

Course Description: Eighth grade math is the second in a two year math experience that is designed to sharpen students computation skills while introducing them to the abstract reasoning required in higher level mathematics. The 8th grade math curriculum focuses heavily on applying algebraic reasoning to a wide array of situations. Students will learn to recognize a variety of different mathematical relationships such as linear, inverse variation, exponential, and quadratic. Students will also apply algebraic skills when approaching geometry, probability, and statistics.

This class uses the Connected Math 2 math books along with supplemental materials. The CMP 2 program focuses on problem solving and real life applications of mathematical skills. This program asks students to explain their thinking so there is often more writing in math homework than some people may be used to seeing. It is very important that students are able to develop and articulate their mathematical thought process. These books do a very good job of addressing the importance of the process as well as the final answer. CMP2 maintains a website (the address is found in each book) that offers extra problems and some extra help.

Unit One: Thinking With Mathematical Models: Linear and Inverse Relationships

Students will:

- Recognize linear and nonlinear patterns
- Write equations to express linear patterns appearing in tables, graphs, and verbal context.
- Write and solve linear equations when given specific information.
- Approximate linear data patterns
- Write inverse variation equations

Unit Two: Looking for Pythagoras: The Pythagorean Theorem

Students will:

- Relate the area of a square to its side length
- Estimate the values of square roots of whole numbers
- Locate irrational numbers on a number line
- Understand and apply the Pythagorean theorem

Unit Three: Growing, Growing, Growing: Exponential Relationships

Students will:

- Recognize situations in which one variable is an exponential function of another
- Recognize the connection between exponential equations and growth patterns
- Construct exponential equations
- Solve problems about exponential growth and decay.
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Unit Four: Samples and Populations: Data and Statistics

Students will:

- 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 sample means and medians.
- Evaluate sampling plans.

Unit Five: The Shapes of Algebra: Linear Systems and Inequalities

Students will:

- Write and use equations of circles
- Find solutions to inequalities represented by graphs or equations
- Graph linear inequalities
- Determine if lines are parallel or perpendicular by looking at graphs, coordinates, and equations.

Grading and Homework Policy

Students will be graded using the following criteria:

In Class Work	30%
Homework	25%
Tests and Quizzes	25%
Class Participation	20%

Homework must be completed before class in order to receive full credit. Partial credit will be awarded for homework completed a day late. If students do not understand part of a homework assignment they should check in with me before the school day starts. Most homework assignments should take between 20 and 30 minutes. If you are consistently spending more time on assignments please speak with me.

Students will be required to maintain a math notebook. This notebook should contain all bell work and in-class assignments. This notebook will be collected periodically.

There will be small quizzes every week. Tests are given at the conclusion of each unit.

If you have any questions please feel free to contact me at 685-4551 ex 139 or eanderson@chelseaschoolvt.org.