

Using Algebra 1 Common Core as a Resource for engage^{ny}

Use the following engage^{ny} chart to find correlated *Algebra 1 Common Core* lessons.

engage ^{ny} Module	engage ^{ny} Lesson	Algebra 1 Common Core Lesson
Module 1	Lesson 1 Graphs of Piecewise Linear Functions	3.8, 4.3
	Lesson 2 Graphs of Quadratic Functions	8.5
	Lesson 3 Graphs of Exponential Functions	9.2
	Lesson 4 Analyzing Graphs—Water Usage During a Typical Day at School	9.3
	Lesson 5 Two Graphing Stories	2.4, 3.8, 4.3, 5.1, 8.10
	Lesson 6 Algebraic Expressions—The Distributive Property	6.2, 6.3, 6.4
	Lesson 7 Algebraic Expressions—The Commutative and Associative Properties	6.2, 6.3, 6.4
	Lesson 8 Adding and Subtracting Polynomials	6.1
	Lesson 9 Multiplying Polynomials	6.2, 6.3, 6.4, 6.5
	Lesson 10 True and False Equations	2.1
	Lesson 11 Solution Sets for Equations and Inequalities	2.1, 2.5, 4.2
	Lesson 12 Solving Equations	2.1
	Lesson 13 Some Potential Dangers when Solving Equations	2.1
	Lesson 14 Solving Inequalities	2.5
	Lesson 15 Solution Sets of Two or More Equations (or Inequalities) Joined by “And” or “Or”	2.5, 2.6, 5.2, 5.3
	Lesson 16 Solving and Graphing Inequalities Joined by “And” or “Or”	2.5, 2.6
	Lesson 17 Equations Involving Factored Expressions	7.1, 8.2
	Lesson 18 Equations Involving a Variable Expression in the Denominator	2.1, 2.3, 3.2
	Lesson 19 Rearranging Formulas	2.2
	Lesson 20 Solution Sets to Equations with Two Variables	3.1
	Lesson 21 Solution Sets to Inequalities with Two Variables	4.1
	Lessons 22–23 Solution Sets to Simultaneous Equations	5.1, 5.2, 5.3, 5.4
	Lesson 24 Applications of Systems of Equations and Inequalities	5.1, 5.2, 5.3, 5.4
	Lesson 25 Solving Problems in Two Ways—Rates and Algebra	3.2, 3.8
	Lessons 26–27 Recursive Challenge Problem—The Double and Add 5 Game	9.4
	Lesson 28 Federal Income Tax	4.3
Module 2	Lesson 1 Distributions and Their Shapes	10.1, 10.3
	Lesson 2 Describing the Center of a Distribution	10.2
	Lesson 3 Estimating Centers and Interpreting the Mean as a Balance Point	10.2
	Lesson 4 Summarizing Deviations from the Mean	10.2, 10.3
	Lesson 5 Measuring Variability for Symmetrical Distributions	10.3
	Lesson 6 Interpreting the Standard Deviation	10.3
	Lesson 7 Measuring Variability for Skewed Distributions (Interquartile Range)	10.3
	Lesson 8 Comparing Distributions	10.3

engage ^{ny} Module	engage ^{ny} Lesson	Algebra 1 Common Core Lesson
Module 2	Lesson 9 Summarizing Bivariate Categorical Data	10.6
	Lesson 10 Summarizing Bivariate Categorical Data with Relative Frequencies	10.6
	Lesson 11 Conditional Relative Frequencies and Association	10.6
	Lessons 12–13 Relationships Between Two Numerical Variables	10.4, 10.5
	Lesson 14 Modeling Relationships with a Line	10.4
	Lesson 15 Interpreting Residuals from a Line	10.4
	Lesson 16 More on Modeling Relationships with a Line	10.4
	Lesson 17 Analyzing Residuals	10.4
	Lesson 18 More on Analyzing Residuals	10.4, 10.5
	Lesson 19 Interpreting Correlation	10.5
	Lesson 20 Analyzing Data Collected on Two Variables	10.4, 10.5, 10.6
Module 3	Lesson 1 Integer Sequences—Should You Believe in Patterns?	9.4
	Lesson 2 Recursive Formulas for Sequences	9.4
	Lesson 3 Arithmetic and Geometric Sequences	9.4, 9.5
	Lesson 4 Why Do Banks Pay YOU to Provide Their Services?	9.3
	Lesson 5 The Power of Exponential Growth	9.3
	Lesson 6 Exponential Growth—U.S. Population and World Population	9.3
	Lesson 7 Exponential Decay	9.3
	Lesson 8 Why Stay with Whole Numbers?	9.4
	Lessons 9–10 Representing, Naming, and Evaluating Functions	3.5, 3.6
	Lesson 11 The Graph of a Function	3.5
	Lesson 12 The Graph of the Equation $y = f(x)$	3.5
	Lesson 13 Interpreting the Graph of a Function	3.8, 8.5, 9.2
	Lesson 14 Linear and Exponential Models—Comparing Growth Rates	9.2, 9.3
	Lesson 15 Piecewise Functions	4.3, 4.4, 4.5
	Lesson 16 Graphs Can Solve Equations Too	4.4, 8.10
	Lessons 17–20 Four Interesting Transformations of Functions	4.3, 4.4, 8.7, 9.2
	Lesson 21 Comparing Linear and Exponential Models Again	9.2
	Lesson 22 Modeling an Invasive Species Population	10.5
	Lesson 23 Newton’s Law of Cooling	9.3
	Lesson 24 Piecewise and Step Functions in Context	4.3
Module 4	Lessons 1–2 Multiplying and Factoring Polynomial Expressions	6.3, 6.4, 6.5, 7.1, 7.2, 7.4
	Lessons 3–4 Advanced Factoring Strategies for Quadratic Expressions	7.3, 7.4
	Lesson 5 The Zero Product Property	8.2
	Lesson 6 Solving Basic One-Variable Quadratic Equations	8.2

engage ^{ny} Module	engage ^{ny} Lesson	Algebra 1 Common Core Lesson
Module 4	Lesson 7 Creating and Solving Quadratic Equations in One Variable	8.1, 8.2
	Lesson 8 Exploring the Symmetry in Graphs of Quadratic Functions	8.4, 8.5
	Lesson 9 Graphing Quadratic Functions from Factored Form, $f(x) = a(x - m)(x - n)$	8.5
	Lesson 10 Interpreting Quadratic Functions from Graphs and Tables	8.5, 8.6, 8.9
	Lessons 11–12 Completing the Square	8.3
	Lesson 13 Solving Quadratic Equations by Completing the Square	8.3
	Lesson 14 Deriving the Quadratic Formula	8.8
	Lesson 15 Using the Quadratic Formula	8.8
	Lesson 16 Graphing Quadratic Equations from the Vertex Form, $f(x) = a(x - h)^2 + k$	8.6
	Lesson 17 Graphing Quadratic Functions from the Standard Form, $f(x) = ax^2 + bx + c$	8.5
	Lesson 18 Graphing Cubic, Square Root, and Cube Root Functions	8.11
	Lesson 19 Translating Functions	8.7
	Lesson 20 Stretching and Shrinking Functions	8.7
	Lesson 21 Transformations of the Quadratic Parent Function, $f(x) = x^2$	8.7
	Lesson 22 Comparing Quadratic, Square Root, and Cube Root Functions Represented in Different Ways	8.11
	Lessons 23–24 Modeling with Quadratic Functions	8.9
Module 5	Lesson 1 Analyzing a Graph	3.8, 4.3, 4.4, 8.9, 8.11, 9.2
	Lesson 2 Analyzing a Data Set	3.8, 4.3, 4.4, 8.9, 8.11, 9.2
	Lesson 3 Analyzing a Verbal Description	3.8, 4.4, 8.9, 8.11, 9.3
	Lesson 4 Modeling a Context from a Graph	3.8, 4.3, 4.4, 8.9, 8.11, 9.2
	Lesson 5 Modeling from a Sequence	9.4, 9.5
	Lessons 6–7 Modeling a Context from Data	8.9, 10.4, 10.5
	Lessons 8–9 Modeling a Context from a Verbal Description	3.8, 4.3, 4.4, 8.6, 8.9, 8.11, 9.2, 9.3, 9.5
Algebra 2	Module 1	6.7
	Module 3	3.7, 9.1
Grade 8	Module 1	1.6, 1.8, 6.6
	Module 4	3.1, 3.3, 3.4
	Module 7	1.7
Grade 7	Module 3	1.5
Grade 6	Module 4	1.1, 1.4, 1.5

The Elements of Algebra

LESSON PLANNING

Lesson	Student Edition	Standards	Digital Lesson	engage ^{ny} Lessons
1.1 Writing and Translating Algebraic Expressions 	pp. 5–9	Review	Lesson 1.1	Grade 6 M4 Lessons 15–17
1.2 Translating and Writing Formulas	pp. 9–10	Review	Lesson 1.2	
1.3 Simple Algebraic Inequalities  	pp. 11–12	Review	Lesson 1.3	
1.4 Evaluating Algebraic Expressions and Formulas	pp. 13–16	Review	Lesson 1.4	Grade 6 M4 Lessons 18–22
1.5 Algebraic Properties	pp. 17–21	Review	Lesson 1.5	Grade 6 M4 Lessons 1, 8, 10 Grade 7 M3 Lessons 4–5
1.6 Exponents 	pp. 21–25	Review	Lesson 1.6	Grade 8 M1 Lessons 1–5
1.7 Roots and Radicals	pp. 25–32	Review	Lesson 1.7	Grade 8 M7 Lessons 2, 4
1.8 Scientific Notation, Significant Digits, Precision, and Accuracy	pp. 32–39	Review	Lesson 1.8	Grade 8 M1 Lessons 7–11

Key to the icons:

The computer icon  indicates Digital Activities that can be found at www.amscomath.com.

The globe icon  indicates where Real-World Model Problems are found in the text.

Chapter 2 Writing and Solving Linear Equations and Inequalities

LESSON PLANNING

Lesson	Student Edition	Standards	Digital Lesson	engage ^{ny} Lessons
2.1 Solving Linear Equations	pp. 45–58	A-REI.1; A-REI.3	Lesson 2.1	M1 Lessons 10–13 M1 Lesson 18
2.2 Solving for a Variable in Literal Equations	pp. 59–61	A-CED.4; A-REI.3	Lesson 2.2	M1 Lesson 19
2.3 Ratios, Rates, and Proportions 	pp. 62–69	N-Q.1	Lesson 2.3	M1 Lesson 18
2.4 Modeling with Linear Equations 	pp. 69–72	A-CED.1; A-REI.3	Lesson 2.4	M1 Lesson 5
2.5 Solving Inequalities 	pp. 72–78	A-REI.3	Lesson 2.5	M1 Lesson 11 M1 Lessons 14–16
2.6 Modeling with Inequalities	pp. 78–81	A-CED.1; A-REI.3	Lesson 2.6	M1 Lessons 15–16

Chapter 3

Graphing Linear Equations and Functions

LESSON PLANNING

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3.1 Graphing Linear Equations 	pp. 89–94	Review	Lesson 3.1	Grade 8 M4 Lessons 13–14 M1 Lesson 20
3.2 Direct Variation	pp. 95–100	Review	Lesson 3.2	M1 Lesson 18 M1 Lesson 25
3.3 The Slope of a Line 	pp. 101–109	Review	Lesson 3.3	Grade 8 M4 Lessons 15–16
3.4 Graphing and Writing Linear Equations Using the Slope-Intercept and Point-Slope Forms  	pp. 109–120	Review	Lesson 3.4	Grade 8 M4 Lessons 17–21
3.5 Functions	pp. 121–124	A-REI.10; F-IF.1; F-IF.2	Lesson 3.5	M3 Lessons 9–12
3.6 The Algebra of Functions	pp. 124–125	F-BF.1b	Lesson 3.6	M3 Lessons 9–10
3.7 Inverse Functions	pp. 126–129	F-BF.4a	Lesson 3.7	Algebra 2 M3
3.8 Modeling with Linear Functions  	pp. 129–135	N-Q.2; A-CED.2; F-BF.1a; F-IF.4; F-IF.5; F-IF.6; F-IF.7a; F-LE.1a; F-LE.1b; F-LE.2; F-LE.5	Lesson 3.8	M1 Lesson 1 M1 Lesson 5 M1 Lesson 25 M3 Lesson 13 M5 Lessons 1–4 M5 Lessons 8–9

Inequalities, Absolute Value, Piecewise and Step Functions

LESSON PLANNING

Lesson	Student Edition	Standards	Digital Lesson	engage ^{ny} Lessons
4.1 Graphing Linear Inequalities  	pp. 145–150	A-CED.3; A-REI.12	Lesson 4.1	M1 Lesson 21
4.2 Absolute Value Inequalities and Graphing on the Number Line 	pp. 150–153	A-CED.3; A-REI.3	Lesson 4.2	M1 Lesson 11
4.3 Graphing Piecewise and Step Functions 	pp. 154–162	F-IF.7b	Lesson 4.3	M1 Lesson 1 M1 Lesson 5 M1 Lesson 28 M3 Lesson 15 M3 Lesson 20 M3 Lesson 24 M5 Lessons 1–2 M5 Lesson 4 M5 Lessons 8–9
4.4 Graphing Absolute Value Functions  	pp. 163–171	F-IF.7b; F-BF.3	Lesson 4.4	M3 Lessons 15–18 M5 Lessons 1–4 M5 Lessons 8–9
4.5 Solving Absolute Value Equations Algebraically	pp. 171–173	A-REI.3	Lesson 4.5	M3 Lesson 15

Systems of Linear Equations and Inequalities

LESSON PLANNING

Lesson	Student Edition	Standards	Digital Lesson	engage ^{ny} Lessons
5.1 Solving Systems of Linear Equations by Graphing  	pp. 185–189	A-REI.6; A-REI.11	Lesson 5.1	M1 Lesson 5 M1 Lessons 22–24
5.2 Solving Systems of Linear Equations by Substitution 	pp. 190–194	A-REI.6	Lesson 5.2	M1 Lesson 15 M1 Lessons 22–24
5.3 Solving Systems of Linear Equations by Elimination 	pp. 194–199	A-REI.5; A-REI.6	Lesson 5.3	M1 Lesson 15 M1 Lessons 23–24
5.4 Solving Systems of Linear Inequalities by Graphing  	pp. 199–203	A-CED.3; A-REI.12	Lesson 5.4	M1 Lessons 22–24

Operations with Polynomials

LESSON PLANNING

Lesson	Student Edition	Standards	Digital Lesson	engage ^{ny} Lessons
6.1 Adding and Subtracting Polynomials 	pp. 211–215	A-SSE.2; A-APR.1	Lesson 6.1	M1 Lesson 8
6.2 Multiplying a Monomial by a Monomial	pp. 216–219	A-APR.1	Lesson 6.2	M1 Lessons 6–7 M1 Lesson 9
6.3 Multiplying a Polynomial by a Monomial	pp. 219–221	A-APR.1	Lesson 6.3	M1 Lessons 6–7 M1 Lesson 9 M4 Lesson 1
6.4 Multiplying a Polynomial by a Polynomial 	pp. 222–225	A-APR.1	Lesson 6.4	M1 Lessons 6–7 M1 Lesson 9 M4 Lessons 1–2
6.5 Special Products of Binomials	pp. 225–227	A-APR.1	Lesson 6.5	M1 Lesson 9 M4 Lesson 1
6.6 Negative Integers as Exponents	pp. 228–229	A-SSE.2	Lesson 6.6	Grade 8 M1 Lesson 5
6.7 Dividing Polynomials	pp. 230–233	A-SSE.2; A-APR.1	Lesson 6.7	Algebra 2 M1

Special Products and Factoring

LESSON PLANNING

Lesson	Student Edition	Standards	Digital Lesson	engage ^{ny} Lessons
7.1 Greatest Common Factors	pp. 241–243	A-SSE.2	Lesson 7.1	M1 Lesson 17 M4 Lesson 1
7.2 Factoring the Difference of Two Squares	pp. 244–246	A-SSE.2	Lesson 7.2	M4 Lessons 1–2
7.3 Factoring Trinomials 	pp. 246–252	A-SSE.2	Lesson 7.3	M4 Lessons 3–4
7.4 Factoring Completely	pp. 253–254	A-SSE.2	Lesson 7.4	M4 Lessons 2–4

Quadratic Equations and Functions

LESSON PLANNING

Lesson	Student Edition	Standards	Digital Lesson	engage ^{ny} Lessons
8.1 Standard Form of the Quadratic Equation	pp. 259–260	A-SSE.2	Lesson 8.1	M4 Lesson 7
8.2 Solving Quadratic Equations Algebraically 	pp. 260–273	A-SSE.3a; A-CED.2; A-REI.1; A-REI.4b	Lesson 8.2	M1 Lesson 17 M4 Lessons 5–7
8.3 Solving Quadratic Equations by Completing the Square	pp. 273–276	A-REI.4a; A-REI.4b	Lesson 8.3	M4 Lessons 11–13
8.4 Solving Quadratic Equations from the Graph	pp. 276–279	A-APR.3; A-REI.10	Lesson 8.4	M4 Lesson 8
8.5 Graphing Quadratic Functions 	pp. 280–285	A-APR.3	Lesson 8.5	M1 Lesson 2 M3 Lesson 13 M4 Lessons 8–10 M4 Lesson 17
8.6 Quadratic Functions in Vertex Form 	pp. 285–287	A-SSE.2; A-REI.4a; A-REI.4b; F-IF.8a	Lesson 8.6	M4 Lesson 10 M4 Lesson 16 M5 Lessons 8–9
8.7 Transformations of Quadratic Functions 	pp. 288–290	F-BF.3	Lesson 8.7	M3 Lesson 19 M4 Lessons 19–21
8.8 The Quadratic Formula and the Discriminant	pp. 290–294	A-REI.4a; A-REI.4b	Lesson 8.8	M4 Lessons 14–15
8.9 Modeling with Quadratic Equations 	pp. 295–302	A-SSE.1a; A-SSE.1b; A-SSE.3a; A-SSE.3b; A-CED.2; A-CED.3; A-REI.4a; A-REI.4b; F-IF.4; F-IF.5; F-IF.6; F-IF.7a; F-IF.8a	Lesson 8.9	M4 Lesson 10 M4 Lessons 23–24 M5 Lessons 1–4 M5 Lessons 6–9
8.10 Solving Quadratic-Linear Systems of Equations	pp. 302–310	A-REI.7; A-REI.11	Lesson 8.10	M1 Lesson 5 M3 Lesson 16
8.11 Graphing Cubic and Root Functions 	pp. 310–314	A-APR.3; A-REI.10; F-IF.1; F-IF.7b	Lesson 8.11	M4 Lesson 18 M4 Lesson 22 M5 Lessons 1–4 M5 Lessons 8–9

Exponents and Exponential Functions

LESSON PLANNING

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9.1 Rational Exponents and Radicals	pp. 321–324	N-RN.1; N-RN.2; N-RN.3	Lesson 9.1	Algebra 2 M3
9.2 Graphing Exponential Functions  	pp. 324–334	A-SSE.3c; A-REI.10; F-IF.6; F-IF.7e; F-IF.8b; F-IF.9; F-BF.3; F-LE.1a; F-LE.1c; F-LE.3	Lesson 9.2	M1 Lesson 3 M3 Lessons 13–14 M3 Lesson 19 M3 Lesson 21 M5 Lessons 1–2 M5 Lesson 4 M5 Lessons 8–9
9.3 Modeling Exponential Growth and Decay 	pp. 334–340	N-Q.3; A-SSE.1b; A-SSE.3c; A-CED.2; A-CED.3; A-REI.11; F-IF.4; F-IF.5; F-IF.6; F-IF.7e; F-IF.8b; F-LE.5	Lesson 9.3	M1 Lesson 4 M3 Lessons 4–7 M3 Lesson 14 M3 Lesson 23 M5 Lesson 3 M5 Lessons 8–9
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Chapter 10 Interpreting Quantitative and Categorical Data

LESSON PLANNING

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10.1 Simple Single-Count Statistics	pp. 365–369	S-ID.1; S-ID.3	Lesson 10.1	M2 Lesson 1
10.2 Measures of Central Tendency 	pp. 370–371	S-ID.2; S-ID.3	Lesson 10.2	M2 Lessons 2–4
10.3 Single-Count Statistics with Dispersion	pp. 372–381	S-ID.1; S-ID.2; S-ID.3	Lesson 10.3	M2 Lesson 1 M2 Lessons 4–8
10.4 Two-Valued Statistics for Linear Behavior 	pp. 381–390	S-ID.6a; S-ID.6b; S-ID.6c; S-ID.7; S-ID.8; S-ID.9	Lesson 10.4	M2 Lessons 12–18 M2 Lesson 20 M5 Lessons 6–7
10.5 Two-Valued Statistics for Non-Linear Behavior	pp. 390–392	S-ID.6a; S-ID.6b	n/a	M2 Lesson 13 M2 Lessons 18–20 M3 Lesson 22 M5 Lessons 6–7
10.6 Analyzing Bivariate Categorical Data 	pp. 392–396	S-ID.5	Lesson 10.6	M2 Lessons 9–11 M2 Lesson 20