

Amplify Math Summer Bridge Curriculum

This is a list of all units and lessons available with the Amplify Math Summer Bridge program. Access to the lesson materials listed here beyond those at <https://amplify.com/math4summer/> is available upon request.

GRADE 6

Unit 6: Expressions and Equations

Lesson 1 Launch: Detecting Counterfeit Coins

Expressions and Equations in One Variable

Lesson 2 Write Expressions Where Letters Stand for Numbers
Lesson 3 Tape Diagrams and Equations
Lesson 4 Truth and Equations
Lesson 5 Staying in Balance
Lesson 6 Staying in Balance with Variables
Lesson 7 Practice Solving Equations and Representing Scenarios with Equations
Lesson 8 A New Way to Interpret a over b
Lesson 9 Revisiting Percentages

Equivalent Expressions

Lesson 10 Equal and Equivalent, Part 1
Lesson 11 Equal and Equivalent, Part 2
Lesson 12 The Distributive Property, Part 1
Lesson 13 The Distributive Property, Part 2
Lesson 14 Meaning of Exponents
Lesson 15 Evaluating Expressions with Exponents
Lesson 16 Analyzing Exponential Expressions and Equations

Relationships with Quantities

Lesson 17 Two Related Quantities, Part 1
Lesson 18 Two Related Quantities, Part 2

Lesson 19 Capstone: Creating a Class Mobile

Unit 7: Rational Numbers

Lesson 1 Launch: How Far? Which Way?

Negative Numbers and Absolute Value

Lesson 2 Positive and Negative Numbers

- Lesson 3 Points on a Number Line
- Lesson 4 Comparing Integers
- Lesson 5 Comparing and Ordering Rational Numbers
- Lesson 6 Using Negative Numbers to Make Sense of Contexts
- Lesson 7 Absolute Value of Numbers
- Lesson 8 Comparing Numbers and Distance from Zero

Inequalities

- Lesson 9 Writing Inequalities
- Lesson 10 Graphing Inequalities on the Number Line
- Lesson 11 Solutions to One or More Inequalities
- Lesson 12 Interpreting Inequalities

The Coordinate Plane

- Lesson 13 Points on the Coordinate Plane
- Lesson 14 Constructing the Coordinate Plane
- Lesson 15 Interpreting Points on a Coordinate Plane
- Lesson 16 Distances on a Coordinate Plane
- Lesson 17 Shapes on a Coordinate Plane
- Lesson 18 Lost and Found Puzzles

- Lesson 19 Capstone: Drawing on the Coordinate Plane

GRADE 7

Unit 6: Expressions, Equations, and Inequalities

- Lesson 1 Launch: Keeping the Balance

Solving Equations of the Form $px+q=r$ and $p(x+q)=r$

- Lesson 2 Balanced and Unbalanced
- Lesson 3 Reasoning about Solving Equations (Part 1)
- Lesson 4 Reasoning about Solving Equations (Part 2)
- Lesson 5 Dealing with Negative Numbers
- Lesson 6 Two Ways to Solve One Equation
- Lesson 7 Practice Solving Equations

Solving Word Problems Leading to Equations of the Form $px+q=r$ and $p(x+q)=r$

- Lesson 8 Reasoning with Tape Diagrams
- Lesson 9 Reasoning about Equations and Tape Diagrams (Part 1)
- Lesson 10 Reasoning about Equations and Tape Diagrams (Part 2)
- Lesson 11 Using Equations to Solve Problems
- Lesson 12 Solving Percent Problems in New Ways

Inequalities

- Lesson 13 Reintroducing Inequalities
- Lesson 14 Solving Inequalities
- Lesson 15 Finding Solutions to Inequalities in Context
- Lesson 16 Efficiently Solving Inequalities
- Lesson 17 Interpreting Inequalities
- Lesson 18 Modeling with Inequalities

Equivalent Expressions

- Lesson 19 Subtraction in Equivalent Expressions
- Lesson 20 Expanding and Factoring
- Lesson 21 Combining Like Terms (Part 1)
- Lesson 22 Combining Like Terms (Part 2)

- Lesson 23 Capstone: Pattern Thinking

Unit 7: Angles, Triangles, and Prisms

- Lesson 1 Launch: Shaping Up

Angle Relationships

- Lesson 2 Relationships of Angles
- Lesson 3 Supplementary and Complementary Angles (Part 1)
- Lesson 4 Supplementary and Complementary Angles (Part 2)
- Lesson 5 Vertical Angles
- Lesson 6 Using Equations to Solve for Unknown Angle
- Lesson 7 Like Clockwork

Drawing Polygons with Given Conditions

- Lesson 8 Building Polygons (Part 1)
- Lesson 9 Building Polygons (Part 2)
- Lesson 10 Triangles with Three Common Measures
- Lesson 11 Drawing Triangles (Part 1)
- Lesson 12 Drawing Triangles (Part 2)

Solid Geometry

- Lesson 13 Slicing Solids
- Lesson 14 Volume of Right Prisms
- Lesson 15 Decomposing Bases for Area
- Lesson 16 Surface Area of Right Prisms
- Lesson 17 Distinguishing Volume and Surface Area

- Lesson 18 Capstone:Applying Volume and Surface Area

GRADE 8

Unit 6: Associations in Data

Lesson 1 Launch: Creating a Scatter Plot

Associations in Numerical Data

Lesson 2 Interpreting Points on a Scatter Plot
Lesson 3 Observing Patterns in Scatter Plots
Lesson 4 Fitting a Line to Data
Lesson 5 Using a Linear Model
Lesson 6 Interpreting Slope and y-intercept
Lesson 7 Analyzing Bivariate Data
Lesson 8 Looking for Associations
Lesson 9 Capstone: Using Data Displays to Find Associations

Unit 7: Exponents and Scientific Notation

Lesson 1 Launch: Create a Sierpinski Triangle

Exponent Rules

Lesson 2 Reviewing Exponents
Lesson 3 Multiplying Powers
Lesson 4 Dividing Powers
Lesson 5 Negative Exponents
Lesson 6 Powers Pairs
Lesson 7 Different Bases
Lesson 8 Practice with Rational Bases

Scientific Notation

Lesson 9 Representing Large Numbers on the Number Line
Lesson 10 Representing Small Numbers on the Number Line
Lesson 11 Applications of Arithmetic with Powers of 10
Lesson 12 Definition of Scientific Notation
Lesson 13 Multiplying, Dividing, and Estimating with Scientific Notations
Lesson 14 Adding and Subtracting with Scientific Notation

Lesson 15 Capstone: Is a Smartphone Smart Enough to Go to the Moon?

ALGEBRA 1

Unit 5: Introduction to Exponentials

Lesson 1 Launch: An Historic Epidemic

Looking at Growth

Lesson 2 Patterns of Growth

Lesson 3 Growing and Growing

A New Kind of Relationship

Lesson 4 Representing Exponential Growth

Lesson 5 Understanding Decay

Lesson 6 Representing Exponential Decay

Lesson 7 Exploring Parameter Changes of Exponentials (Optional)

Lesson 8 Using Negative Exponents

Exponential Functions

Lesson 9 Exponential Situations as Functions

Lesson 10 Interpreting Exponential Functions

Lesson 11 Modeling Exponential Behavior

Lesson 12 Reasoning About Exponential Graphs Part 1

Lesson 13 Looking at Rates of Change

Percent Growth and Decay

Lesson 14 Functions Involving Percent Change

Lesson 15 Compounding Interest

Lesson 16 Different Compounding Interest

Lesson 17 Expressed in Different Ways

Comparing Linear and Exponential Functions

Lesson 18 Which One Changes Faster?

Lesson 19 Changes Over Equal Intervals

Lesson 20 Capstone: Will there be enough food to support the world population in 2075?

Unit 6: Quadratic Functions

Lesson 1 Launch: The Perfect Shot

A Different Kind of Change

Lesson 2 A Different Kind of Change

Lesson 3 How Does it Change?

Lesson 4 Squared (Optional)

Lesson 5 Using Geometric Patterns to Build Quadratic Functions

Quadratic Functions

- Lesson 6 Comparing Quadratic and Exponential Functions
- Lesson 7 Building Quadratic Functions to Describe Falling Objects
- Lesson 8 Building Quadratic Functions to Describe Projectile Motion
- Lesson 9 Building Quadratic Functions to Describe Scenarios

Quadratic Expressions

- Lesson 10 Equivalent Quadratic Expressions (Part 1)
- Lesson 11 Equivalent Quadratic Expressions (Part 2)
- Lesson 12 Standard Form and Factored Form
- Lesson 13 Graphs of Functions in Standard and Factored Form

Features of Graphs of Quadratic Functions

- Lesson 14 Graphing from the Factored Form
- Lesson 15 Interpreting Graphs of the Factored Form
- Lesson 16 Graphing from the Standard Form (Part 1)
- Lesson 17 Graphing the Standard Form (Part 2)
- Lesson 18 Graphs that Represent Scenarios
- Lesson 19 Vertex Form
- Lesson 20 Graphing from the Vertex Form
- Lesson 21 Form Efficiency and Parameter Change
- Lesson 22 Changing the Vertex

- Lesson 23 Capstone: Monster Ball