



Academia Santa Rosa
Bayamón, PR
academiasantarosa@asrpr.org

Syllabus 2023-2024
Mathematics 5B

Course: Math Fifth Grade
Teacher: Mrs. T. Morales
Platform: 5th Math Series from Edu System

Office hours: (Only by appointment)
Email: tmorales@asrpr.org

I. Course description and introduction:

According to the standards of the Puerto Rico Department of Education and the National Council of Teachers of Mathematics (NCTM), in fifth grade, the primary areas of emphasis are the standards of Number and Operation. The curriculum will also provide a balanced focus on algebra, geometry, measurement, data analysis, and probability. It is emphasized that mathematics involves more than just accuracy; thus, students will connect knowledge of the magnitude of very large numbers (up to one hundred billion), decimals (up to the thousandth), and fractions, applying them to real-life situations. They will work on concepts related to place value, cardinal numbers, fractions, and decimals, as well as the four basic operations, distance, time, capacity, mass of objects, money, associative and commutative properties, numerical and geometric patterns, expressions, perimeter, area, physical properties of figures, variables, equations, appropriate measurements, conversions between the English and metric systems, collecting numerical and categorical data, graphing, and simple probability of events to solve problems and make data-driven decisions in everyday situations. By the end of fifth grade, students are expected to have mastered place value and basic operations with cardinal numbers up to at least one hundred billion.

The EduSystem Mathematics K-6 series actively encourages students to apply what they learn and recognize the universal significance of mathematics in relation to society, community, organizations, and institutions. Moreover, by incorporating real-life situations and problems into each topic, the series aims to spark students' interest in the study of mathematics, making it more engaging and relevant to their daily lives.

II. General Objectives:

- Help students develop an interest and appreciation for mathematics.
- Develop the problem-solving processes in students, as a cornerstone of encouragement, furthering the development of mathematical capacity.
- Stimulate within students the need of using language and academic vocabulary to communicate mathematical ideas.
- Develop mathematical reasoning and critical thinking skills that allow students to visualize mathematics as a relevant discipline in their lives.

III. Specific objectives:

The student will:

- Study the relative size of numbers. They will compose, decompose, compare, order, and round cardinal numbers up to nine digits and decimals up to the thousandths. They will also work on representing fractions and decimals.
- Solve mathematical problems using multiplication and division of cardinal numbers, decimals, and fractions. They will also add and subtract unlike fractions and decimals. Estimation and mental computation will be used as strategies to solve mathematical and everyday life problems.
- Identify the rules that describe patterns and express them in equations and expressions. They will solve algebraic equations with variables and constants that model real-life situations. Additionally, they will work with mathematical problems involving graphs on the Cartesian plane.
- Continue their study of two-dimensional figures with an emphasis on types of quadrilaterals and triangles. They will solve mathematical problems using their knowledge of the attributes and sum of angles in a triangle and quadrilateral.
- Distinguish between the concepts of length, area, perimeter, and volume. They will use their knowledge of the area of a rectangle to derive formulas for the area of triangles and rectangles. Additionally, the concept of surface area will be introduced using models of three-dimensional figures.
- Conduct simple experiments to collect, organize, and interpret data, which will be presented in graphs and tables. Once the data is organized, the student will be able to interpret it to draw conclusions and make predictions about future events.

IV. Content outline:

UNITS	THEMES
Unit 1: Numbers	<ul style="list-style-type: none">• Numbers to the Billions• Comparing and Organizing Numbers to the Billions• Decimal Numbers to the Thousandths• Comparing and Organizing Decimals• Even and Odd Numbers• Roman Numerals
Unit 2: Addition and Subtraction	<ul style="list-style-type: none">• Rounding Whole Numbers• Rounding Decimal Numbers• Adding and Subtracting Whole Numbers• Estimating Totals and Differences of Whole Numbers• Adding and Subtracting Decimals to the Thousandths• Estimating Totals and Differences of Decimal Numbers
Unit 3: Multiplication	<ul style="list-style-type: none">• Properties of Multiplication• Estimating Products• Multiplying Two-Digit Factors• Multiplying by 10, 100, and 1,000• Multiplying Three-Digit Factors

	<ul style="list-style-type: none"> • Prime and Composite Numbers • Prime Factorization • Write an Expression in Exponential Form • Exponential Expression in Standard Form
Unit 4: Multiplication and Division	<ul style="list-style-type: none"> • Fact Families • Dividing by Multiples of 10 • One-Digit Divisors • Dividing Four and Five Digit Numbers • Two-Digit Divisors • Verifying a Division Through Multiplication • Dividing With Zeroes in the Quotient • Dividing Decimal Numbers by Whole Numbers • Estimating Quotients
Unit 5: More Multiplication	<ul style="list-style-type: none"> • Multiplying Decimal Numbers by Whole Numbers • Multiplying Two Decimal Numbers • Zeroes in the Products of Decimal Numbers • Order of Operations
Unit 6: Fractions	<ul style="list-style-type: none"> • Equivalent Fractions • Greatest Common Factor • Simplifying Fractions • Least Common Multiple • Comparing and Placing Fractions in Order • Converting Mixed Numbers to Improper Fractions • Converting Improper Fractions to Mixed Numbers
Unit 7: Operations with Fractions	<ul style="list-style-type: none"> • Adding Like and Unlike Fractions • Subtracting Like and Unlike Fractions • Adding and Subtracting Mixed Numbers • Multiplying and Dividing Fractions • Multiplying Mixed Numbers • Dividing Mixed Numbers • Writing Fractions as Decimals
Unit 8: Numerical and Algebraic Expressions	<ul style="list-style-type: none"> • Numerical and Algebraic Expressions • Variables and Expressions • The distributive property
Unit 9: Numerical and Algebraic Expressions	<ul style="list-style-type: none"> • Ratios • Equivalent Ratios • Reading and Writing Percentages • Percentage of a Given Number • Converting from Percentages to Fractions • Converting from Decimal to Percentage • Changing Fractions to Percentages
Unit 10: Measurement	<ul style="list-style-type: none"> • Prefixes in the Metric System • Metric System: Units of Length, Mass, and Capacity • Converting Units of Length, Mass, and Capacity from the Customary System • Temperature on a Thermometer

	<ul style="list-style-type: none"> • Time Elapsed • Converting Units of Time
Unit 11: Geometry	<ul style="list-style-type: none"> • Basic Geometric Concepts • Perpendicular, Oblique and Parallel Lines • Angle Classification • Triangle Classification • Quadrilateral Classification • Axis of Symmetry • Similar and Congruent Figures • Geometric Shapes • The Circle
Unit 12: Area and Perimeter	<ul style="list-style-type: none"> • Perimeter of Two-Dimensional Shapes • Area of Two-Dimensional Shapes • Volume of a Polyhedron • Area of Irregular Two-Dimensional Figures • Area of Parallelograms • The surface area of three-dimensional figures
Unit 13: Statistics	<ul style="list-style-type: none"> • Probability of an Event • Experiments, Surveys, and Predictions • Ordered Pairs • Mean, Median, and Range • Bar Graphs, Line Graphs, Pie Charts, and Pictographs

V. Didactic materials:

1. Technological equipment
2. Curricular framework
3. Content Standards: Mathematics
4. Printed material.
5. Educational links
6. Technology equipment (computer, radio, projector) Physical facilities (Laboratory and Library)
7. Google Classroom Platform

VI. Teaching strategies, techniques, methods:

Strategies:

- ECA
- Teamwork
- Reasonable accommodations: All reasonable accommodations for the particular needs of these students will be made in accordance with the Americans with Disabilities Act (ADA).

Techniques:

- Socialized discussion
- Demo

- Laboratory
- Virtual laboratory
- Excursion

Methods:

- Explore
- Acquire
- Discover
- Problem solution
- Worksheets
- Calculator
- Comment and analyze situations in daily life.
- Projects and Homework's online.

VII. Evaluation Method:

Criteria and instruments:

- Exams – Approximately 3 per quarter
- Short tests
- Worksheets - Appraisal (value will depend on skill)
- Online Assignments - Vary by skill
- Assessments and dictations of the tables – weekly
- Projects - Appraisal carried out in class.

VIII. Course requirements

- Checkered notebook; 6 or 7 mm
- Sharpened pencils
- Eraser
- Rule
- Compass
- Colored pencils or crayons
- Ballpoint pen (for self-correction)
- Ring and construction paper
- Bring a written excuse when you are absent.
- Make up assignments covered when absent.
- Comply with the Cell Phone Policy.
- Comply with the Plagiarism Policy.

* This syllabus is subject to change according to the needs of the students, given learning experiences, and other factors that may arise.



ACKNOWLEDGEMENT OF RECEIPT OF THE SYLLABUS AND STUDENT EVALUATION PLAN		
Student's Name	Parent's signature	Date