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## **Syllabus 2023-2024**

### **Mathematics 4B**

Course: Math Fourth Grade  
Teacher: Mrs. T. Morales  
Platform: 4th Math Series from Edu System

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#### I. Course description and introduction:

The areas of emphasis in fourth-grade Mathematics according to the standards of the Puerto Rico Department of Education and the National Council of Teachers of Mathematics (NCTM) are Number and Operation, and Measurement. It is considered that mathematics involves something more than just accuracy; therefore, the student will connect knowledge of the magnitude of very large numbers (up to one hundred million), decimals (up to the hundredth), and fractions, along with their application in daily life. They will work on place value, cardinal numbers, fractions, and decimals, basic operations, distance, time, capacity, mass of objects, money, associative and commutative properties, numerical and geometric patterns, expressions, perimeter, area, physical properties of figures (two-dimensional and three-dimensional), variables, equations, appropriate measurements, conversions between the English and metric systems, collecting numerical and categorical data, graphs, and simple event probability for problem-solving and decision-making based on real-life situations. Upon completing the fourth grade, the student will master place value and basic cardinal number operations up to at least one hundred million.

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:

- Solve problems using the four basic operations with cardinal numbers.
- Identify, compare, and order decimals and fractions. They will represent common fractions and equivalent decimals and place them on a number line. Additionally, they will solve problems involving addition and subtraction of like fractions.
- Solve measurement problems, especially those involving area and perimeter. These will involve calculations, hands-on activities, and the application of formulas. The student will use associative and commutative properties to aid in the process of solving mathematical problems. They will also convert units between systems.
- Collect, organize, and interpret data and communicate their results through tables and graphs. They will use mode, median, and range as tools to interpret their data and predict the probability of an event occurring. They will calculate the probability of a simple event using tables and/or diagrams and express the probability in multiple forms (fractions and decimals).
- Identify and describe the characteristics of basic two and three-dimensional shapes and understand the relationship of these figures with their similarities and congruencies. They will work in the first quadrant of the Cartesian plane with ordered pairs. Additionally, they will learn the parts of a circle.
- Work with equations. They will be introduced to the concept of variables and represent relationships using expressions with variables. They will apply the order of operations for cardinal numbers and solve mathematical problems using equations. The focus will be on identifying, creating, and extending patterns with concrete objects, symbols, numbers, and figures, leading to generalizations and predictions.

IV. Content outline:

| <b>UNITS</b>                                      | <b>THEMES</b>   |
|---|---|
| Unit 1: Place Value                               | <ul style="list-style-type: none"><li>• The Thousands Period</li><li>• Round to the nearest thousand</li><li>• The Millions Period</li><li>• Ordinal Numbers</li><li>• Numeral Systems</li><li>• Recognizing the Value of Coins and Bills</li></ul>   |
| Unit 2: Adding and Subtracting Four-Digit Numbers | <ul style="list-style-type: none"><li>• Properties and Operations with Numbers</li><li>• Adding Four-Digit Numbers</li><li>• Estimating Four-Digit Numbers</li><li>• Strategies for Estimating Subtractions</li><li>• Subtracting Four-Digit Numbers</li><li>• Estimating Sums and Differences of Money</li></ul> |
| Unit 3: Multiplication                            | <ul style="list-style-type: none"><li>• Multiplying by 2 and 3</li><li>• Multiplying by 4 and 5</li><li>• Multiplying by 6 and 7</li></ul>  |

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|  | <ul style="list-style-type: none"> <li>• Multiplying by 8 and 9</li> <li>• Properties of Multiplication</li> <li>• Multiplication Tables</li> <li>• Factors and multiples</li> </ul>   |
| Unit 4: Let's Divide                         | <ul style="list-style-type: none"> <li>• Dividing by 2 and 3</li> <li>• Dividing by 4 and 5</li> <li>• Dividing by 6 and 7</li> <li>• Dividing by 8 and 9</li> <li>• Basic Fact Families</li> <li>• Dividing by 0 and 1</li> </ul>   |
| Unit 5: Geometry                             | <ul style="list-style-type: none"> <li>• Points, Lines, and Planes</li> <li>• Classifying Angles</li> <li>• Parallel and Perpendicular Lines</li> <li>• Polygons</li> <li>• Congruent and Similar Figures</li> <li>• Area and Perimeter</li> <li>• Parts of a Circle</li> <li>• Three-Dimensional Figures</li> </ul>   |
| Unit 6: Time and Graphs                      | <ul style="list-style-type: none"> <li>• Minutes and Hours</li> <li>• Using AM and PM Abbreviations</li> <li>• Estimating Time</li> <li>• Time Elapsed</li> <li>• The Calendar</li> </ul>  |
| Unit 7: Multiplying by Two-Digit Numbers     | <ul style="list-style-type: none"> <li>• Multiplying by Multiples of 10</li> <li>• Multiplying Three and Four-Digit Numbers</li> <li>• Multiplying by Two-Digit Numbers</li> <li>• Estimating Products of Numbers and Amounts of Money</li> </ul>  |
| Unit 8: Dividing Two and Three-Digit Numbers | <ul style="list-style-type: none"> <li>• Dividing Multiples of 10</li> <li>• Dividing Three-Digit Numbers</li> <li>• Dividing Three-Digit Numbers with Remainders</li> <li>• Dividing by Two-Digit Numbers</li> <li>• Estimating Quotients</li> </ul>  |
| Unit 9: Measurement                          | <ul style="list-style-type: none"> <li>• Units of Length in the Customary and Metric Systems</li> <li>• Units of Capacity in the Customary and Metric Systems</li> <li>• Units of Mass in the Customary and Metric Systems</li> <li>• Units of Length to the Fraction of an Inch</li> <li>• From one unit to another</li> <li>• The Volume of Objects</li> </ul> |
| Unit 10: Fractions                           | <ul style="list-style-type: none"> <li>• Parts of a Whole: Halves and Fourths</li> <li>• Parts of a Whole: Thirds and Sixths</li> <li>• A Fraction of a Group</li> <li>• Equivalent Fractions</li> <li>• Simplifying Fractions</li> </ul>  |

|                                     |  |
|-------------------------------------|--|
|                                     | <ul style="list-style-type: none"> <li>• Comparing Fractions</li> <li>• Adding and Subtracting Like Fractions</li> <li>• Add and subtract mixed numbers</li> <li>• Proper and Improper Fractions</li> </ul>  |
| Unit 11: Patterns and equations     | <ul style="list-style-type: none"> <li>• Number and geometric patterns</li> <li>• One-step addition and subtraction equations</li> <li>• One-Step multiplication and division equations</li> </ul>   |
| Unit 12: Probability And Statistics | <ul style="list-style-type: none"> <li>• Probability That an Event Will Occur</li> <li>• Sample Space</li> <li>• Proving Predictions</li> <li>• Gathering Data</li> <li>• Mode and Median in a Data Set</li> <li>• Finding the Average in a Data Set</li> <li>• Data and graphs</li> <li>• Making Pictographs</li> <li>• Ordered Pairs</li> <li>• Line Graphs</li> </ul> |
| Unit 13: Decimals                   | <ul style="list-style-type: none"> <li>• Tenths</li> <li>• Hundredths</li> <li>• Thousandths</li> <li>• Estimating and Rounding Decimals</li> <li>• Comparing Decimal Numbers</li> <li>• Adding and Subtracting Decimal Numbers</li> <li>• Fractions and Decimals</li> </ul>   |

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 |
|  |                    |      |