

St. Clement's School
Course Outline
Seventh Grade Pre-Algebra
Fall Semester

This course outline is a general guide to familiarize students and parents with an overview of the course. It is an approximation of the content and objectives of the course for the fall semester. The rate of progress may vary depending upon the learning pace that the students can accomplish this semester.

I. Unit 1

A. Contents

1. Evaluate algebraic expressions using order of operations
2. Evaluate expressions with exponents
3. Find the areas of rectangles and parallelograms
4. Choose the best method of computation to solve problems

B. Learning objectives

1. Evaluate expressions and equations
2. Use powers and exponents
3. Work number patterns, fractions, percent
4. Find areas of rectangles and parallelograms

II. Unit 2

A. Contents

1. Compute, estimate, and solve problems using decimals
2. Express decimals in scientific notation and fractions as decimals
3. Use metric units of length, mass, and capacity
4. Determine reasonable answers in real world problems

B. Learning objectives

1. Compare and order decimals
2. Round decimals
3. Estimate with decimals
4. Multiply and divide decimals
5. Multiply and divide decimals by powers of ten
6. Express fractions as terminating or repeating decimals
7. Change metric units of length, capacity, and mass
8. Express numbers greater than 100 in scientific notation

III. Unit 3

A. Contents

1. Organize data in a frequency table
2. Solve problems and make predictions by using a graph
3. Find the mean, median, and mode of a set of data
4. Construct line plots, stem-and-leaf plots, and box-and-whisker plots
5. Recognize when statistics and graphs are misleading

B. Learning objectives

1. Choose and organize appropriate scales and intervals for data

2. Make predictions from graphs
3. Construct line plots
4. Find mean, median, and mode of a set of data
5. Construct and interpret Stem-and-Leaf, and Box-and-Whisker pot
6. Recognize misleading graphs and statistics

IV. Unit 4

A. Contents

1. Find prime factorization of a composite number
2. Recognize patterns of sequences
3. Work with percent
4. Find the greatest common factor and the least common multiple
5. Find the probability of a simple event

B. Learning objectives

1. Learn to use divisibility rules
2. Find prime factorization of a composite number
3. Recognize patterns for sequences of numbers and figures
4. Find the greatest common factor and least common multiple of one or more numbers
5. Express fractions and ratios in simplest form
6. Work with percent and ratios
7. Find the probability of simple events

V. Unit 5

A. Contents

1. Read, write, compare, and find opposite and absolute value of integers
2. Graph coordinate and transformations using the coordinate plane
3. Add, subtract, multiply, divide integers

B. Learning objectives

1. Read, write, compare and find the opposite and absolute value of an integer
2. Learn to graph points on the coordinate plane
3. Learn to add, subtract, multiply, and divide integers
4. Graph transformations

VI. Unit 6

A. Contents

1. Solve addition, subtraction, and multiplication equations
2. Write algebraic equations and expressions
3. Solve inequalities
4. Graph functions and linear equations
5. Solve problems by working backwards

B. Learning objectives

1. Solve addition, subtraction, and multiplication equations
2. Solve two-step equations
3. Write algebraic equations and expressions
4. Solve inequalities
5. Solve and graph equations using two variables

VII. Unit 7

A. Contents

1. Estimate using fractions and mixed numbers
2. Add, subtract, multiply, and divide fractions and mixed numbers
3. Changing units
4. Find perimeter and circumference

B. Learning objectives

1. Estimate sums, differences, products, and quotients of fractions and mixed numbers
2. Add, subtract and multiply and divide fractions and mixed numbers
3. Change units in the customary system
4. Find perimeter and circumference of geometric figures
5. Use addition and multiplication properties to solve problems

VIII. Grading policy

A. Students are expected to demonstrate understanding of concepts

B. Areas of evaluation

1. Class participation
2. Quizzes
3. Class and homework assignments
4. Tests

C. Weighting

1. Tests will be weighted at 60%
2. Assignments, quizzes and participation will be weighted at 40%

IX. Class policies

- A. Students are expected to arrive to class on time.
- B. They will have their completed assignment, neatly done in pencil.
- C. They also need to bring their covered math book, notebook, pencil, eraser, red or blue grading pen and a scientific calculator.
- D. Any work that is not in class when grading begins will be a "0". The student will still have to complete the assignment. A parent signature will be required on the late paper and the student's grade will remain a "0".
- E. When a student is absent from school because of illness, it is the responsibility of the student to call the school office and arrange to pick up homework.
- F. At the end of each semester, the students will be given a cumulative final.