

## Eighth Grade Integrated Algebra Syllabus 2011 - 2012

### Instructor

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### Course Description

This course continues to build on the mathematics foundation in preparation for Algebra I as students expand their understanding through varied mathematical experiences. Students use algebraic, graphical and geometric reasoning to recognize patterns and structure through problem solving. In addition, students use mathematical methods to model and solve real-life applied problems involving money, data, chance, patterns, art, design and science.

Three essential mathematical ideas, based on NCTM curriculum focal points, form the foundation of this course. These ideas are analyzing and representing linear functions and solving linear equations, analyzing two- and three-dimensional space and figures by using distance and angle, and analyzing and summarizing data sets. Activities and inquiry are designed to develop student understandings.

### Course Assessment Benchmarks

Develop mathematical reasoning to support skill development and conceptual understanding

Exhibit persistence, flexibility, and appropriate independence when solving problems

Organize mathematical thinking by following logical steps and proper technique

Computes proficiently with real numbers in all forms

Develops algebraic methods to represent relationships and solve problems

### Methods of Instruction

Classroom activities involve students in performance tasks designed to lead to understandings.

Teaching approaches include modeling, lecture, class discussion, multi-media presentations, written assignments, small group work, games, and activities with manipulatives. Lessons include visual, auditory, and kinesthetic components whenever possible. Students are encouraged to work together and to discuss their thinking. Individualized instruction is offered as appropriate.

### Course Materials

Required text: Mathematics: *Big Ideas*- Blue Level, Record keeping & Journal Workbook

composition book/spiral notebook and binder

graph paper

2 sharpened pencils, pen and eraser

graphing calculator

### Assessments

Students will demonstrate understanding with various kinds of performance tasks. Students will be assessed quarterly on progress based on benchmarks outlined above. Forms of assessment include daily homework, class work, projects, skill checks, quizzes and tests. Students will keep a portfolio of work to use as a resource; portfolio work will also support self-reflection.

