

Course Title: Algebra I
Credit: 1 credit

Board Approval Date: June, 2010

Course Description:

This course focuses on mastery of the Pennsylvania Academic Standards for Mathematics incorporating Pennsylvania Assessment Anchors to prepare students for the applicable PSSA and /or Keystone Exams.

The content of *Algebra I* is organized around families of functions, with special emphasis on linear and quadratic functions. As students study each family of functions, they will learn to represent them in multiple ways-as verbal descriptions, equations, tables and graphs. Students will also learn to model real-world situations using functions in order to solve problems arising from those situations.

In addition to its Algebra content, *Algebra I* includes lessons on percents, probability and data analysis, as well as numerous examples and exercises involving geometry. These math topics often appear on standardized test, so maintaining the students' familiarity with them is important.

Learning Activities:

Bell Ringers
Direct Instruction
Collaborative/Cooperative Activities
Guided/Distributive Practice
Independent Practice
Graphic Organizers
Previewing
Vocabulary in Context
Summarizing
Various Extended Thinking Strategies
Computer/Technology-related Instruction

Methods of Assessment:

Keystone Exam
PSSA
4Sight Assessments
OCBA
Diagnostic Assessments
Unit Tests
Quizzes
Portfolios
Assignments/Assigned Tasks
Checklists/Teacher Observation
Rubrics

Instructional Resources:

Algebra 1 (McDougal Littell, 200) and related resources (including classzone.com)
Accelerated Math (Renaissance Place web-based software, 2010 Renaissance Learning, Inc.)
Math 7 (McDougal Littell, 200) and related resources (including classzone.com)
Algebra with Pizzazz! (Creative Publications, 1996)
Punchline Algebra – Books A & B (Creative Publications, 2006)
Punchline: Bridge to Algebra (Creative Publications, 2002)
Buckle Down PSSA Mathematics – 7 & 8 (Buckle Down Publishing, 2008)
Measuring Up for the Pennsylvania Academic Standards – Level G & H (Peoples Education, 2008)
Better Test Scores for the PSSA – Grade 7 & 8 (Perfection Learning)
Glencoe Algebra I (Glencoe Div. of Macmillan/McGraw-Hill, 2000) and related resources
Appropriate Internet resources
Various teacher-constructed materials and activities
Appropriate Internet resources

Course Pacing Guide

Course: Algebra I

Course Unit (Topic)	Length of Instruction
School-wide and Classroom Procedures and Expectations	2 Days
PSSA (and/or Keystone) Review (timing at teacher discretion)	10 Days
1. Expressions and Equations	10 days
2. Properties of Real Numbers	12 days
3. Solving Linear Equations	12 days
4. Proportional Reasoning	12 days
5. Solving Inequalities	12 days
6. Graphing Linear Equations, Functions and Inequalities	12 days
7. Writing Linear Equations	12 days
8. Systems of Equations and Inequalities	12 days
9. Exponents and Scientific Notation	12 days

10. Polynomials and Factoring	15 Days
11. Quadratic Equations and Functions	2 Days
12. Radicals and Geometry Connections	15 Days
13. Probability and Data Analysis	8 Days
14. Preview: Rational Equations and Functions	12 Days
