Math 8- Co Classroom Information

Instructors: Mrs. Hayes & Mrs. Uhrlass
Class: Period 1
Contact: 631-367-6837 or lhayes@csh.k12.ny.us **or** juhrlass@csh.k12.ny.us

Materials needed for class each day:

1. Pencils
2. Binder with 2 sections:
   a. Classwork
   b. Homework
3. Folder to keep signed tests and quizzes
4. Calculator

Extra help:

Mondays after school (2:30 – 3:00) and Wednesday mornings (7:20 -7:40) in room S-20. Please come to extra help with a specific question or topic that you do not understand.

Grading Policy:

1. Homework will be assigned and checked daily. Each student will begin each quarter with a homework grade of 100 points. If a homework assignment is missing, 5 points will be deducted from the total number of points. Homework will be posted on the front board and also on the calendar hanging on the side bulletin board.

2. There will be a notebook quiz each quarter worth 30 points. It will consist of 10 questions that can be answered using your notebook. If you keep a neat and organized binder, you will have no problem getting the full 30 points every quarter.

3. Tests or quizzes will be given weekly. Tests will be given on math test day which is Wednesday. Quizzes can be given on any day , but will only take 20 minutes.

4. Quarter grades will be calculated based on a total points system.

Math 8 Curriculum Outline – 2008/09

Instructor:	**Mrs. Hayes**
Classes:	Period 2
Contact:	631-367-6924 lhayes@csh.k12.ny.us
Textbook:	"Middle Grades Math: Tools for Success, Course 3"; Prentice Hall; 2001
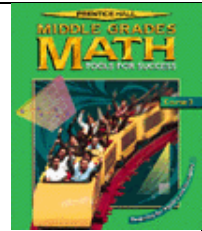
The eighth grade math curriculum is divided into the ten concept units listed below. The material in Units 1 through 7 will be taught prior to the March 2009 NYS Math Assessment Test, however the order in which the material is presented is subject to change.

Unit 1: Review of 7th grade Curriculum

Students will be assessed based on their understanding of: drawing the graphic representation of a pattern from an equation or from a table of data; writing an equation to represent a function from a table of values; solving proportions relating to unit price, using a map scale and converting money between different currencies; identifying and labeling parts of a right triangle; using the Pythagorean Theorem to determine the unknown length of a side of a right triangle and proving whether a triangle is a right triangle; determining the sum of the interior angles of polygons; identifying and classifying polynomials; adding and subtracting monomials; and, solving multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation.

Unit 2: Number Sense and Algebraic Expressions
(Approximately 6 - 8 days)

Students will understand meanings of operations and procedures, and how they relate to one another.

- Translate verbal sentences into algebraic inequalities and expressions.

- Write verbal expressions that match given mathematical expressions

- Develop and apply the laws of exponents for multiplication and division.

- Evaluate expressions with integral exponents.

- Solve equations/proportions to convert equivalent measurements within metric and customary systems (include Fahrenheit/Celsius conversions).

Unit 3: Percent /Estimation
(Approximately 15-19 days)

- Read/write/identify percents less than 1% and greater than 100%.

- Apply percents to tax, percent increase/decrease, simple interest, sale price, commission, interest rates, and gratuities.

Students will compute accurately and make reasonable estimates.

- Estimate a percent of a quantity given an application.

- Justify the reasonableness of answers using estimation.

Unit 4: Polynomials
(Approximately 15-19 days)

Students will perform algebraic procedures accurately.
- Use physical models to perform operations with polynomials.

- Multiply and divide monomials

- Add/subtract polynomials (integer coefficients)

- Multiply a binomial by a monomial and a binomial by a binomial, "FOIL", (integer coefficients).

- Divide a polynomial by a monomial (integer coefficients).

- Factor algebraic expressions using GCF.

- Factor a trinomial (a=1; c has no more than 3 factors)

Unit 5a: Geometric Relationships
(Approximately 13-17 days)

Students will identify and justify geometric relationships, formally and informally.
- Identify pairs of vertical angles as congruent.

- Identify pairs of supplementary and complementary angles.

- Calculate the missing angle in a supplementary/complementary pair.

- Determine angle pair relationship when given two parallel lines cut by a transversal.

- Calculate the missing angle measurements when given two parallel lines cut by a transversal and two intersecting lines and an angle.

- Apply algebra to determine the measure of angles formed by or contained in parallel lines cut by a transversal and by intersecting lines.

Unit 5b: Geometry Constructions
(7-10 days; may be moved to after NYS Assessment)
Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.
- Construct congruent segments, congruent angles, perpendicular bisector, and angle bisector.

Unit 6: Graphing Applications
(Approximately 13-17 days)

Students will recognize, use, and represent algebraically patterns, and relations.
- Describe a situation involving relationships that match a given graph.

- Create a graph given a description or an expression for a situation involving a linear or non-linear relationship.

- Understand that numerical information can be represented in multiple ways: arithmetically, algebraically and graphically.

- Find a set of ordered pairs to satisfy a given linear numerical pattern (expressed algebraically); then plot the ordered pairs and draw the line.

Unit 7: Transformational Geometry
(Approximately 10-14 days)
Students will apply transformations and symmetry to analyze problem solving situations.
- Describe and identify transformations in the plane using proper function notation (reflections, rotations, dilations, translations).

- Students will learn how to draw the image of a figure:
  - rotated 90/180 degrees.
  - reflected over a given line.
  - under a translation and a dilation.
- Students will gain an understanding of which properties are preserved and which are not preserved under all transformations (orientation/size).

*********** **NYS 8th Grade Assessment March 2009** **********

Unit 8: Algebraic Inequalities
(Approximately 7-10 days)

Students will perform algebraic procedures accurately.
- Solve multi-step inequalities and graph the solution set on a number line.

- Solve linear inequalities by combining like terms, using the distributive property, or moving variables to one side of the inequality (include multiplication or division of inequalities by a negative number).

Unit 9: Functions
(Approximately 6-8 days)

Students will recognize, use, and represent algebraically patterns, relations, and functions.
- Define and use correct terminology when referring to function (domain and range)

- Determine if a relation is a function.

- Interpret multiple representations using equation, table of values, and graph.

- Distinguish between linear and nonlinear equations $ax^2 + bx + c$; a=1 (only graphically).

- Recognize the characteristics of quadratics in tables, graphs, equations, and situations.

Unit 10: Coordinate Geometry
(Approximately 12-14 days)

Students will apply coordinate geometry to analyze problem solving situations.
- Determine the slope of a line from a graph and explain the meaning of slope as a constant rate of change.

- Determine the y-intercept of a line and understand its definition.

- Graph a line using a table of values

- Determine the equation of a line given the slope and the y-intercept

- Graph a line from an equation in slope-intercept form ($y = mx + b$)

- Solve systems of equations graphically (only linear, integral solutions, $y = mx + b$ format, no vertical/horizontal lines).