**Connecticut Core Algebra 1**

**Scope and Sequence**

**Made for 45 Minute Classes**

Experience has demonstrated that when introducing a new curriculum, teachers need more time the first year or two to adjust. In addition, Algebra 1 is dependent upon the algebra content completed in grade 8 and we expect that implementation of the grade 8 algebra standards will take a few years of adjustment. For this reason, we have suggested that seven of the eight Algebra 1 units be implemented the first year and recognize that in some classes unit 7 may not be totally completed; all eight of the Algebra 1 units be implemented in the second year recognizing that some of unit 7 or some of unit 8 may need to be omitted; and that all eight units of Algebra 1 be completed in year 3 because some activities will be omitted from units 2, 4 and/or 6 due to the fact that they duplicate material from grade 8. However, honors and advanced classes may be able to skip to sequence B immediately. A total of 161 - 170 instructional days are planned, but include 5 – 18 discretion days so that all three sequences have at least 10 days of the school year set aside for examinations and other administrative changes to the schedule.

The number of days allocated to each unit is shown in this chart.

|  |  |  |  |
| --- | --- | --- | --- |
| Unit | Year 1/ Sequence A | Year 2/ Sequence B | Year 3/ Sequence C |
| 1 | 17 + 5 | 17 + 1 | 17 |
| 2 | 26 + 1 | 23 | 21 |
| 3 | 16 + 3 | 16 + 1 | 16 + 1 |
| 4 | 28 + 1 | 25 + 1  | 25 |
| 5 | 20 + 1 | 20 + 1 | 20 + 1 |
| 6  | 14 + 1 | 12 + 1 | 12 |
| 7 | 22 + 6 | 22 + 3 | 22 + 3 |
| 8 |  | 27 | 27 |
| Total | 161\* | 170\*\* | 165 \*\*\* |

\*161 includes 18 additional teacher discretion days

\*\*170 includes 8 additional teacher discretion days

\*\*\* 165 includes 5 additional teacher discretion days

Pacing charts with additional pacing suggestions for each of the three years are given below.

**Algebra 1 Sequence**

**Sequence A should be considered if:**

1. This is year one of your implementation of the curriculum OR
2. Your district has begun to implement the grade 8 core standards into your grade 8 curriculum, but it is not fully implemented. (If it has not, additional time will be needed in units 2, 4, and 6 so that you may only be able to start unit 7.)
3. Consider sequence B if your district has fully implemented the grade 8 core standards OR you should also use sequence B in year 1 for Honors and advanced classes regardless of grade 8 core standard implementation progress. If you have implemented all the grade 8 core standards you may want to consider Sequence C for students needing greater mathematical challenge for your first year of implementation.

**Sequence B should be considered if:**

1. Your grade 8 curriculum has implemented most of the grade 8 algebra standards OR
2. This is the second year of implementation of the curriculum for all students.
3. If your district has fully implemented the grade 8 standards, then you should use sequence B in year 1.
4. Honors and advanced classes should use sequence B for the first year of implementation. Sequence C might also be a possibility.

**Sequence C should be considered if**

1. The grade 8 algebra standards have been implemented.
2. Honors and advanced classes should use sequence C for the second year (if not before) of implementation.
3. Sequence C is for all classes by year 3 of a district’s implementation of the Core Standards. For classes with students needing a lot of support, the content in lessons 5, 6, 7 of unit 8 will be addressed again in unit 2 of Algebra 2 and the performance task for unit 8 would of course also be omitted.

**Algebra 1 Sequence**

**Algebra 1 Common Core**

**Sequence---A**

**Made for 45 minute classes**

1. **days (Includes the 18 additional days listed below with each unit)**

**Consider Sequence A if:**

1. This is year one of your implementation of the curriculum OR
2. Your district has begun to implement the grade 8 core standards into your grade 8 curriculum, but it is not fully implemented. (If it has not, additional time will be needed in units 2, 4, and 6 so that you may only be able to start unit 7.)
3. If your district has fully implemented the grade 8 core standards, then you should use sequence B instead; and you should also use sequence B for Honors and advanced classes regardless of grade 8 core standard implementation progress.

**Unit 1: Patterns**

**Time:** 22 days (17 + 5\*)

\*This unit has 5 additional days added

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Representing Patterns | 8-F 2, F-BF 1 | 2 days |
| 2 | Patterns with Integers | F-IF 3, F-IF 1 | 2 - 4 days |
| 3 | Arithmetic Sequences | F-BF 1, F-BF 2 | 3 days |
| 4 | Review and Mid -unit test |  | 2 days |
| 5 | Geometric Sequences | F-BF 1, F-BF 2 | 2 days |
| 6 | Patterns with Fractals | F-IF 3, F- IF 1 | 2 days |
| PT | Honeycombs |  | 2 days  |
| R/T | Review and End-of-Unit Test |  | 2 days |

**Unit 2: Linear Equations and Inequalities**

**Time:** 27 days (26 + 1\*)

\*This unit has 1 additional day added. Grade 8 should have addressed some of these concepts and skills so some lessons marked with a # should need less time than is listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Understanding Algebraic Expressions# | AA-SSE-1 | 2 days |
| 2 | One-Step and Two-Step Linear Equations# | 8 EE 7, A-CED 1, A-REI 1, A-REI 3 | 4 days |
| 3 | Combining Like Terms to Solve Equations# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 4 days |
| R/T | Review and Mid-Unit Test |  | 2 days |
| 5 | Solving EquationsUsing the Distributive Property# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 4 days |
| 6 | Formulas and Literal Equations | A-CED 4, A-REI 3 | 2 days |
| 7 | Linear Inequalities | A-CED 1, A-REI 3 | 4 days  |
| PT | iPods |  | 2 days |
| R/T | Review and Test |  | 2 days |

**Unit 3: Functions**

**Time:** 19 days (16 + 3\*)

\*This unit has 3 additional days added. Grade 8 should have addressed some of these concepts and skills so some lessons marked with a # may need less time than is listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Relations and Functions# | 8F -1, F-IF 1 | 2 days |
| 2 | What Is a Function?# | F-IF 9, 8F 2, 8F 5, A-CED 2, A-CED 10 | 3 days |
| 3 | Function Notation and Evaluating Functions | F-IF 2 | 2 days |
| 4 | Multiple Representations and Applications of Functions | A-CED 2, F-IF 4, F-IF 5 | 4 days |
| PT | Functions in the Real World |  | 3 days |
| R/T | Review and End-of-Unit Test |  | 2 days  |

**Unit 4: Linear Functions**

**Time:** 29 days (28 + 1\*)

\*This unit has 1 additional day added. Grade 8 should have addressed some of these concepts and skills so some lessons marked with a # may need less time than listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | What Makes a Function Linear? | FLE-1, FIF-7a | 2 days |
| 2 |  Recognizing Linear Functions from Words, Tables and Graphs# | F-IF 6, F-LEI 1,F-LEI-1a | 3 days |
| 3 | Lesson 2 continued & Quiz on Inv 1 and 2# |  | 1 days |
| 4 |  Calculating and Interpreting Slope# | F-IF 6, F-LEI 1a, F-LEI 1b | 4 days |
| 5 | Effects of Changing Parameters of an Equation in Slope-Intercept Form | F-LEI 5, F-LE 2, FLE 1 | 4 days |
| R/T | Mid-Unit Test |  | 2 days |
| 7 | Forms of a Linear Equation# | F-LE 5, F-LE 2, F-LE 1 | 3 days  |
| 8 | Lesson 7 Continued & Quiz on Inv 5# |  | 1 day |
| 9 | Point-Slope Form of Linear Equations | F-LE-5, F-LE 2, F-LE 1, F-IF 8 | 4 days |
| PT | Linear Models |  | 2 days |
| R/T | Review and Test |  | 2 days |

**Unit 5: Scatter Plots and Trend Lines**

**Time:** 21 days (20 + 1\*)

\*This unit has 1 additional day added. Grade 8 should have addressed some of these concepts and skills so some lessons marked with a # should need less time than is listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | One Variable Data | S-ID 1, S-ID 2, S-ID 3 | 3 days |
| 2 | Introduction to Scatterplots and Trend Lines# | 8-SP1, 8-SP2, 8-SP3, S-ID6ab, S-ID7 | 2 days |
| 3 | Technology and Linear Regression# | 8-SP1, 8-SP2, 8-SP3, S-ID6ab | 2 days |
| 4 |  Explorations of Data Sets | 8-SP 1, S-ID 6, S-ID 8 | 4 days |
| 5 | Outliers  | S-ID 6, S-ID 8 | 2 days |
| 6 | Piecewise Functions | S-ID 6ac, S-ID 7, F-IF 7b | 2 days |
| PT | Linearity is in the Air — Can You Find It? See unit overview for timing |  | 3 days |
| R/T | Review and Test |  | 2 days  |

**Unit 6: Systems of Equations**

**Time:** 15 days (14 + 1\*)

\*This unit has 1 additional day added. Grade 8 should have addressed some of these concepts and skills so some lessons marked with a # should need less time than listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Solving Systems of Linear Equations# | A-REI 6, A-REI 11 | 3 days |
| 2 | Solving Systems of Linear Equations Using Substitution# | A-REI 5, A-REI 6 | 2 days |
| 3 | Solving Systems of Linear Equations Using Elimination# | A-REI 5 | 3 days |
| PT | Community Park |  | 4 days |
| R/T | Review and Test |  | 2 days  |

**Unit 7: Introduction to Exponential Functions**

**Time:** 28 days (22 + 6\*)

\*This unit has 6 additional days added.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | A New Function Family—World Population Growth | F-IF-7e, F-BF-2, F-LE 1a, F-LE 3 | 2 days |
| 2 | Exponential Growth and Exponents | N-RN 1, N-RN 2, F-IF 7e, F-LE 1, F-LE 3 | 4 days |
| 3 | Exploring Parameters of Exponential Functions  |  F-LE 1, F-LE 2, F-LE 3, F-LE 5 | 3 days |
| 4 |  Modeling Exponential Data | F-LE 2, F-LE 5 | 2 days |
| 5 | Exponential Patterns and Per Cent Change | A-SSE 1b, A-SSE 3c, F-IF 8b, F-LE 1c, F-LE 5 | 5 days |
| 6 | Exponential Functions and Climate Change | F-LE 1, F-LE 1c, F-LE 2, F-LE 5 | 2 days |
| PT | The Consequences Global Warming |  | 2 days |
| R/T | Review and Test |  | 2 days  |

**Algebra 1 Common Core**

**Sequence---B**

**Made for 45 minute classes**

1. **days (includes the 8 additional days listed below)**

**Consider Sequence B if:**

1. Your grade 8 curriculum has implemented most of the grade 8 algebra standards OR
2. This is the second year of implementation of the curriculum for all students.
3. If your district has fully implemented the grade 8 standards, then you should use sequence B in year 1.
4. Honors and advanced classes should use sequence B for the first year of implementation. Sequence C might also be a possibility.
5. Sequence C is for all classes by year 3 of a district’s implementation of the Core Standards. For classes with students needing a lot of support, the content in lessons 5, 6, 7 of unit 8 will be addressed again in unit 2 of Algebra 2.

**Unit 1: Patterns**

**Time:** 18 days (17 + 1\*)

\*This unit has 1 additional day added

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Representing Patterns | 8-F 2, F-BF 1 | 2 days |
| 2 | Patterns with Integers | F-IF 3, F-IF 1 | 2 days |
| 3 | Arithmetic Sequences | F-BF 1, F-BF 2 | 3 days |
| 4 | Review and Mid -unit test |  | 2 days |
| 5 | Geometric Sequences | F-BF 1, F-BF 2 | 2 days |
| 6 | Patterns with Fractals | F-IF 3, F- IF 1 | 2 days |
| PT | Honeycombs |  | 2 days  |
| R/T | Review and End-of-Unit Test |  | 2 days |

**Unit 2: Linear Equations and Inequalities**

**Time:** 23 days

\*This unit has no additional days added. Grade 8 should have addressed many of these concepts and skills so some lessons marked with a # should need less time than is listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Understanding Algebraic Expressions# | AA-SSE-1 | 2 days |
| 2 | One-Step and Two-Step Linear Equations# | 8 EE 7, A-CED 1, A-REI 1, A-REI 3 | 3 days  |
| 3 | Combining Like Terms to Solve Equations# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 3 days  |
| R/T | Review and Mid-Unit Test |  | 2 days |
| 5 | Solving EquationsUsing the Distributive Property# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 3 days  |
| 6 | Formulas and Literal Equations | A-CED 4,A-REI 3 | 2 days |
| 7 | Linear Inequalities | A-CED 1, A-REI 3 | 4 days  |
| PT | iPods |  | 2 days |
| R/T | Review and Test |  | 2 days |

**Unit 3: Functions**

**Time:** 17 days (16 + 1\*)

\*This unit has 1 additional day added

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Relations and Functions | 8F -1, F-IF 1 | 2 days |
| 2 | What Is a Function? | F-IF 9, 8F 2, 8F 5, A-CED 2, A-CED 10 | 3 days |
| 3 | Function Notation and Evaluating Functions | F-IF 2 | 2 days |
| 4 | Multiple Representations and Applications of Functions | A-CED 2, F-IF 4, F-IF 5 | 4 days |
| PT | Functions in the Real World |  | 3 days |
| R/T | Review and End-of-Unit Test |  | 2 days  |

**Unit 4: Linear Functions**

**Time:** 26 days (25 + 1\*)

\*This unit has 1 additional day added. Grade 8 should have addressed some of these concepts and skills so some lessons marked with a # should need less time than listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | What Makes a Function Linear? | FLE-1, FIF-7a | 2 days |
| 2 |  Recognizing Linear Functions from Words, Tables and Graphs# | F-IF 6, F-LEI 1, F-LEI-1a | 3 days |
| 3 | Lesson 2 continued & Quiz on Investigation 1 and 2# |  | 1 days |
| 4 |  Calculating and Interpreting Slope# | F-IF 6, F-LEI 1a, F-LEI 1b | 3 days  |
| 5 | Effects of Changing Parameters of an Equation in Slope-Intercept Form | F-LEI 5, F-LE 2, FLE 1 | 3 days  |
| R/T | Mid-Unit Test |  | 2 days |
| 7 | Forms of a Linear Equation# | F-LE 5, F-LE 2, F-LE 1 | 2 days  |
| 8 | Lesson 7 Continued & Quiz on Inv 5# |  | 1 day |
| 9 | Point-Slope Form of Linear Equations | F-LE-5, F-LE 2, F-LE 1, F-IF 8 | 4 days |
| PT | Linear Models |  | 2 days |
| R/T | Review and Test |  | 2 days |

**Unit 5: Scatter Plots and Trend Lines**

**Time:** 21 days (20 + 1\*)

\*This unit has 1 additional day added.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | One Variable Data | S-ID 1, S-ID 2, S-ID 3 | 3 days |
| 2 | Introduction to Scatterplots and Trend Lines | 8-SP1, 8-SP2, 8-SP3, S-ID6ab, S-ID7 | 2 days |
| 3 | Technology and Linear Regression | 8-SP1, 8-SP2, 8-SP3, S-ID6ab | 2 days |
| 4 |  Explorations of Data Sets | 8-SP 1, S-ID 6, S-ID 8 | 4 days |
| 5 | Outliers  | S-ID 6, S-ID 8 | 2 days |
| 6 | Piecewise Functions | S-ID 6ac, S-ID 7, F-IF 7b | 2 days |
| PT | Linearity is in the Air — Can You Find It? See unit overview for timing |  | 3 days |
| R/T | Review and Test |  | 2 days  |

**Unit 6: Systems of Equations**

**Time:** 13 days (12 + 1\*)

\*This unit has 1 additional day added. Grade 8 should have addressed some of these concepts and skills so some lessons marked with a # should need less time than listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Solving Systems of Linear Equations# | A-REI 6, A-REI 11 | 2 days |
| 2 | Solving Systems of Linear Equations Using Substitution# | A-REI 5, A-REI 6 | 2 days |
| 3 | Solving Systems of Linear Equations Using Elimination# | A-REI 5 | 2 days |
| PT | Community Park |  | 4 days |
| R/T | Review and Test |  | 2 days  |

**Unit 7: Introduction to Exponential Functions**

**Time:** 25 days (22 + 3\*)

\*This unit has 3 additional days added.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | A New Function Family—World Population Growth | F-IF-7e, F-BF-2, F-LE 1a, F-LE 3 | 2 days |
| 2 | Exponential Growth and Exponents | N-RN 1, N-RN 2, F-IF 7e, F-LE 1, F-LE 3 | 4 days |
| 3 | Exploring Parameters of Exponential Functions  |  F-LE 1, F-LE 2, F-LE 3, F-LE 5 | 3 days |
| 4 |  Modeling Exponential Data | F-LE 2, F-LE 5 | 2 days |
| 5 | Exponential Patterns and Per Cent Change | A-SSE 1b, A-SSE 3c, F-IF 8b, F-LE 1c, F-LE 5 | 5 days |
| 6 | Exponential Functions and Climate Change | F-LE 1, F-LE 1c, F-LE 2, F-LE 5 | 2 days |
| PT | The Consequences Global Warming |  | 2 days |
| R/T | Review and Test |  | 2 days  |

**Unit 8 Contents**

**Time:** 27 days

\*If the additional days listed above for units 1 – 7 were used, then lesson 7 and the performance task may not be able to be completed. Lesson 7 is addressed in unit 2 of Algebra 2. If not all the additional days were used, then all of unit 8 can be completed.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Introducing Quadratic Functions: Parabolas Everywhere  | A-CED 1, A-CED 2, F-IF 4 | 4 days |
| 2 | Quadratic Functions in Vertex Form | F-IF 4, F-IF 7a, F-BF 3 | 4 days |
| 3 | Solving Quadratic Equations Using the Square Root Property |  8 EE 2, A-REI 4 | 4 days |
| R/T |  Review and Mid-Unit test |  | 2 days |
| 5 | Quadratic Functions in Factored Form  | A-APR1, F-IF 4, F-IF 7a, F-BF 3 | 4 days |
| 6 | Factoring Quadratic Trinomials | A-SSE 3a | 4 days |
| 7 | Solving Quadratic Equations by Completing the Square and the Quadratic Formula | A-REI 4, A -SSE 3b, F-IF 8a | 2 days |
| PT | Stopping Distance |  | 1 day |
| R/T | Review and End-of-Test |  | 2 days  |

**Algebra 1 Common Core**

**Sequence---C**

**Made for 45 minute classes**

1. **days (includes the 5 additional days listed below)**
2. Honors and advanced classes should use sequence C for the second year of implementation.
3. Sequence C is for all classes by year 3 of a district’s implementation of the Core Standards. For classes with students needing a lot of support, the content in lessons 5, 6, 7 of unit 8 will be addressed again in unit 2 of Algebra 2 and the performance task for unit 8 would of course also be omitted.

**Unit 1: Patterns**

**Time:** 17 days

\*This unit has 0 additional days added

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Representing Patterns | 8-F 2, F-BF 1 | 2 days |
| 2 | Patterns with Integers | F-IF 3, F-IF 1 | 2 days |
| 3 | Arithmetic Sequences | F-BF 1, F-BF 2 | 3 days |
| 4 | Review and Mid -unit test |  | 2 days |
| 5 | Geometric Sequences | F-BF 1, F-BF 2 | 2 days |
| 6 | Patterns with Fractals | F-IF 3, F- IF 1 | 2 days |
| PT | Honeycombs |  | 2 days  |
| R/T | Review and End-of-Unit Test |  | 2 days |

**Unit 2: Linear Equations and Inequalities**

**Time:** 21 days

\*This unit has no additional days added. Grade 8 should have addressed many of these concepts and skills so some lessons marked with a # should need less time than is listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Understanding Algebraic Expressions# | AA-SSE-1 | 2 days |
| 2 | One-Step and Two-Step Linear Equations# | 8 EE 7, A-CED 1, A-REI 1, A-REI 3 | 2 days  |
| 3 | Combining Like Terms to Solve Equations# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 2 days  |
| R/T | Review and Mid-Unit Test |  | 2 days |
| 5 | Solving EquationsUsing the Distributive Property# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 3 days  |
| 6 | Formulas and Literal Equations | A-CED 4, A-REI 3 | 2 days |
| 7 | Linear Inequalities | A-CED 1, A-REI 3 | 4 days  |
| PT | iPods |  | 2 days |
| R/T | Review and Test |  | 2 days |

**Unit 3: Functions**

**Time:** 17 days (16 +1\*)

\*This unit has 1 additional day added. Grade 8 should have addressed many of these concepts and skills so some lessons marked with a # should need less time than is listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Relations and Functions | 8F -1, F-IF 1 | 2 days |
| 2 | What Is a Function?# | F-IF 9, 8F 2, 8F 5, A-CED 2, A-CED 10 | 3 days |
| 3 | Function Notation and Evaluating Functions# | F-IF 2 | 2 days |
| 4 | Multiple Representations and Applications of Functions | A-CED 2, F-IF 4, F-IF 5 | 4 days |
| PT | Functions in the Real World |  | 3 days |
| R/T | Review and End-of-Unit Test |  | 2 days  |

**Unit 4: Linear Functions**

**Time:** 25 days

\*This unit has 0 additional day added. Grade 8 should have addressed some of these concepts and skills so some lessons should need less time than listed below. Lessons marked with a # should have been addressed before

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | What Makes a Function Linear? | FLE-1, FIF-7a | 2 days |
| 2 |  Recognizing Linear Functions from Words, Tables and Graphs# | F-IF 6, F-LEI 1,F-LEI-1a | 3 days |
| 3 | Lesson 2 continued & Quiz on Inv 1 and 2# |  | 1 days |
| 4 |  Calculating and Interpreting Slope# | F-IF 6, F-LEI 1a, F-LEI 1b | 3 days  |
| 5 | Effects of Changing Parameters of an Equation in Slope-Intercept Form | F-LEI 5, F-LE 2, FLE 1 | 3 days  |
| R/T | Mid-Unit Test |  | 2 days |
| 7 | Forms of a Linear Equation# | F-LE 5, F-LE 2, F-LE 1 | 2 days  |
| 8 | Lesson 7 Continued & Quiz on Invest 5# |  | 1 day |
| 9 | Point-Slope Form of Linear Equations | F-LE-5, F-LE 2, F-LE 1, F-IF 8 | 4 days |
| PT | Linear Models |  | 2 days |
| R/T | Review and Test |  | 2 days |

**Unit 5: Scatter Plots and Trend Lines**

**Time:** 21 days (20 + 1\*)

\*This unit has 1 additional day added. Grade 8 should have addressed many of these concepts and skills so some lessons marked with a # should need less time than is listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | One Variable Data | S-ID 1, S-ID 2, S-ID 3 | 3 days |
| 2 | Introduction to Scatterplots and Trend Lines# | 8-SP1, 8-SP2, 8-SP3, S-ID6ab, S-ID7 | 2 days |
| 3 | Technology and Linear Regression# | 8-SP1, 8-SP2, 8-SP3, S-ID6ab | 2 days |
| 4 |  Explorations of Data Sets | 8-SP 1, S-ID 6, S-ID 8 | 4 days |
| 5 | Outliers  | S-ID 6, S-ID 8 | 2 days |
| 6 | Piecewise Functions | S-ID 6ac, S-ID 7, F-IF 7b | 2 days |
| PT | Linearity is in the Air — Can You Find It? See unit overview for timing |  | 3 days |
| R/T | Review and Test |  | 2 days  |

**Unit 6: Systems of Equations**

**Time:** 12 days

\*This unit has 0 additional day added. Grade 8 should have addressed some of these concepts and skills so some lessons marked with a # should need less time than listed below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Solving Systems of Linear Equations# | A-REI 6, A-REI 11 | 2 days |
| 2 | Solving Systems of Linear Equations Using Substitution# | A-REI 5, A-REI 6 | 2 days |
| 3 | Solving Systems of Linear Equations Using Elimination# | A-REI 5 | 2 days |
| PT | Community Park |  | 4 days |
| R/T | Review and Test |  | 2 days  |

**Unit 7: Introduction to Exponential Functions**

**Time:** 25 days (22 + 3\*)

\*This unit has 3 additional days added.

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | A New Function Family—World Population Growth | F-IF-7e, F-BF-2, F-LE 1a, F-LE 3 | 2 days |
| 2 | Exponential Growth and Exponents | N-RN 1, N-RN 2, F-IF 7e, F-LE 1, F-LE 3 | 4 days |
| 3 | Exploring Parameters of Exponential Functions  |  F-LE 1, F-LE 2, F-LE 3, F-LE 5 | 3 days |
| 4 |  Modeling Exponential Data | F-LE 2, F-LE 5 | 2 days |
| 5 | Exponential Patterns and Per Cent Change | A-SSE 1b, A-SSE 3c, F-IF 8b, F-LE 1c, F-LE 5 | 5 days |
| 6 | Exponential Functions and Climate Change | F-LE 1, F-LE 1c, F-LE 2, F-LE 5 | 2 days |
| PT | The Consequences Global Warming |  | 2 days |
| R/T | Review and Test |  | 2 days  |

**Unit 8 Contents**

**Time:** 27 days

\* Lessons 5 - 7 are addressed in unit 2 of Algebra 2. If not all the additional days in the other units were used, then all of unit 8 can be completed but some of the activities in lessons 5 – 7 might need to be omitted. Advanced and honors classes should be able to complete all of unit 8.

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| **Lesson**  | **Title**  | **Standards** | **Time** |
| 1 | Introducing Quadratic Functions: Parabolas Everywhere  | A-CED 1, A-CED 2, F-IF 4 | 4 days |
| 2 | Quadratic Functions in Vertex Form | F-IF 4, F-IF 7a, F-BF 3 | 4 days |
| 3 | Solving Quadratic Equations Using the Square Root Property |  8 EE 2, A-REI 4 | 4 days |
| R/T |  Review and Mid-Unit test |  | 2 days |
| 5 | Quadratic Functions in Factored Form  | A-APR1, F-IF 4, F-IF 7a, F-BF 3 | 4 days |
| 6 | Factoring Quadratic Trinomials | A-SSE 3a | 4 days |
| 7 | Solving Quadratic Equations by Completing the Square and the Quadratic Formula | A-REI 4, A -SSE 3b, F-IF 8a | 2 days |
| PT | Stopping Distance |  | 1 day |
| R/T | Review and End-of-Test |  | 2 days  |