

# Algebra II Scope & Sequence

Tier 1 Curriculum



2015-2016

ORANGE PUBLIC SCHOOLS

OFFICE OF CURRICULUM AND INSTRUCTION

OFFICE OF MATHEMATICS

## Algebra 2 (Tier 1) – Scope and Sequence

### **Unit 1: Transition Unit (Prepare for Algebra 2) -- (12 days)**

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

- **Basic Skill review : solve equations (2 days)**
- **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 :3-2 (1 day)
- Solve Systems Algebraically (3 Variables): 2 days

### **Unit 2: Quadratics (19 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 (1 days)
- Solving Quadratic Equations with Tables and Graphs: 4-5 (1 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 (21 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 (2 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 (16 days)**

**Daily fluency Practice: Properties of exponents**

- Properties of Exponents/roots and Radical Expressions: Algebra review and 6-1 (1 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 (17 days)**

#### **Daily Fluency Practice: Properties of exponents, Properties of Logarithms**

- Exponential Models (and graphing): 7-1 (3 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 (20 days)**

#### **Daily Fluency Practice: Finding theoretical and experimental probability**

- Probability: 11-2 (2 days)
- Probability of Multiple Events: 11-3 (2 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: Periodic Functions and Trigonometry**

#### **Daily Fluency Practice: Find the Trig-radio**

- Trig. Ratios: Supplement Materials (30 days)
- Exploring Periodic Data: 13-1 (3 days)
- Angles and the Unit Circle: 13-2 (2 days)
- Radian Measure: 13-3 (2 days)
- The Sine Function: 13-4 (3 days)
- The cosine Function: 13-5 (3 days)
- The tangent Function: 13-6 (3 days)
- Translation Sine and Cosine Functions: 13-7 (2 days)
- Reciprocal Trigonometric functions: 13-8 (3 days)
- Trigonometric Identities: 14-2 (3 days)

