

Course Syllabus

Mathematics, Grade 3

Grade 3 Math, Final
Guardian Angels School

The Foundations of Learning (1999) curriculum offers kindergarten through grade 12 objectives for the Knowledge and Comprehension levels of Bloom's Taxonomy. EdVISION developed this curriculum based on extensive research of standardized and state tests. Additional objectives were added to enhance the content areas.

The mathematics component of the Foundations of Learning curriculum focuses on basic skills. Objectives primarily involve the identification, recognition, comprehension, or understanding of various math topics.

The Principles and Standards for School Mathematics describe the mathematical understanding, knowledge, and skills that students should acquire from prekindergarten through grade 12.

The ITBS Form A for mathematics measures the skills and achievement of students.

In this area students concentrate on making mathematical connections and using principles of mathematics to communicate, reason, and solve problems. Students engage in projects which require them to apply number systems, operations, and forms in real-world contexts.

The MEAP assesses student progress in Mathematics.

The Michigan Curriculum Framework describes Mathematics as the science of patterns and relationships and as the language and logic of our technological world. The Michigan Curriculum Framework states that Mathematical power is the ability to explore, to conjecture, to reason logically, and to use a variety of mathematical methods effectively to solve problems; whereas the ultimate goal of mathematics education is for all students to develop mathematical power to participate fully as a citizen and worker in our contemporary world.

The Michigan Curriculum Framework Mathematics Vision Statement states that a mathematically powerful individual should be able to:

- * reason mathematically
- * communicate mathematically
- * problem solve using mathematics

* make connections within mathematics and between mathematics and other fields.

The Foundations of Learning curriculum provides objectives for third grade students.

Algebraic Concepts

The Algebraic Concepts Unit includes Competencies/Objectives which focus on algebraic equations and operations. Students explore the symbolic nature of algebraic concepts by identifying and extending patterns in algebra, by following algebraic procedures, and by proving theorems with properties.

- The learner will be able to identify all of the components completing a fact family.
- The learner will be able to identify the expression shown by a given picture.

Data Interpretation

The Data Interpretation Unit includes Competencies/Objectives which focus on the study and use of graphical forms. Students collect and classify data, organize and display data, use logical reasoning, and problem solving.

- The learner will be able to identify or compare amounts in a bar graph.
- The learner will be able to add amounts from a table.

Decimals

The Decimals Unit includes Competencies/Objectives which focus on number sense and operations with decimals. Students compare and compute decimals, study money, estimate decimals, problem solve using decimals, and reason using decimals.

- The learner will be able to represent and compare decimal amounts using money.
- The learner will be able to use decimals to express money amounts.

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Fractions

The Fractions Unit includes Competencies/Objectives which focus on number sense and operations with fractions.

Students compare and order fractions, study fraction parts, estimate with fractions, reason using fractions, and problem solve using fractions.

- The learner will be able to show an understanding of fractions by matching fractions with the appropriate diagrams of partially shaded figures.
- The learner will be able to show an understanding of unit fractions by matching them with appropriate representations.

Geometry

The Geometry Unit includes Competencies/Objectives which focus on exploring geometric concepts from multiple perspectives. Students study properties and construction of figures, proofs and theorems, history of geometry, transformations, logic, and problem solving.

- The learner will be able to identify shapes in real world objects and drawings.

Measurement

The Measurement Unit includes Competencies/Objectives which focus on measurement concepts, applications, and analysis. Students study length, area, circumference, perimeter, volume, weight, formulas, distance, calendar, money, tools, accuracy, units, constructions, patterns, and problem solving.

- The learner will be able to read both analog and digital clocks and match equivalent times.
- The learner will be able to determine the length of an object using a nonstandard ruler.
- The learner will be able to select the appropriate units (minutes, hours, days, weeks, months) to measure time.
- The learner will be able to round money amounts to the nearest dollar.

- The learner will be able to estimate temperature.
- The learner will be able to make temperature comparisons between familiar objects.
- The learner will be able to compare the area of different figures.
- The learner will be able to identify the appropriate measure for determining weight.
- The learner will be able to determine the area of rectangular figures by counting the square units within the figure.

Number Theory

The Number Theory Unit includes Competencies/Objectives which focus on manipulating number forms and classifications. Students make connections between number forms and their real world applications.

- The learner will be able to compare the values of the following number forms for whole numbers less than 1000: numeral, word name, expanded notation, and place value representation.
- The learner will be able to translate numbers between their word name (one) and numeric (1) form.
- The learner will be able to match word names with whole numbers up to 100.
- The learner will be able to determine the value of a number given clues about the place value of the numbers which comprise it.
- The learner will be able to identify expanded notation for whole numbers less than 100.
- The learner will be able to demonstrate the different number forms and values a number can have (i.e., five, 5, $4+1$, $2+3$, etc.).

Numeration

The Numeration Unit includes Competencies/Objectives which focus on exploring ordinality, identifying and extending number patterns, comparing numbers, and demonstrating number relationships.

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- The learner will be able to determine which of two numbers is greater than or less than the other.
- The learner will be able to order three-digit numbers in the correct sequence.
- The learner will be able to round whole numbers to the nearest hundreds place.

Whole Numbers

The Whole Numbers Unit includes

Competencies/Objectives which focus on whole number concepts. Students perform operations with whole numbers, use manipulatives to demonstrate whole number concepts, and solve problems with whole numbers in real world contexts.

- The learner will be able to add whole numbers both vertically and horizontally, with and without regrouping.
- The learner will be able to subtract whole numbers both vertically and horizontally, with and without regrouping.