



8th Grade Math

This year we will be working with six different math texts. Although the majority of our investigations will come from these books, we will also have some drop in units throughout the year as well. Below is a list of the texts we will be using to help enhance our math skills.

Textbook Titles and main concepts

Thinking with Mathematical Models

- Recognize linear and nonlinear patterns
- Describe data patterns using words and symbols
- Write equations to express patterns appearing in tables, graphs, and problems
- Solve linear equations
- Model situations with inequalities
- Write equations to describe inverse variations
- Use linear and inverse variation equations to solve problems to make predictions and decisions

Say it With Symbols

- Represent patterns and relationships in symbolic form
- Determine when different symbolic expressions are mathematically equivalent
- Write algebraic expressions in useful equivalent forms
- Combine symbolic expressions using algebraic operations
- Analyze expressions or equations to determine the patterns of change in the tables and graphs that the equation represents
- Solve linear and quadric equations using symbolic reasoning
- Use algebraic reasoning to validate generalizations and conjectures

Looking for Pythagoras

- Relate the area of a square to its side length
- Develop strategies for finding the distance between two points on a coordinate grid
- Understand and apply the Pythagorean Theorem
- Estimate the values of square roots of whole numbers
- Use the Pythagorean Theorem to solve everyday problems
- Locate irrational numbers on a number line

Kaleidoscopes, Hubcaps & Mirrors

- Identify figures with different kinds of symmetry
- Describe types of symmetry in terms of the images made by applying reflections, rotations, and translations to points of the original figure
- Use transformations to construct figures with different kinds of symmetry
- Use symmetry transformations to compare the size and shape of figures to see whether they are congruent
- Identify congruent triangles and quadrilaterals efficiently
- Use properties of congruent triangles to solve problems about shapes and measurements

Samples and Populations

- Use the process of statistical investigation to explore problems
- Use information from samples to draw conclusions about populations
- Explore the influence of sample size on the variability of the distribution of sample means or median
- Evaluate sampling plans
- Use probability to select random samples from populations
- Compare sample distributions using measures of center, measures of variability, and displays that group data

Growing, Growing, Growing

- Identify situations in which a quantity grows or decays exponentially
- Recognize the connections between exponential equations and the growth patterns in tables and graphs of those equations
- Construct equations to express exponential patterns in data tables, graphs, and problem situations
- Solve problems about exponential growth and decay from a variety of different areas
- Compare exponential and linear relationships

ASSESSMENT CATEGORIES

ACE Questions/Vocabulary books (Homework)

Homework will be assigned regularly for independent practice of concepts. Time will be allotted during class to begin homework so that any questions may be asked prior to leaving the math room. Vocabulary dictionaries will typically be checked at the end of a unit, however they will be checked along the way.

Investigations (Class work)

The investigations assigned this year will show the ability to apply mathematical knowledge, as well as to show knowledge of mathematical applications discovered in the past. If not completed in class, it will become homework for that night.

Reflections (Formative assessments)

After the completion of each lesson, students will complete a lesson reflection. (short informal assessment) in order to assess progress toward the curriculum criterion. Students will have the opportunity to correct these for points back.

Quizzes (Formative assessments)

There will be one to two written quizzes each unit. All quizzes will be announced. Since quizzes are not the final assessment of knowledge gained during the unit, quiz corrections may be completed to earn points for incorrect answers. Quiz corrections must be completed and turned in the day following the return of the quiz. I will go over the format for quiz corrections prior to the first quiz. Quizzes will be taken in pairs or individually.

Tests (Summative assessments)

Tests are the final summative assessment for each unit. Grades are final. A review assignment and or study guide will precede each unit test. I am also available for morning or after school review.

GRADING

Grades will be weighted as follows:

ACE Questions/Vocabulary books (Homework)	10%
Investigations (Class work)	25%
Reflections (Formative Assessments)	15%
Quizzes (Formative Assessments)	15%
Tests (Summative Assessments)	35%

Supplies

- 3 ring binder with loose leaf notebook paper
- Pencils
- Pen for correcting
- Calculator
- Math Vocabulary book

Contact information

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