Department: Math
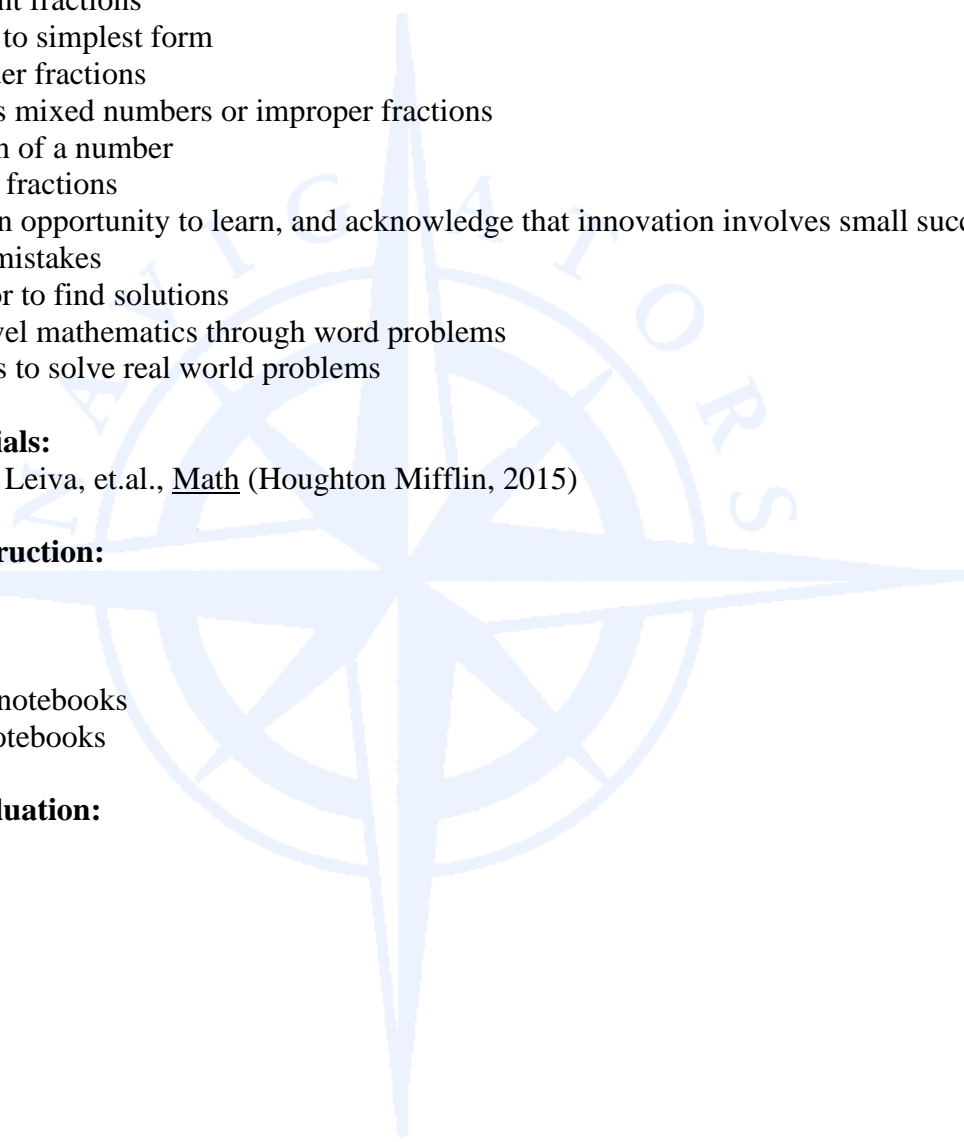**Course Name:** Fourth Grade Mathematics

Course Description:

The fourth-grade math curriculum challenges the student to extend their basic knowledge of computation and number sense in order to master advanced concepts and applications. The student will begin the year with a review of whole number representations, place value, comparing, ordering, and rounding. The student will advance their fluidity of computation through addition, subtraction, multiplication, and division of larger whole numbers, fractions, and decimals. The student will use prime factorization as a means of mastering skills necessary for manipulation of fractions, decimals, and percentages. Measurement concepts and computation will be explored in both the metric and customary units, with discussion of how to use the system that is most appropriate. Basic statistics will be introduced through the concepts and computation of mean, median, mode, and range, and further elaborated upon through probability. The student will use the statistical data to create and interpret graphs and articulate data analysis. The student will finally explore higher level geometric concepts through classification of polygons, rays, lines, and line segments, as well as applying formulas for area, perimeter, volume, and circumference. A spiral review of prior grade level curriculum will be ongoing throughout the year.

Content:

Number sense
Place value
Estimation
Addition and subtraction skills and vocabulary
Multiplication and division procedures and vocabulary
Algebraic expressions and theories
Number theory and averages
Customary and metric units and measurement
Methods to gather, analyze, and graph data
Basic geometric concepts
Fractions
Basic probability concepts
Problem solving skills
Multistep problem solving
Data analysis
Working backwards

Skills:

Write numbers in standard, expanded, word, and short word forms
Identify the place and value of digits up to hundred millions
Add and subtract up to six-digit numbers
Multiply up to five-digit by two-digit numbers
Multiply patterns in multiples of ten
Divide larger numbers with a double digit divisor
Understand divisibility
Estimate sums, differences, products, and quotients
Identify the multiples and factors of numbers
Identify prime and composite numbers
Find averages

Measure using customary and metric units
Compare units of measurement
Calculate elapsed time
Read Fahrenheit and Celsius thermometers
Graph data
Identify the perimeter and area of basic shapes
Identify points, lines, line segments, rays, and angles
Identify rotations, reflections, and translations
Identify lines of symmetry
Identify equivalent fractions
Reduce fractions to simplest form
Compare and order fractions
Write fractions as mixed numbers or improper fractions
Identify a fraction of a number
Add and subtract fractions
View failure as an opportunity to learn, and acknowledge that innovation involves small successes and
    frequent mistakes
Use trial and error to find solutions
Master higher level mathematics through word problems
Apply math skills to solve real world problems

Text and Materials:
Greenes, Larson, Leiva, et.al., <u>Math</u> (Houghton Mifflin, 2015)

Methods of Instruction:
Lecture
iPads
Review games
Interactive math notebooks
Word problem notebooks

Methods of Evaluation:
Tests
Quizzes
Homework
Classwork