

Algebra II Scope & Sequence

Tier 2 Curriculum



2015-2016

ORANGE PUBLIC SCHOOLS

OFFICE OF CURRICULUM AND INSTRUCTION

OFFICE OF MATHEMATICS

Algebra 2 (Tier 2) – Scope and Sequence

Unit 1: Transition Unit (Prepare for Algebra 2) -- (18 days)

Daily fluency Practice: Solve linear equation (5 minutes Class work, 5 minutes Homework throughout the entire unit)

- *Expressions and properties of real number (1-1 & 1-2) (1 day)
- *Algebra expression: 1-3 (1 day)
- *Solving equations: 1-4 (1 day)
- *Relations and functions: 2-1 (1 day)
- *Linear equations and point-slope & standard form 2-4 (2 days)
- *Linear Applications: (Resources) (1 day)
- ***Using Linear Models: 2.5 (2 days)**
- ***Families of Functions: 2-6 (1 days)**
- *Solving Systems Using Tables and Graphs: 3-1 (2 days)
- *Solving Systems Algebraically (**focusing on Substitution Method**): 3-2 (1 day)

Unit 2: Quadratics (22 days)

Daily Fluency Practice: Solve system of equations (substitution), Factor quadratic expressions

- *Quadratic Function & Transformation: 4-1 (2 days)
- *Standard Form of a Quadratic Function: 4-2 (1 day)
- *Modeling with Quadratic Functions: 4-3 & supplement resource (3 days)
- *Factoring: 4-4 (2 days)
- *Solving Quadratic Equations with Tables and Graphs: 4-5 (2 days)
- *Completing the Square: 4-6 (2 days)
- *The Quadratic Formula: 4-7 (1 day)
- *Complex Numbers: 4-8 (2 day)
- *Solve System of Equations: 4-9 Problem 1 & 2 (Linear + Quadratic functions): 1 day
- *Compare Properties of two Functions Each Represented in a Different Way: Supplement Resource (1 day)

Unit 3: Polynomials & Rational Functions (22 days)

Daily Fluency Practice: Factor quadratic, polynomial expressions

- *Polynomial Functions: 5-1 (2 days)
- *Polynomials, Linear Functions, and Zeros (Sketching graphs): 5-2 (3 days)
- *Solving polynomial equations: 5-3 (3 days)
- *Transforming Polynomial Functions: 5-9 (2 days)
- *Application for Polynomial Function: Supplement Tasks (1 day)
- *Dividing Polynomial: 5-4 (2 days)
- *Rational Expression: 8-4 (2 days)
- *Solving Rational Equations (**simply equations without adding and subtracting rational expressions**): 8-6 (2 days)

Unit 4: Radical functions and Rational Exponents (17 days)

Daily fluency Practice: Properties of exponents

- *Properties of Exponents/roots and Radical Expressions: Algebra review and 6-1 (2 days)
- *Multiplying and Dividing Radical Expressions: 6-2 (2 day)
- *Binomial Radical Expressions: 6-3 (2 days)
- *Rational Exponents: 6-4 (2 days)
- *Solving Square Root and Other Radical Equations: 6-5 (2 days)
- *Inverse relations and functions: 6-7 (2 days)

Unit 5: Exponential and Logarithmic Functions (18 days)

Daily Fluency Practice: Properties of exponents, Properties of Logarithms

- *Exponential Models (and graphing): 7-1 (4 days)
- *Properties of Exponential Functions (Transformation) : 7-2 (2 days)
- *Logarithmic Functions as Inverse: 7-3 (1 day)
- *Properties of Logarithms: 7-4 (3 days)
- *Exponential and log equations (3 days)

Unit 6: Sequences and Series (13 days)

Daily Fluency Practice: find the nth term for arithmetic and geometric sequence

- *Mathematical Patterns: 9-1 (2 days)
- *Arithmetic Sequences: 9-2 (2 days)
- *Geometric Sequences: 9-3 (2 days)
- *Arithmetic Series: 9-4 (2 days)
- *Geometric Series: 9-5 (2 days)

Unit 7: Probability and Statistics (22 days)

Daily Fluency Practice: Finding theoretical and experimental probability

- *Probability: 11-2 (3 days)
- *Probability of Multiple Events: 11-3 (3 days)
- *Conditional Probability: 11-4 (3 days)
- *Analyzing Data: 11-6 (1 day)
- *Standard Deviation: 11-7 (2 days)
- *Samples and Surveys: 11-8 (2 days)
- *Normal Distributions: 11-10 (2 days)

Unit 8: Right Triangles & Pythagorean Theorem (15 days)

Daily Fluency Practice: Using Pythagorean to Find Missing Side Length

- * Review Pythagorean Theorem (1 day)
- * Apply the Pythagorean Theorem (2 days)
- * Use the Converse of the Pythagorean Theorem (2 day)
- * Use Similar Right Triangles (3 days)
- * Special Right Triangles (3 days)