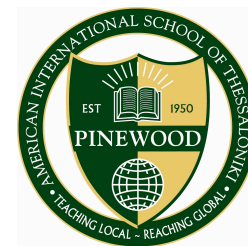


PINEWOOD – THE AMERICAN INTERNATIONAL SCHOOL OF THESSALONIKI

NAME OF COURSE: Mathematics

GRADE LEVEL: 6

SCHOOL YEAR: 2011-12



COURSE DESCRIPTION

In this course students will master the basic operations of adding, subtracting, multiplying and dividing with whole numbers, decimals and fractions. They will learn how to apply these skills to solving word problems and for use in geometry, algebra, probability and statistics. Students will cover mathematical topics including equation solving, ratios, proportions, percent, consumer math applications, as well as pre-geometry concepts concentrating on measurement and relationships involving lines, angles, and polygons.

This course provides the essential groundwork for success in Pre Algebra.

LEARNING OBJECTIVES

Within the five strands of mathematics, students will:

1. Numbers and Operations
 - Identify numbers, ways of representing numbers, relationships among numbers, and number systems.
 - Compare order and determine equivalent relationships between fractions, decimals, and percents
2. Algebra
 - Illustrate patterns, relations, and functions.
3. Geometry
 - Analyse characteristics and properties of two-and-three dimensional geometric shapes and develop mathematical arguments about geometric relationships
4. Measurement
 - Identify measurable attributes of objects and the units, systems, and processes of measurement
5. Data analysis and probability
 - Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them

SCOPE AND SEQUENCE

QUARTER I

Operations with Whole Numbers

- Evaluating mathematical expressions
- Simplifying expressions using the order of operations, distributive property
- Powers and Exponents
- Perfect squares

Using Variables and Solving Equations

- Writing mathematical expressions and equations – identifying vocabulary
- Like terms
- Solving basic equations and inequalities, graphing inequalities
- Solving two-step equations

QUARTER II

Decimal System

- Exponents and powers of ten
- Comparing and rounding decimals
- Simplifying decimals expressions

Number Theory

- Factors and Multiples
- Divisibility rules
- Square numbers and square roots
- Prime and Composite numbers
- Least Common Multiple, Greatest Common Factor

Fractions

- Equivalent Fractions
- Proper, Improper fractions and Mixed Numbers
- Comparing fractions
- Changing fractions to decimals, decimals to fractions
- Simplifying fractional expressions
- Ratio and Proportion – cross multiplication
- Scale drawings

QUARTER III

Percent

- Percents and fractions, percents and decimals
- Computing with percents
- Percent of increase and decrease (discount and markup)

Solving Equations

- One step equations with whole numbers, decimals, fractions
- Two-step equations with whole numbers, decimals, fractions
- Solving word problems using the 5-step plan

QUARTER IV

Geometric Figures

- Points, lines, planes, segments, rays,
- Angles and angle measures - properties
- Triangles – properties, perimeter, area
- Polygons – properties
 - a. Quadrilaterals - perimeter, area
- Circles - properties, perimeter, area

Statistics and Probability

- Pictographs
- Circle graphs
- Mean, median, range

Integers (*time permitting)

- Simplifying expressions involving positive and negative numbers

Solve equations with integers METHODOLOGY

This course is taught through lectures and discussion. *Students are encouraged to get involved in the discussion and ask for clarification at any time.* Peer teaching is also encouraged. Students will be actively involved in problem solving every day in either their notebooks or on the white board.

RESOURCES

- Main textbook: Mathematics: Structure and Method Course 1
Published by Houghton-Mifflin, 1992
- Teacher generated course materials either in handout form or thematic booklets.

ASSESSMENT

The students are assessed on the following:

- Daily homework assignments based on the day's lesson and assigned out of the main textbook or given in the format of a worksheet. Students are expected to complete all assignments, which will be collected and graded regularly. Students who hand in assignments late will suffer a 10% reduction in the overall grade.
- Class participation including board work, attentiveness of the student during the lesson, interest and effectiveness of the student in answering and asking questions about the lesson, participation in class activities, and general classroom behavior of the student.
- Three to four quizzes/tests per quarter, testing the student's overall knowledge and comprehension of a specific topic.

GRADING POLICY

- TESTS, QUIZZES 60% of the quarter grade
- HOMEWORK 30% of the Quarter grade
- CLASS PARTICIPATION 10% of the Quarter grade