST QUARTER** | |
| Describe the exponent and the base in a number expressed in exponential notation. Gives the value of numbers expressed in exponential notation. | Lesson 1.1 Exponential Notation |
| Interpret and explain the Grouping, Exponent, Multiplication, Division, Addition, Subtraction (GEMDAS) rule. Performs two or more different operations on whole numbers with or without exponents and grouping symbols. | Lesson 1.2 Order of Operations |
| Tell the factors and multiples of a number. Solve for the prime factors of a number using prime factorization. Write prime factors in exponential notation. | Lesson 1.3 Factors, Multiples, Prime and Composite Numbers, Prime Factors and Prime Factorization |
| Tell if a number is divisible by 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 25. Find the divisibility of a number by another number. | Lesson 1.4 Divisibility Rules |
| Identify the greatest common factor (GCF) and least common multiple of two or more numbers. | Lesson 1.5 Greatest Common Factor (GCF) and Least Common Multiple (LCM) |
| Describe fractions as part of a whole and as division. Classify different types of fractions. Convert mixed fraction to improper fraction and its vice versa. | Lesson 1.6 Fractions and Mixed Numbers |
| Add and subtract simple fractions and mixed fractions. | Lesson 1.7 Addition and Subtraction of Fractions and Mixed Numbers |
| Multiply and divide simple fractions and mixed fractions. | Lesson 1.8 Multiplication and Division of Fractions and Mixed Numbers |
| **SECOND QUARTER** | |
| Add and subtract decimals and mixed decimals through ten thousandths without or with regrouping. | Lesson 2.1 Addition and Subtraction of Decimals |
| Multiply decimals and mixed decimals with factors up to 2 decimal places. | Lesson 2.2 Multiplication of Decimals |
| Divide: a. whole numbers by decimals up to 2 decimal places and vice versa b. decimals/mixed decimals up to 2 decimal places Divide decimals: a. up to 4 decimal places by 0.1, 0.01, and 0.001 b. up to 2 decimal places by 10, 100, | Lesson 2.3 Division of Decimals |

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| and 1 000 mentally differentiates terminating from repeating, non-terminating decimal quotients. | |
| Express one value as a fraction of another given their ratio and vice versa. Define and illustrate the meaning of ratio and proportion using concrete or pictorial models. | Lesson 2.4 Rate, Ratio, and Proportion |
| Find a missing term in a proportion (direct, inverse, and partitive). Solve problems involving direct proportion, partitive proportion, and inverse proportion in different contexts such as distance, rate, and time using appropriate strategies and tools. | Lesson 2.5 Direct, Inverse, and Partitive Proportion |
| Find the percentage or rate or percent in a given problem. Solve percent problems such as percent of increase/decrease (discounts, original price, rate of discount, sale price, marked-up price), commission, sales tax, and simple interest. | Lesson 2.6 Finding the Percent and Base |
| Describe the set of integers and identify real-life situations that make use of it. Compare integers with other numbers such as whole numbers, fractions, and decimals. Compare and arrange integers on the number line. | Lesson 2.7 Introduction to Integers |
| Describe and interpret the basic operations on integers using materials such as algebra tiles, counters, chips, and cards. Perform the basic operations on integers. | Lesson 2.8 Basic Operations on Integers |
| **THIRD QUARTER** | |
| Name basic geometric figures. Recognize intersecting lines, parallel lines, perpendicular lines and skew lines. | Lesson 3.1 Points, Lines, and Planes |
| Classify and name angles. Construct angles. Draw and measure angles using protractor. | Lesson 3.2 Drawing and Measuring Angles |
| Classify polygon according to sides and angles. Classify triangles according to their sides and angles. Find the sum of the measure of the angles of the polygon. | Lesson 3.3 Polygons |
| Find the perimeter of the polygon. Find the circumference of the circle. | Lesson 3.4 Perimeter and Circumference of Simple Geometric Figures |
| Find the area of composite figures formed by any two or more of the following: triangle, square, rectangle, circle, and semi-circle. | Lesson 3.5 Area of Simple Geometric Figures |
| Visualize and describe the different solid figures: cube, prism, pyramid, cylinder, cone, and sphere using various concrete and pictorial models. Differentiate solid figures from plane figures. Identifies the faces of a solid figure. | Lesson 3.6 Solid Figures |

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| Visualize and describe surface area and names the unit of measure used for measuring the surface area of solid/space figures.<br>Finds the surface area of cubes, prisms, pyramids, cylinders, cones, and spheres.<br>Solve word problems involving measurement of surface area. | Lesson 3.7 Surface Area of Solid Figures |
| Determine the relationship of the volume between a rectangular prism and a pyramid; a cylinder and a cone; and a cylinder and sphere.<br>Find the volume of cylinders, pyramids, cones, and spheres.<br>Solve routine and non-routine problems involving volumes of solids. | Lesson 3.8 Volume of Solid Figures |
| **FOURTH QUARTER** | |
| Give the translation of real-life verbal expressions and equations into letters or symbols and vice versa. | Lesson 4.1 Describing Patterns Using Words and Algebra |
| Define a variable in an algebraic expression and equation. | Lesson 4.2 Introduction to Algebraic Expressions |
| Represent quantities in real-life situations using algebraic expressions and equations. | Lesson 4.3 Simplification and Evaluation of Algebraic Expressions |
| Organize data using frequency table. | Lesson 4.4 Frequency Table |
| Construct a pie graph based on a given set of data and interpret it. | Lesson 4.5 Pie Graph |
| Describe the meaning of probability such as 50% chance of rain and one in a million chance of winning.<br>Make listings and diagrams of outcomes and tells the number of favorable outcomes and chances using these listings and diagrams. | Lesson 4.6 Simple Probability |

**Reference:**

Apistar, E. M., Boo, E. T., Caberte, J. L., Camarista, G. G., Ortiz, M., & Uy, E. J. (2017). *Soaring 21st Century Mathematics* 6 (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**. TThese 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.