

Math

Syllabus: Grade 5

Rationale for Learning Mathematics *Gain an appreciation for the important role mathematics plays in modern society. *Develop enough mathematical literacy to enable students to function at their maximum potential in a modern economy. *Develop the ability to estimate solutions, compute accurately, assess the reasonableness of their answers, and reason logically and critically.	Class Rules: <ol style="list-style-type: none">1. Arrive on time, prepared, and ready to learn2. Respect yourself and others3. Make friends and be thoughtful4. Take turns speaking and listening5. Say Please and Thank you6. Try your best!
Math Strands The Palau mathematics curriculum framework is organized under the following 5 STRANDS, or content themes, that run across grades 1 through 12. <ol style="list-style-type: none">1. Number Sense, Properties, and Operations2. Unit Systems and Measurement3. Spatial Sense and Geometry4. Data, Statistical Analysis, and Probability5. Patterns, Functions, and Algebra	Math Resources and Materials Grade 5 Primary Math Textbooks (Singapore math textbooks aligned to U.S) Volume A & B Computation of Letter Grade: <ul style="list-style-type: none">• 90%-100%.A• 80%-89%..... B• 70%-79%..... C• 65%-69%. D• 0%-64%.F Methods of Evaluation: Quarterly grade for Grade 1-8 is based on: A. 85% = Class Average * Class Average = 70% Test + 30% Other Components such as quizzes, group works, classwork, homework, self-assessments, experiments/demonstrations/research/project B. 15% = Quarter Exam

Strand/Topics	Grade 5
Number Sense, Properties, and Operations	<ul style="list-style-type: none"> • Compare two multi-digit whole numbers and decimals (to <i>thousandths</i>) based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons. • Show or explain that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left. • Round multi-digit whole numbers to any place using place value understanding. Define and determine the <i>least common multiple</i> of two whole numbers. • Define and determine the <i>least common multiple</i> of two whole numbers. Define and determine the <i>greatest common factor</i> of two whole numbers less than or equal to 200. • Multiply multi-digit whole numbers using the standard algorithm. • Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10; use whole-number exponents to denote powers of 10. • Find whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. • Apply order of operations to expressions involving the four operations: addition, subtraction, multiplication, and division, with or without parenthesis. • Reduce fractions using the principle $(n \times a)/(n \times b) = a/b$. • Recognize and generate equivalent forms of commonly used fractions, decimals, and percentages. • Relate fractions to division. • Solve contextual and real-life word problems related to the fraction. Add or subtract two fractions by using the least common denominators or least common multiple of the denominators. Show or explain why the strategy works. • Find the sum and difference of two mixed numbers with like and unlike denominators using a variety of strategies and representations. Solve contextual and real-life word problems related to the fraction. • Find the product and quotient of two fractions or a fraction and a whole number. • Count unit squares to find area using manipulative materials and graphing grid. • Explain what unit rate is. For instance, if you buy 5 oranges for \$4.50, what is the unit rate or unit price? $\\$4.50 \div 5 = \\0.90 • Find equivalent ratios and express ratios in simplest form. Multiply a decimal number by a 2-digit whole number. • Divide a decimal by a 1-digit whole number and round the quotient to 2 decimal places. • Divide decimals to hundredths using concrete models or drawings and strategies based on place value, properties of operations; relate the strategy to a written method and explain the reasoning used. • Read and interpret percentage of a whole. • Rewrite or express percentages as decimals and fractions, and vice versa. • Find the value for a percentage part when given the value for the whole. • Express a percentage as a fraction in its simplest form.

Strand/Topics	Grade 5
Unit Systems and Measurement	<ul style="list-style-type: none"> • Determine the height of a triangle given different sides for the base. Convert U.S. Customary Units to a smaller or to a compound unit or to a larger measurement unit where the answer is a whole or decimal number. • Convert metric units to a smaller or to a compound unit or to a larger measurement unit where the answer is a whole or decimal number. • Solve contextual problems of up to 3-steps that involve averages, rate, and the measurement in compound units. • Find the volume of an irregular solid. Solve word problems involving displacement of water by solids.
Spatial Sense and Geometry	<ul style="list-style-type: none"> • Count unit squares to find area using manipulative materials and graphing grid. • Classify two-dimensional figures in a hierarchy based on properties. • Know characteristics and properties of triangles. • Right Triangle has 1 right angle, isosceles triangle has two congruent opposite angles and sides, equilateral triangle has 3 equal sides and angles. Understand and use the properties of parallelograms, rhombuses, and trapezoids. • Find unknown angles in problems that involve quadrilaterals and triangles. (Learn some angle properties of parallelograms.)
Data, Statistical Analysis, and Probability	<ul style="list-style-type: none"> • Find the mean/average of data given. For instance, find the grade average. 85, 98, 78, 79, 82. Add them first and divide by the number of data such as 5. • Solve problems using data presented in line graph, and a conversion graph. • Read and interpret different types of graphs i.e. line graphs, tables and charts.
Patterns, Functions, and Algebra	<ul style="list-style-type: none"> • Write simple expressions that record calculations with numbers.