

Course Syllabus

Mathematics, Grade 6

Grade 6 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 sixth grade students.

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

The Principles and Standards for School Mathematics provide standards for students in grades 6-8.

In this course students explore the world of numbers, algorithms, patterns, shapes, data, and spatial sense. Students engage in activities involving whole numbers, decimals, fractions, percents, integers, rational numbers, number sentences, measurement, estimation, coordinate geometry, making sense of real-world data (collecting, discussing, and making conclusions about data), conceptualizing and converting numbers in various forms, and justifying mathematics solutions by articulating the reasons behind the solutions. Course work includes using manipulatives to represent algebraic concepts. The course emphasizes the need for students to make mathematical connections and to use mathematics principles to communicate, reason, and solve problems.

The MEAP assesses student performance in mathematics at grade eight.

The Michigan Curriculum Framework for Mathematics outlines Content Standards for students in grade six.

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 determine the number represented by the sum of two sections of a circle graph given in percents.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

- The learner will be able to read amounts from the scales of bar graphs.
- The learner will be able to read amounts from the scales of line graphs.
- The learner will be able to demonstrate the ability to interpret graphical forms of data by articulating the details, facts, and concepts presented in the forms, and by evaluating the reasonableness of specific graphical forms given the types of information presented in the forms.
- The learner will be able to read and interpret maps, scattergrams, box and whisker graphs, and stem-and-leaf charts.
- The learner will be able to identify or compare amounts in a bar graph.
- The learner will be able to use graphical forms to show a solution to a probability problem, to provide visual or condensed representation of an idea, to explain mathematical concepts, and to express real world situations such as population variance, grades, marketing materials, sports statistics, and cultural trends.
- The learner will be able to construct charts and graphs.
- The learner will be able to interpret data from circle/pie and line graphs, including identifying values from the graph, determining that addition or subtraction is needed to find an answer, and comparing values from the graph.
- The learner will be able to identify, compare, and add or subtract amounts read from pictographs.
- The learner will be able to identify values from the graph, compare values from the graph, determine the value of multiple entries, and perform the necessary calculations to find the missing parts of a table.
- The learner will be able to add or subtract information presented in the form of a bar graph.
- The learner will be able to draw a logical conclusion based on data presented in graphical format.

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 and label specific parts of an angle: the vertex, rays, interior and exterior.
- The learner will be able to identify lines of symmetry in figures.
- The learner will be able to identify similar figures when no pictures are provided.
- The learner will be able to identify congruent parts of geometric figures.
- The learner will be able to classify geometric figures.
- The learner will be able to compare figures.
- The learner will be able to identify various geometric figures.
- The learner will be able to recognize geometric relationships.
- The learner will be able to recognize properties of geometric figures.
- The learner will be able to precisely explain, classify, and comprehend relationships among types of two- and three-dimensional objects by applying their defining properties.
- The learner will be able to identify and use geometric concepts and relationships in topics outside of the mathematics classroom.
- The learner will be able to apply geometric models to illustrate and describe numerical and algebraic relationships.
- The learner will be able to formulate and assess inductive and deductive arguments with regard to geometric concepts and relationships.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

- The learner will be able to apply two-dimensional representations of three-dimensional objects to visualize and obtain solutions to problems.
- The learner will be able to specify locations and explain spatial relationships by applying coordinate geometry and various other representational systems.
- The learner will be able to apply transformations in order to examine the congruence, similarity, and line or rotational symmetry of objects.
- The learner will be able to explain sizes, positions, and orientations of shapes under informal transformations.
- The learner will be able to draw geometric objects with given properties.
- The learner will be able to comprehend relationships among the angles, side lengths, perimeters, areas, and volumes of similar objects.
- The learner will be able to create mathematical arguments about geometric relationships.
- The learner will be able to obtain solutions to problem situations with geometric models.
- The learner will be able to apply many different methods of proofs.
- The learner will be able to choose from many different methods of proofs.
- The learner will be able to use spatial reasoning to solve problems.
- The learner will be able to study the characteristics of two-dimensional shapes.
- The learner will be able to study the properties of two-dimensional shapes.
- The learner will be able to study the characteristics of three-dimensional solids.
- The learner will be able to study the properties of three-dimensional solids.
- The learner will be able to obtain solutions to problems using spatial visualization.
- The learner will be able to apply symmetry to study mathematical scenarios.
- The learner will be able to apply transformations to study mathematical situations.
- The learner will be able to study angle measurement by analyzing three circles, each divided by a different number of wedges, and four angles of different sizes, and count the number of wedges from each circle to determine how many fit into each angle measure.
- The learner will be able to develop spatial sense by speaking, writing, and using models and diagrams to explain such terms and concepts as transformation, congruency, similarity, points, lines, and the properties of two- and three-dimensional figures.
- The learner will be able to identify the corresponding sides of two congruent figures and, using the proportional relationship between the sides of two similar figures, calculate an unknown side length.
- The learner will be able to demonstrate the ability to make connections between algebra and geometry by determining the relationships between number sentences and lines on the Cartesian plane (numerical coefficients, slopes, y-intercepts), and by exploring and explaining the relationship between the form $ax^2 + bx + c = 0$ to both the Cartesian plane and the quadratic formula.
- The learner will be able to explore properties of quadrilaterals by drawing quadrilaterals on geopaper divided into 3×3 sections (9 dots), discussing the different types of quadrilaterals drawn, and making predictions about how each type of quadrilateral will change if turned one quarter, one half, three quarters, etc.
- The learner will be able to identify squares, circles, triangles, rectangles, ovals, cubes, spheres, and/or cones.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

- The learner will be able to communicate solutions to problems across the mathematics curriculum using the language of geometry where appropriate.
- The learner will be able to draw and describe lines, angles, and triangles using tools such as a ruler, protractor, etc.
- The learner will be able to explore borders, and create expressions, by determining the number of square units on a piece of grid paper (8 squares x 8 squares), and finding the number of square units on the border of the grid paper.
- The learner will be able to solve real world problems which require logical deductions and reasoning based on geometric properties without being cued about the properties which would apply to the problem, and utilize geometric concepts as proof or evidence of a self-generated solution theory.
- The learner will be able to apply the following geometric terms in discussing and comparing figures and shapes: congruent, area, perimeter, and volume.
- The learner will be able to apply the following geometric terms in discussing and comparing figures and shapes: parallel, perpendicular, intersection, similar, and circumference.
- The learner will be able to apply the following geometric terms in discussing and comparing figures and shapes: symmetry, curves, and lines.
- The learner will be able to identify and define circle parts.
- The learner will be able to describe the relationships between different lines and identify properties of intersecting, diagonal, horizontal, vertical, parallel, and perpendicular lines.

Integers

The Integers Unit includes Competencies/Objectives which focus on number sense and operations with integers. Students compare integers, perform operations with integers, convert integers to other number forms, use manipulatives to demonstrate integers, and solve problems

with integers in real world contexts.

- The learner will be able to add integers using a number line.
- The learner will be able to identify what constitutes the set of integers.
- The learner will be able to comprehend the meaning of positive and negative integers by applying them to explain real world scenarios.
- The learner will be able to create meaning for integers and illustrate and compare quantities with them.
- The learner will be able to recognize real world situations which call for operations with integers, and apply an understanding of integers to solve problems in such areas as temperature, coordinate geometry, number lines, algebra, and statistics, and analyze real world scenarios, set up number sentences, and solve problems.
- The learner will be able to use manipulatives and number lines to understand addition and subtraction of integers.
- The learner will be able to add and subtract integer numbers.
- The learner will be able to compare integers with ordering symbols ($<$, $>$, $=$) and with phrases.
- The learner will be able to talk and write about the uses of integers.
- The learner will be able to solve story problems requiring the addition, subtraction, multiplication, and division of integers, and determine the operations necessary to solve the problems without being cued.

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.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

- The learner will be able to find the perimeter of a square, rectangle, triangle, or other figure with the sides labeled.
- The learner will be able to calculate the area of a given figure.
- The learner will be able to apply area concepts to obtain problem solutions.
- The learner will be able to measure length.
- The learner will be able to measure mass.
- The learner will be able to apply perimeter concepts to obtain problem solutions.
- The learner will be able to measure temperature and time.
- The learner will be able to apply suitable units of measurement.
- The learner will be able to identify a suitable unit of measure for use in a particular situation.
- The learner will be able to measure the volume of figures.
- The learner will be able to use the concept of volume.
- The learner will be able to measure weight.
- The learner will be able to investigate the concept of area by building shapes with cubes, and explore these shapes by counting the cubes which make up the shapes.
- The learner will be able to estimate and measure area and volume.
- The learner will be able to develop models which demonstrate the structure and use of various units of measurement, and explain customary and metric units of measurement and situations in which they are utilized.
- The learner will be able to estimate length, weight, temperature, and capacity using both metric and standard units.
- The learner will be able to estimate the length, weight, and temperature of familiar objects using both standard and nonstandard units.
- The learner will be able to measure mass and capacity using both metric and standard units.
- The learner will be able to solve real world scenario problems (involving perimeter, area, or length) by using manipulatives to isolate the nature of the problem, by articulating how a given measurement situation can be solved, and by selecting appropriate measurement tools for a given situation (without being told the specific unit of measurement which should be used).
- The learner will be able to explore the relationships of perimeter and area of plane figures to the relationships of area and volume of solid figures.
- The learner will be able to estimate and measure circumference.
- The learner will be able to discover relationships between the units of measurement with models.

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 recognize and rewrite the expanded form of whole numbers less than 1,000,000,000.
- The learner will be able to solve story problems where decimal numbers are written as words.
- The learner will be able to understand place value of decimal numbers.
- The learner will be able to identify ratios and proportions within real world scenarios.
- The learner will be able to make classifications of numbers according to divisibility.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

- The learner will be able to write whole numbers in expanded notation.
- The learner will be able to illustrate numbers in various forms.
- The learner will be able to apply place value.
- The learner will be able to correctly write numbers in exponential notation.
- The learner will be able to write numbers in standard form.
- The learner will be able to determine the divisibility of whole numbers, determine the multiples of whole numbers, and identify prime numbers.
- The learner will be able to explain how whole numbers, fractions, decimals, and percents relate to each other, what they express, the contextual basis for each, and the ordinality of rational numbers, using written and/or oral presentations, incorporating the properties of each of these number forms to provide proof of a given relationship, focusing on the representational value of these numbers, not on how the numbers can be computed in isolated form.
- The learner will be able to maintain a journal of ideas and questions involving number forms, explain their thought processes and methods for dealing with number forms.
- The learner will be able to use manipulatives, pictures, and discussion to show the relationship between fractions, decimals, and percents.
- The learner will be able to use an intuitive sense of decimal numbers to demonstrate how decimals relate to whole numbers, fractions, and percents, compare decimal numbers, and create number lines and partially shaded figures which represent given decimal numbers within the context of a real world scenario.
- The learner will be able to identify prime numbers, multiples of prime numbers, and composite numbers.
- The learner will be able to use equivalent forms in story problems with real world applications.

- The learner will be able to identify the equivalent form of a whole number to the n th power.
- The learner will be able to use manipulatives to model how operations can be performed on both sides of an equation to maintain equality.

Numeration

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

- The learner will be able to compare numbers (whole, fraction, decimal, percent, and integer), identifying which is the least or greatest.
- The learner will be able to round whole numbers to the nearest ten, hundred, thousand, or ten-thousand and use this to estimate the outcome of a given equation.
- The learner will be able to compare and order numbers.
- The learner will be able to apply order of magnitude to approximate.
- The learner will be able to apply number sense to approximate.
- The learner will be able to apply standard rounding to approximate.
- The learner will be able to describe the properties of numbers.
- The learner will be able to use properties of numbers.
- The learner will be able to comprehend number patterns.
- The learner will be able to identify geometric patterns.
- The learner will be able to investigate many different types of number patterns.
- The learner will be able to make comparisons of quantities to decide rank.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

- The learner will be able to make comparisons of quantities to find sums and differences.
- The learner will be able to estimate information involving whole numbers in the world (population of the world, the United States, the school, etc.), conduct research on the actual numbers, compare the actual numbers to estimations, discuss discrepancies, analyze the reasons for each estimation, and try to determine if his/her estimation strategies are adequate.
- The learner will be able to apply estimation strategies to number sentences by comparing the greater of two number sentences, rounding the numbers, and deciding on the greater number sentence without adding.
- The learner will be able to estimate the number of digits in the answer to any given addition, subtraction, multiplication, or division problem, and explore strategies for estimating digits, and explain these strategies to others.
- The learner will be able to develop a sense of how big one million is by estimating the length of one million of something (toothpicks laid out end to end), the weight of one million of something, and the cost of one million of something, focusing on the reasons behind their estimations.
- The learner will be able to identify points on the number line, solve for the difference between two points, solve for an unknown point, and move up and down the number line with whole numbers, fractions, and/or decimals.
- The learner will be able to use a variety of estimation strategies to check results.
- The learner will be able to order a series of whole numbers, fractions, and decimals.
- The learner will be able to explore expressions, equations, and inequalities involving whole numbers, fractions, decimals, and integers within the context of real world scenarios.
- The learner will be able to show ways of performing basic operations.
- The learner will be able to apply variable expressions to illustrate scenarios.
- The learner will be able to solve inequalities.
- The learner will be able to obtain solutions to multiple-step problems.
- The learner will be able to solve one-step problems.
- The learner will be able to solve given equations.
- The learner will be able to apply operational symbols.
- The learner will be able to apply relational symbols.
- The learner will be able to make interpretations of operational symbols.
- The learner will be able to make interpretations of relational symbols.
- The learner will be able to develop and write equations based on word problems.
- The learner will be able to add and subtract one variable expressions and equations and identify the correct way to determine such equations from story problems.
- The learner will be able to multiply and divide one variable expressions and equations and identify the correct way to determine equations from story problems.
- The learner will be able to determine equations for and solve word problems using expressions and equations.
- The learner will be able to solve for the value of a variable given in an inequality and as shown on a graph by manipulating the inequality correctly.
- The learner will be able to explore expressions, equations, and inequalities involving whole numbers, fractions, decimals, and integers within the context of real world scenarios, identify relationships between the

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.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

variables and coefficients, and articulate how each relates to a corresponding real world problem (in coordinate geometry, measurement, career fields, etc.).

- The learner will be able to use a given equation to develop a story problem.
- The learner will be able to check the correctness of an answer by using the inverse operation.
- The learner will be able to determine the correct order of calculations when more than one operation is to be performed.
- The learner will be able to use mental arithmetic and estimation to solve problems.
- The learner will be able to "work backwards" to solve story problems.
- The learner will be able to analyze which solution tool would best solve a problem: calculator, pencil and paper, mental math.

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 perform addition of decimals with differing numbers of decimal places.
- The learner will be able to add decimals which are of the same place value.
- The learner will be able to divide a decimal number by a whole number.
- The learner will be able to multiply 2 decimal numbers.
- The learner will be able to multiply a decimal by a whole number.
- The learner will be able to subtract decimals which are of the same place value.

- The learner will be able to solve either a story or numerical problem requiring addition or subtraction of decimals.
- The learner will be able to round decimal numbers to the nearest whole number, tenths, and hundredths place, in the context of a problem involving money amounts.
- The learner will be able to multiply, divide, and compare decimals using the correct order of operations when necessary.
- The learner will be able to demonstrate a sense of place value by analyzing a decimal number with missing digits, and then altering it appropriately to satisfy certain conditions.
- The learner will be able to use manipulatives, calculators, and symbols to solve real world scenario problems which call for the rounding, addition, subtraction, multiplication, and division of decimals. This process includes evaluating a given problem scenario, identifying the problem, determining the relevant elements and the required operation, setting up a number sentence, and solving the problem.
- The learner will be able to solve story problems involving adding 3 numbers with decimals.
- The learner will be able to solve story problems by dividing decimals up to the hundredths position.
- The learner will be able to solve real world story problems by determining that multiplication is required, by regrouping the numbers, and by multiplying the appropriate decimals up to the hundredths position.
- The learner will be able to articulate (in terms of place value) the reasoning behind placing the decimal point in the appropriate position when evaluating number sentences involving operations on decimals.
- The learner will be able to solve story problems involving subtracting decimals.

Fractions

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

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 add two fractions with different denominators.
- The learner will be able to add fractions with the same denominator.
- The learner will be able to multiply two basic fractions.
- The learner will be able to subtract fractions with like denominators.
- The learner will be able to subtract fractions that possess different denominators.
- The learner will be able to make connections between the functions of numerators and the functions of denominators by exploring fractions (i.e., drawing conclusions about fractions a/b , b/c , c/b , a/c , b/a , and c/a , when $a > b > c$).
- The learner will be able to have an intuitive sense of fractions, the portions they represent, and how fractions are used to solve problems and to communicate proportions and ideas in real world settings.
- The learner will be able to demonstrate an understanding of fractions and the ability to represent fraction concepts in different mediums by analyzing a bar graph.
- The learner will be able to create Venn diagrams which demonstrate how specific fractions relate to one another, and name fractions which meet the criteria of all three circles, which meet the criteria of only two circles, and which don't fit into any of the circles.
- The learner will be able to demonstrate a sense of how operations with fractions manipulate numbers by recognizing a real world situation which calls for specific operations (addition, subtraction, multiplication, or division) with fractions, evaluating the situation, articulating the nature and elements of the problem, and solving the problem without being cued that the calculations involved would require fractions.

- The learner will be able to solve story problems requiring the addition or subtraction of fractions and reduce answers to lowest terms.
- The learner will be able to compare 2 equivalent fractions and equivalent and mixed fractions.
- The learner will be able to compare a fraction to 1.
- The learner will be able to divide two fractions.
- The learner will be able to multiply 2 fractions.

Probability/Statistics

The Probability/Statistics Unit includes Competencies/Objectives which focus on data analysis and probability concepts. Students collect, analyze, and make sense of real world data (including overlapping data, inconclusive data, etc.).

- The learner will be able to make interpretations of relationships and trends to form generalizations or generate conclusions.
- The learner will be able to make interpretations of relationships and trends to distinguish rates or recognize trends.
- The learner will be able to make interpretations of relationships and trends to comprehend underlying and functional relationships.
- The learner will be able to apply counting methods.
- The learner will be able to apply the measures of central tendency.
- The learner will be able to understand the standard measures of central tendency.
- The learner will be able to apply the concepts of probability.
- The learner will be able to apply measures of variability.
- The learner will be able to comprehend measures of variability.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

- The learner will be able to create appropriate circle graphs for information where the whole is known or can be predicted, and the information is being presented to communicate the relative size of the parts of a whole.
- The learner will be able to collect data from a variety of sources, consolidate the raw data, and select appropriate elements of the data to organize and include in a logical graphical form (diagrams, tables, charts, bar graphs, line graphs, pictographs, etc.) which suits a given purpose and audience.
- The learner will be able to create and carry out appropriate experiments to find the probability of a given event (when the event is given, but the details of how to develop and carry out an experiment which proves probability are not).
- The learner will be able to conduct an independent experiment which requires posing questions, collecting data, organizing the data, and reporting on findings.
- The learner will be able to find the mean, mode, and median of data which is presented in a graphical form.
- The learner will be able to calculate mean, median, mode, and range for a given group of numbers.
- The learner will be able to discuss the difference between theoretical and real world probability.

Problem Solving

The Problem Solving Unit includes

Competencies/Objectives which focus on analyzing problems, evaluating solutions, exploring problems, and developing strategies for solving problems.

- The learner will be able to identify when information is extraneous or missing.
- The learner will be able to select strategies for obtaining solutions to problems.
- The learner will be able to use a variety of solution strategies to solve problems including: patterns, tables, working backwards, lists, pictures, guess and check, and breaking up.

- The learner will be able to use different strategies to solve problems such as guess and check, patterns, pictures, tables, charts, graphs, inverse operations, and breaking it up into an easier problem.
- The learner will be able to solve story problems which include irrelevant information.
- The learner will be able to justify a solution within a problem solving situation.

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, regrouping when necessary.
- The learner will be able to divide whole numbers with no remainders.
- The learner will be able to divide whole numbers when remainders are present.
- The learner will be able to multiply whole numbers, regrouping when necessary.
- The learner will be able to subtract whole numbers, regrouping when necessary.
- The learner will be able to solve story problems involving adding up to three whole numbers.
- The learner will be able to solve real world problems by determining that division is required, distinguishing the relevant elements of the problem, and dividing the appropriate numbers.
- The learner will be able to solve real world story problems by determining that multiplication is required.
- The learner will be able to solve story problems involving subtracting whole numbers.

Course Syllabus

Mathematics, Grade 6

Grade 6 Math, Final
Guardian Angels School

Percents

The Percent Unit includes Competencies/Objectives which focus on the concepts of percent. Students perform operations with percents, convert percents to other number forms, use manipulatives to demonstrate percents, and solve problems with percents in real world contexts.

- The learner will be able to calculate decimals in the form of currency and find percentage discounts.
- The learner will be able to show an intuitive sense of what a percent is, and how percents are used in real world scenarios, by completing sentences involving percentages with appropriate and reasonable choices that are given.
- The learner will be able to interpret sections of a circle graph by estimating the percentage each section is of the circle graph as a whole, show how estimations are proportional, and understand that the estimations for each section should add up to 100%.
- The learner will be able to calculate the percent of a number.
- The learner will be able to explain representation of percents less than 100.

Rational and Irrational Numbers

The Rational and Irrational Numbers Unit includes Competencies/Objectives which focus on number concepts. Students manipulate, compare, and perform operations with rational and irrational numbers.

- The learner will be able to discover properties of rational numbers.

Real Numbers and the Coordinate Plane

The Real Numbers and the Coordinate Plane Unit includes Competencies/Objectives which focus on graphing concepts. Students graph equations and make connections between algebraic concepts and their geometric correspondences.

- The learner will be able to create, use, discuss, and graph ordered pairs.

Technology

- The learner will be able to use tools and calculators to verify estimations of perimeters, areas, and volumes.
- The learner will be able to discover number patterns by using technology (i.e., calculators).