RAISE For Success + Equity
Rice Algebra Initiative

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Algebra I Pacing Guide for a 165-day Instructional Calendar

Number of days includes -

- ½ day allotted for the unit overview & readiness (prerequisite skill assessment & preparation)
- 1 day allotted for each lesson (45 minutes)
- ½ day allotted for each section quiz
- ½ day allotted for each STAAR review quiz
- 1 day allotted for each unit quiz
- 1 day allotted for the culminating project
- ½ day allotted for wrap up and student self assessment
- An asterisk (*) denotes lessons where the time allotment for specific activities has been compacted. Access the Section Overview videos and Teacher Guides for more information.

Unit	Title	Days
1	**Linear Equations** Section A 1.1 Exploring Expressions and Equations 1.2 Writing Equations to Model Relationships, Part 1 1.3 Writing Equations to Model Relationships, Part 2 1.4 Equations and Their Solutions 1.5 Equations and Their Graphs Section B 1.6 Equivalent Equations 1.7 Explaining Steps for Rewriting Equations 1.8 Choosing the Correct Variable to Solve For, Part 1 1.9 Choosing the Correct Variable to Solve For, Part 2 1.10 Connecting Equations to Graphs, Part 1 1.11 Connecting Equations to Graphs, Part 2 Section C 1.12 Writing the Equation of a Line 1.13 Lines from Tables and Graphs 1.14 Writing Equations of Parallel and Perpendicular Lines 1.15 Direct Variation Project Unit 1 Slopes and Intercepts	20

Unit	Title	Days
	Unit 1 Student Self Assessment	
	If needed: Review, Assess, Reteach, Extend	1
2	**Linear Inequalities and Systems** Section A 2.1 Writing and Graphing Systems of Equations 2.2 Writing Systems of Equations 2.3 Solving Systems by Substitution 2.4 Solving Systems by Elimination, Part 1 2.5 Solving Systems by Elimination, Part 2 2.6 Solving Systems by Elimination, Part 3 2.7 Systems of Linear Equations and Their Solutions Section B 2.8 Representing Situations with Inequalities 2.9 Solutions to Inequalities * 2.10 Writing and Solving Inequalities in One Variable * Section C 2.11 Graphing Linear Inequalities in Two Variables 2.12 Using Linear Inequalities as Constraints * 2.13 Solving Problems with Inequalities in Two Variables Section D 2.14 Solutions to Systems of Linear Inequalities in Two Variables 2.15 Solving Problems with Systems of Linear Inequalities in Two Variables Project Unit 2 Modeling with Systems of Inequalities in Two Variables Unit 2 Student Self Assessment	19
	If needed: Review, Assess, Reteach, Extend	1
3	**Two-Variable Statistics** Section A 3.1 Linear Models 3.2 Fitting Lines 3.3 Residuals * Section B 3.4 The Correlation Coefficient 3.5 Using the Correlation Coefficient 3.6 Causal Relationships Project Unit 3 Two-Variable Statistics Unit 3 Student Self Assessment	10

Unit	Title	Days
	If needed: Review, Assess, Reteach, Extend	1
4	**Functions** Section A 4.1 Describing and Graphing Situations 4.2 Function Notation 4.3 Interpreting and Using Function Notation 4.4 Using Function Notation to Describe Rules, Part 1 4.5 Using Function Notation to Describe Rules, Part 2 * Section B 4.6 Features of Graphs 4.7 Finding Slope 4.8 Using Graphs to Find Average Rate of Change 4.9 Interpreting and Creating Graphs * 4.10 Comparing Graphs 4.11 Graphing a Function Using Transformations (2-day lesson) Section C 4.12 Domain and Range, Part 1 * 4.13 Domain and Range, Part 2 Section D 4.14 Sequences 4.15 Introducing Geometric Sequences 4.16 Introducing Arithmetic Sequences 4.17 Representing Sequences 4.18 The n^{th} Term of an Arithmetic Sequence Project Unit 4 Using Functions to Model Battery Power Unit 4 Student Self Assessment	24
	If needed: Review, Assess, Reteach, Extend	1
5	**Introduction to Exponential Functions** Section A 5.1 Properties of Exponents 5.2 Rational Exponents 5.3 Patterns of Growth 5.4 Representing Exponential Growth 5.5 Representing Exponential Decay 5.6 Negative Exponents and Scientific Notation 5.7 Analyzing Graphs Section B 5.8 Exponential Situations as Functions	19

Unit	Title	Days
	5.9 Interpreting Exponential Functions * 5.10 Looking at Rates of Change 5.11 Modeling Exponential Behavior * 5.12 Reasoning about Exponential Graphs, Part 1 Section C 5.13 Reasoning about Exponential Graphs, Part 2 5.14 Which One Changes Faster? 5.15 Changes Over Equal Intervals Project Unit 5 Introduction to Exponential Functions Unit 5 Student Self Assessment	
	If needed: Review, Assess, Reteach, Extend	1
6	**Working with Polynomials** Section A 6.1 Add and Subtract Polynomials 6.2 Multiplying Polynomials 6.3 Dividing Polynomials * Section B 6.4 Greatest Common Factor and Factor by Grouping 6.5 Factor Trinomials 6.6 Factor Special Products 6.7 General Strategy for Factoring Polynomials Project Unit 6 Polynomials and Rectangles Unit 6 Student Self Assessment	11
	If needed: Review, Assess, Reteach, Extend	1
7	**Introduction to Quadratic Functions** Section A 7.1 Patterns of Change 7.2 Introduction to Quadratic Relationships Section B 7.3 Determining if a Function is Quadratic 7.4 Comparing Quadratic and Exponential Functions 7.5 Building Quadratic Functions to Describe Situations, Part 1 7.6 Building Quadratic Functions to Describe Situations, Part 2 7.7 Domain, Range, Vertex, and Zeros of Quadratic Functions Section C 7.8 Equivalent Quadratic Expressions 7.9 Standard Form and Factored Form	22

Unit	Title	Days
	7.10 Graphs of Functions in Standard and Factored Forms Section D 7.11 Graphing from the Factored Form 7.12 Graphing the Standard Form, Part 1 7.13 Graphing the Standard Form, Part 2 7.14 Graphs that Represent Situations * 7.15 Vertex Form 7.16 Graphing from the Vertex Form 7.17 Changing the Vertex * Project Unit 7 Designing a Fountain Unit 7 Student Self Assessment	
	If needed: Review, Assess, Reteach, Extend	1
8	**Quadratic Equations** Section A 8.1 Finding Unknown Inputs 8.2 When and Why Do We Write Quadratic Equations? Section B 8.3 Solving Quadratic Equations by Reasoning 8.4 Solving Quadratic Equations with the Zero Product Property 8.5 How Many Solutions? 8.6 Rewriting Quadratic Expressions in Factored Form, Part 1 8.7 Rewriting Quadratic Expressions in Factored Form, Part 2 8.8 Rewriting Quadratic Expressions in Factored Form, Part 3 8.9 Solving Quadratic Equations by Using Factored Form 8.10 Rewriting Quadratic Expressions in Factored Form, Part 4 * Section C 8.11 Writing Quadratic Equations Given Real Solutions 8.12 Using Technology to Find the Quadratic Regression Project Unit 8 Modeling Rocket Flight Unit 8 Student Self Assessment	17
	If needed: Review, Assess, Reteach, Extend	1
9	**More Quadratic Equations** Section A 9.1 What are Perfect Squares? 9.2 Completing the Square, Part 1 9.3 Completing the Square, Part 2 9.4 Completing the Square, Part 3 *	15

Unit	Title	Days
	9.5 Quadratic Equations with Irrational Solutions Section B 9.6 The Quadratic Formula 9.7 Applying the Quadratic Formula 9.8 Deriving the Quadratic Formula Section C 9.9 Writing Quadratics in Different Forms 9.10 Rewriting Quadratic Expressions in Vertex Form * 9.11 Using Quadratic Expressions in Vertex Form to Solve Problems Project Unit 9 Using Quadratic Equations to Model Situations and Solve Problems Unit 9 Student Self Assessment	
	If needed: Review, Assess, Reteach, Extend	1

Total = 165 days of instruction (45-minute class periods)