**Connecticut Core Algebra 1**

**Scope and Sequence**

**Made for 90 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 the content 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 85 instructional days are planned, but include 2 – 10 discretion block days so that all years have at least 5 block days of the school year set aside for examinations and other administrative changes to the schedule.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Unit | Year 1/ Sequence A | Year 2/ Sequence B | Year 3/ Sequence C |
| 1 | 10 + 1 | 8.5 + 0.5 | 8 + 0.5 |
| 2 | 13 + 1 | 11.5 | 11 |
| 3 | 8 + 1.5 | 8 | 8 + 1 |
| 4 | 15 + 2 | 13  | 13 |
| 5 | 10 + 1 | 10 + 0.5 | 9 + 1 |
| 6  | 7 + 1 | 6 + 0.5 | 6 |
| 7 | 11 + 3 | 11.5 + 1 | 11 + 1.5 |
| 8 | ------ | 14  | 14 + 1 |
| Total | 84.5\* | 85\*\* | 85 \*\*\* |

\*84.5 includes 10.5 additional teacher discretion block days

\*\*85 includes 2.5 additional teacher discretion block days

\*\*\* 85 includes 5 additional teacher discretion block days so there is more time to complete the material in units 7 and 8.

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.
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.

**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 90 minute classes**

**84.5 blocks (Includes the 10.5 additional block days listed below with each unit)**

1. Sequence A should be considered if your district has begun to implement the grade 8 core standards into the grade 8 curriculum but the grade 8 algebra standards are not fully implemented. (If they have not, additional time will be needed in units 2, 4, and 6 so that probably you will not be able to reach unit 7 or you may only be able to do some of it.)
2. 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:** 11 blocks (10 + 1\*)

\*This unit has 1 block additional day added

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

**Unit 2: Linear Equations and Inequalities**

**Time:** 14 blocks (13 + 1\*)

\*This unit has 1 additional block 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 | 1 block |
| 2 | One-Step and Two-Step Linear Equations# | 8 EE 7, A-CED 1, A-REI 1, A-REI 3 | 2 blocks |
| 3 | Combining Like Terms to Solve Equations# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 2 blocks |
| R/T | Review and Mid-Unit Test |  | 1 block |
| 5 | Solving EquationsUsing the Distributive Property# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 2 blocks |
| 6 | Formulas and Literal Equations | A-CED 4, A-REI 3 | 1 block |
| 7 | Linear Inequalities | A-CED 1, A-REI 3 | 2 blocks |
| PT | iPods |  | 1 block |
| R/T | Review and Test |  | 1 block |

**Unit 3: Functions**

**Time:** 9.5 blocks (8 + 1.5\*)

\*This unit has 1.5 additional blocks 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 | Relations and Functions# | 8F -1, F-IF 1 | 1 block |
| 2 | What Is a Function?# | F-IF 9, 8F 2, 8F 5, A-CED 2, A-CED 10 | 2 blocks |
| 3 | Function Notation and Evaluating Functions | F-IF 2 | 1 block |
| 4 | Multiple Representations and Applications of Functions | A-CED 2, F-IF 4, F-IF 5 | 2 blocks |
| PT | Functions in the Real World |  | 1 block |
| R/T | Review and End-of-Unit Test |  | 1 block |

**Unit 4: Linear Functions**

**Time:**  17 blocks (15 + 2\*)

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

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

**Time:** 11 blocks (10 + 1\*)

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

**Unit 6: Systems of Equations**

**Time:** 8 blocks (7 + 1\*)

\*This unit has 1 additional block 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# |  | 2 blocks |
| 2 | Solving Systems of Linear Equations Using Substitution# |  | 1 block |
| 3 | Solving Systems of Linear Equations Using Elimination# |  | 2 blocks  |
| PT | Community Park |  | 1 block |
| R/T | Review and Test |  | 1 block |

**Unit 7: Introduction to Exponential Functions**

**Time:** 14 blocks (11 + 3\*)

\*This unit has 3 additional blocks 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 | 1 block |
| 2 | Exponential Growth and Exponents | N-RN 1, N-RN 2, F-IF 7e, F-LE 1, F-LE 3 | 2 blocks |
| 3 | Exploring Parameters of Exponential Functions  |  F-LE 1, F-LE 2, F-LE 3, F-LE 5 | 2 blocks |
| 4 |  Modeling Exponential Data | F-LE 2, F-LE 5 | 1 block |
| 5 | Exponential Patterns and Per Cent Change | A-SSE 1b, A-SSE 3c, F-IF 8b, F-LE 1c, F-LE 5 | 2 blocks |
| 6 | Exponential Functions and Climate Change | F-LE 1, F-LE 1c, F-LE 2, F-LE 5 | 1 block |
| PT | The Consequences Global Warming |  | 1 block |
| R/T | Review and Test |  | 1 block |

**Algebra 1 Common Core**

**Sequence---B**

**Made for 90 minute classes**

**85 Blocks which includes 2.5 additional block days**

1. If your district has fully implemented the grade 8 standards, then you should use sequence B. Honors and advanced classes should use sequence B for the first year of implementation.
2. 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: 9 (**8.5 + .5) blocks

\*This unit has 0.5 block added.

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

**Unit 2: Linear Equations and Inequalities**

**Time:** 11.5 blocks

\*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 | 1 block |
| 2 | One-Step and Two-Step Linear Equations# | 8 EE 7, A-CED 1, A-REI 1, A-REI 3 | 1 block |
| 3 | Combining Like Terms to Solve Equations# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 1.5 block |
| R/T | Review and Mid-Unit Test |  | 1 block |
| 5 | Solving EquationsUsing the Distributive Property# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 2 blocks |
| 6 | Formulas and Literal Equations | A-CED 4,A-REI 3 | 1 block |
| 7 | Linear Inequalities | A-CED 1, A-REI 3 | 2 blocks |
| PT | iPods |  | 1 block |
| R/T | Review and Test |  | 1 block |

**Unit 3: Functions**

**Time:** 8 blocks (8 + 0\*)

\*This unit has 0 additional blocks 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 | Relations and Functions# | 8F -1, F-IF 1 | 1 block |
| 2 | What Is a Function?# | F-IF 9, 8F 2, 8F 5, A-CED 2, A-CED 10 | 1.5 block |
| 3 | Function Notation and Evaluating Functions | F-IF 2 | 1 block |
| 4 | Multiple Representations and Applications of Functions | A-CED 2, F-IF 4, F-IF 5 | 2 blocks  |
| PT | Functions in the Real World |  | 1.5 block |
| R/T | Review and End-of-Unit Test |  | 1 block |

**Unit 4: Linear Functions**

**Time:** 13 blocks (13 + 0)

\*This unit has 0 additional block 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 | 1 block |
| 2 |  Recognizing Linear Functions from Words, Tables and Graphs# | F-IF 6, F-LEI 1,F-LEI-1a | 2 blocks  |
| 3 | Lesson 2 continued & Quiz on Inv 1 and 2# |  | .5 blocks |
| 4 |  Calculating and Interpreting Slope# | F-IF 6, F-LEI 1a, F-LEI 1b | 1.5 blocks  |
| 5 | Effects of Changing Parameters of an Equation in Slope-Intercept Form | F-LEI 5, F-LE 2, FLE 1 | 1.5 bocks  |
| R/T | Mid-Unit Test |  | 1 block  |
| 7 | Forms of a Linear Equation# | F-LE 5, F-LE 2, F-LE 1 | 1 block  |
| 8 | Lesson 7 Continued & Quiz on Inv 5# |  | .5 blocks |
| 9 | Point-Slope Form of Linear Equations | F-LE-5, F-LE 2, F-LE 1, F-IF 8 | 2 blocks  |
| PT | Linear Models |  | 1 block |
| R/T | Review and Test |  | 1 block |

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

**Time:** 10.5 blocks (10 + .5\*)

\*This unit has 0.5 additional block 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 | 1.5 block  |
| 2 | Introduction to Scatterplots and Trend Lines# | 8-SP1, 8-SP2, 8-SP3, S-ID6ab, S-ID7 | 1 block |
| 3 | Technology and Linear Regression# | 8-SP1, 8-SP2, 8-SP3, S-ID6ab | 1 block |
| 4 |  Explorations of Data Sets | 8-SP 1, S-ID 6, S-ID 8 | 2 blocks |
| 5 | Outliers  | S-ID 6, S-ID 8 | 1 block |
| 6 | Piecewise Functions | S-ID 6ac, S-ID 7, F-IF 7b | 1 block |
| PT | Linearity is in the Air — Can You Find It? See unit overview for timing |  | 1.5 block |
| R/T | Review and Test |  | 1 block |

**Unit 6: Systems of Equations**

**Time:** 6.5 blocks (6 +.5\*)

\*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 | 1 block |
| 2 | Solving Systems of Linear Equations Using Substitution# | A-REI 5, A-REI 6 | 1 block |
| 3 | Solving Systems of Linear Equations Using Elimination# | A-REI 5 | 1 block |
| PT | Community Park |  | 2 blocks |
| R/T | Review and Test |  | 1 block |

**Unit 7: Introduction to Exponential Functions**

**Time:** 12.5 blocks (11.5 + 1\*)

\*This unit has 1 additional block 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 | 1 block |
| 2 | Exponential Growth and Exponents | N-RN 1, N-RN 2, F-IF 7e, F-LE 1, F-LE 3 | 2 blocks  |
| 3 | Exploring Parameters of Exponential Functions  |  F-LE 1, F-LE 2, F-LE 3, F-LE 5 | 2 blocks  |
| 4 |  Modeling Exponential Data | F-LE 2, F-LE 5 | 1 block |
| 5 | Exponential Patterns and Per Cent Change | A-SSE 1b, A-SSE 3c, F-IF 8b, F-LE 1c, F-LE 5 | 2.5 blocks  |
| 6 | Exponential Functions and Climate Change | F-LE 1, F-LE 1c, F-LE 2, F-LE 5 | 1 block |
| PT | The Consequences Global Warming |  | 1 block |
| R/T | Review and Test |  | 1 block |

**Unit 8 Contents**

**Time:** 14 blocks

\*\*This unit has 0 additional blocks added. If additional days beyond the 14 scheduled are needed lesson 7 and the performance task will not be able to be completed. Lesson 7 is addressed in unit 2 of Algebra 2.

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

**Algebra 1 Common Core**

**Sequence---C**

**Made for 90 minute block classes**

**85 Blocks including 5 additional block days**

1. Honors and advanced classes should use sequence C for the second year of implementation.
2. 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:** 8.5 blocks (8 + 0.5)

\*This unit has .5 additional blocks added

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

**Unit 2: Linear Equations and Inequalities**

**Time:** 11 blocks

\*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 | 1 block |
| 2 | One-Step and Two-Step Linear Equations# | 8 EE 7, A-CED 1, A-REI 1, A-REI 3 | 1 block |
| 3 | Combining Like Terms to Solve Equations# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 1 block  |
| R/T | Review and Mid-Unit Test |  | 1 block |
| 5 | Solving EquationsUsing the Distributive Property# | 8 EE7, A-SSE 3, A-CED 1, A-REI 1, A-REI 3 | 2 blocks  |
| 6 | Formulas and Literal Equations | A-CED 4, A-REI 3 | 1 block |
| 7 | Linear Inequalities | A-CED 1, A-REI 3 | 2 blocks  |
| PT | iPods |  | 1 block |
| R/T | Review and Test |  | 1 block |

**Unit 3: Functions**

**Time:** 9 blocks (8 + 1\*)

\*This unit has 1 additional day added

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

**Unit 4: Linear Functions**

**Time:** 13 blocks

\*This unit has 0 additional days 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 | 1 block |
| 2 |  Recognizing Linear Functions from Words, Tables and Graphs# | F-IF 6, F-LEI 1,F-LEI-1a | 1.5 blocks  |
| 3 | Lesson 2 continued & Quiz on Inv 1 and 2# |  | 1.5 blocks  |
| 4 |  Calculating and Interpreting Slope# | F-IF 6, F-LEI 1a, F-LEI 1b | 1 block |
| 5 | Effects of Changing Parameters of an Equation in Slope-Intercept Form | F-LEI 5, F-LE 2, FLE 1 | 1.5 blocks  |
| R/T | Mid-Unit Test |  | 1 block |
| 7 | Forms of a Linear Equation# | F-LE 5, F-LE 2, F-LE 1 | 1 block |
| 8 | Lesson 7 Continued & Quiz on Inv 5# |  | .5 blocks  |
| 9 | Point-Slope Form of Linear Equations | F-LE-5, F-LE 2, F-LE 1, F-IF 8 | 2 blocks  |
| PT | Linear Models |  | 1 block |
| R/T | Review and Test |  | 1 block |

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

**Time:** 10 blocks (9 + 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 | One Variable Data | S-ID 1, S-ID 2, S-ID 3 | 1 block |
| 2 | Introduction to Scatterplots and Trend Lines# | 8-SP1, 8-SP2, 8-SP3, S-ID6ab, S-ID7 | 1 block |
| 3 | Technology and Linear Regression# | 8-SP1, 8-SP2, 8-SP3, S-ID6ab | 1 block |
| 4 |  Explorations of Data Sets | 8-SP 1, S-ID 6, S-ID 8 | 2 blocks |
| 5 | Outliers  | S-ID 6, S-ID 8 | 1 block |
| 6 | Piecewise Functions | S-ID 6ac, S-ID 7, F-IF 7b | 1 block |
| PT | Linearity is in the Air — Can You Find It? See unit overview for timing |  | 1 block |
| R/T | Review and Test |  | 1 block |

**Unit 6: Systems of Equations**

**Time:** 6 blocks

\*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 | 1 block |
| 2 | Solving Systems of Linear Equations Using Substitution# | A-REI 5, A-REI 6 | 1 block |
| 3 | Solving Systems of Linear Equations Using Elimination# | A-REI 5 | 1 block |
| PT | Community Park |  | 2 blocks |
| R/T | Review and Test |  | 1 block |

**Unit 7: Introduction to Exponential Functions**

**Time:** 13.5 blocks (11 + 1.5\*)

\*This unit has 1.5 additional block 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 | 1 block |
| 2 | Exponential Growth and Exponents | N-RN 1, N-RN 2, F-IF 7e, F-LE 1, F-LE 3 | 2 blocks |
| 3 | Exploring Parameters of Exponential Functions  |  F-LE 1, F-LE 2, F-LE 3, F-LE 5 | 2 blocks  |
| 4 |  Modeling Exponential Data | F-LE 2, F-LE 5 | 1 block |
| 5 | Exponential Patterns and Per Cent Change | A-SSE 1b, A-SSE 3c, F-IF 8b, F-LE 1c, F-LE 5 | 2 blocks |
| 6 | Exponential Functions and Climate Change | F-LE 1, F-LE 1c, F-LE 2, F-LE 5 | 1 block |
| PT | The Consequences Global Warming |  | 1 block |
| R/T | Review and Test |  | 1 block |

**Unit 8 Contents**

**Time:** 15 blocks (14 + 1)

\* This unit has 1 additional block added.

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 lessons 5 – 7 might need to be omitted or many of the activities might need to be abbreviated or 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 | 2 blocks  |
| 2 | Quadratic Functions in Vertex Form | F-IF 4, F-IF 7a, F-BF 3 | 2 blocks |
| 3 | Solving Quadratic Equations Using the Square Root Property |  8 EE 2, A-REI 4 | 2 blocks |
| R/T |  Review and Mid-Unit test |  | 1 block |
| 5 | Quadratic Functions in Factored Form  | A-APR1, F-IF 4, F-IF 7a, F-BF 3 | 2 blocks |
| 6 | Factoring Quadratic Trinomials | A-SSE 3a | 2 blocks |
| 7 | Solving Quadratic Equations by Completing the Square and the Quadratic Formula | A-REI 4, A -SSE 3b, F-IF 8a | 1 block |
| PT | Stopping Distance |  | 1 block |
| R/T | Review and End-of-Test |  | 1 block |