

Building Blocks[™] Activity List

More than 300 adaptive, research-based digital math activities for Grades PreK-8.



Developed by Dr. Douglas H. Clements and Dr. Julie Sarama

Building Blocks™ is a collection of highly researched game-based activities that provide conceptual development, math practice, and remediation within a wide variety of mathematical topics.

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Building Blocks™ Activities and Free Explores

This alphabetical list identifies all **Building Blocks** Activities and Free Explore Activities. Use it to determine developmentally appropriate activities that build specific skills and concepts for your students.

"Age/Grade Range" indicates the typical age at which students reach the indicated Learning Trajectory Level.

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Angle Compare	Geometry	Angle Measurement	Ages 8–11
Students compare the size of angles by moving one angle on top of the other.			Grades 4–6
Angle Types	Geometry	Angle Measurement	Ages 8–11
Students determine if an angle is acute, right, or obtuse by being able to move the angle around the screen.			Grades 4–6
Animal Jump	Algebra and	Patterns and Algebraic	Ages 6–8
Students determine how many numbers on a number line an animal must travel to be equal to another animal.	Patterns	Thinking	Grades K-2

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Area in a Rectangle Students find the areas of triangles and rectangles that are part of a larger rectangle.	Geometry	Area, Perimeter, and Volume	Ages 10–13 Grades 5–7
Area with Unit Squares Students use unit squares to find the area of rectangles.	Geometry	Area, Perimeter, and Volume	Ages 9–12 Grades 3–5
Arrays in Area Students use square tiles to find the area of various grids (or partial grids).	Multiplication	Multiplication/Division	Ages 8–11 Grades 2–4
Barkley's Bones 1–10 Students determine the missing addend in X + _ = Z problems.	Algebra and Patterns	Addition and Subtraction	Ages 5–7 Grade K–1

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Barkley's Bones 1–20 Students determine the missing addend in X + _ = Z problems.	Algebra and Patterns	Addition and Subtraction	Ages 6–8 Grade 1–3
Before and After Math Students identify and select numbers that come either just before or right after a target number. 8 5 1 2 3 4 5 6 7 8 9 10	Number Sense	Number: Counting (Verbal)	Ages 4–6 Grade K–2
Book Stacks Students count (through one decade) from a given number as they load books onto a car.	Number Sense	Number: Counting (Objects)	Ages 6–8 Grade K–2
Boxes, Boxes Everywhere Students explore creating box-and- whisker plots.	Statistics and Graphing	Probability and Statistics	Ages 11–13 Grades 6–8

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Bright Idea: Counting On Game Students count from a numeral to identify number amounts, and then move forward a corresponding number of spaces on a game board.	Addition	Number: Counting (Strategies)	Ages 6–8 Grades K–2
Build Stairs 1: Count Steps Students add stairs to a stair frame outline to reach a target height.	Number Sense	Number: Counting (Strategies)	Ages 4–6 Grades PreK–K
Build Stairs 2: Order Steps Students identify the appropriate stacks of unit cubes to fill in a series of staircase steps.	Number Sense	Number: Counting (Strategies)	Ages 4–7 Grades PreK–K
Build Stairs 3: Find the Missing Step Students identify the numeral that represents a missing number in a sequence.	Number Sense	Number: Counting (Strategies)	Ages 6–7 Grade PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Build Stairs Free Explore Students explore counting, sequencing, and ordering by building staircases.	Number Sense	Number: Counting (Strategies)	Ages 4–7 Grade PreK–K
Charging Up	Fractions	Rational Numbers	Ages 6–8
Students enter the fraction that describes the amount of charge remaining in a battery.			Grades 2–4
Circle the Area	Measurement	Rational Numbers	Ages 11–14
Students use the formula for the area of a circle. A dort broot has a radius of 6 inches. What is its approximate area? Area on 12 6 7 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Grades 6–8
Circling Around	Measurement	Rational Numbers	Ages 11–14
Students use the formula for the circumference of a circle. Note: most is come the origin of a circle hashed had a most in a control of the most in a control of the circle had been proceed in table. Note: most is good to control had not had a most in a control of the circle had been proceed in table. Note: most of circle. Student with the student of the circle had been proceed in the circle had b			Grades 6–8

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Clean the Plates Students skip count by 10s, 5s, 2s, and 3s to a target number.	Division	Multiplication and Division	Ages 7–9 Grades 1–3
Comic Book Shop Students use skip counting to produce products that are multiples of 10s, 5s, 2s, and 3s.	Multiplication	Multiplication and Division	Ages 7–9 Grades 1–3
Comparisons Students are shown pictures of two objects and are asked to click on the one that fits the prompt (longer, shorter, heavier, etc.).	Measurement	Length Measurement	Ages 4–8 Grades PreK–K
Count and Race Students count up to 50 by adding cars to a racetrack one at a time.	Number Sense	Number: Counting (Verbal)	Ages 3–6 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Count and Race Free Explore Students count up to 50 by adding cars to a racetrack one at a time.	Number Sense	Number: Counting (Verbal)	Ages 3–6 Grades PreK–K
Countdown Crazy Students click digits in sequence to count down from 10 to 0.	Number Sense	Number: Counting (Object)	Ages 5–7 Grades PreK–K
Create a Scene Students explore shapes by moving and manipulating them to make pictures.	Geometry	Composing Geometric Shapes	Ages 4–12 Grades K–1
Decimal and Fraction Card Battle Students select decimal or fraction card(s) that "beat" the computer's decimal or fraction card by choosing either cards that are lower or higher.	Decimals	Rational Numbers	Ages 10–12 Grades 5–7

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Decimal Blast 1	Decimals	Rational Numbers	Ages 10–12
Students use a rocket-launching scenario to identify the decimals placed on a number line.			Grades 5–7
Decimal Blast 2	Decimals	Rational Numbers	Ages 10–12
Students use a rocket-launching scenario to identify the decimals placed on a number line.			Grades 5–7
0 1 2 3 4 5 6 7 8 9 .			
Decimal Card Battle	Decimals	Rational Numbers	Ages 10–12
Students select decimal card(s) that "beat" the computer's decimal card by choosing either cards that are lower or higher.			Grades 5–7
Which one of your cards is leaver in value than the computer's card, 0.37 0.2 0.7 0.8 0.6 0.9			

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Decimal Word Problems Students use a word problem scenario and decimal blocks to add and subtract decimals.	Problem Solving	Rational Numbers	Ages 10–12 Grades 5–7
Entre chaese cash 35.79 and safey suggest star \$6.35. Nor much more does the safey of class cash flow the safey magnetic of the safe			
Deci-Multiply	Decimals	Rational Numbers	Ages 10–12
Students match decimal multiplication expression to the answer using the correct placement of the decimal.			Grades 6–8
133 x 150 1.33 x 1.5 133 x 1.5 170.65 170.65			
Decomposing Area	Geometry	Area, Perimeter, and	Ages 9–12
Students find the area of irregular shapes by decomposing the shape.		Volume	Grades 4–6
Deep Sea Compare	Measurement	Length Measurement	Ages 5–7 Grades
Students compare the length of two objects by representing them with a third object.			PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Dinos Shop 1 Students identify the numeral that represents a target number of dinosaurs in a number frame.	Number Sense	Number: Counting (Object)	Ages 4–6 Grades PreK–K
Dino Shop 2 Students add dinosaurs to a box to match target numerals.	Number Sense	Number: Counting (Object)	Ages 5–7 Grades PreK–K
Dino Shop 3 (1–5) Students add the contents of two boxes of toy dinosaurs (number frames) and identify a target numeral that represents the sum.	Addition	Addition and Subtraction	Ages 4–6 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Dino Shop 3 (1–10) Students add the contents of two boxes of toy dinosaurs (number frames) and identify a target numeral that represents the sum.	Addition	Addition and Subtraction	Ages 4–7 Grades PreK–K
Dino Shop 4 Students start with x dinosaurs in a box and add y more to reach a total of z dinosaurs (up to 10).	Number Sense	Addition and Subtraction	Ages 5–7 Grades PreK–K
Dino Shop Free Explore Students explore counting and related number topics by adding toy dinosaurs to boxes.	Number Sense	Counting (Object)	Ages 4–7 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Double Compare 1–10 Students compare sums of cards to determine which sum is greater.	Number Sense	Addition and Subtraction	Ages 5–7 Grades K–2
Double Compare 1–20 Students compare sums of cards to determine which sum is greater.	Number Sense	Addition and Subtraction	Ages 5–7 Grades 1–3
Easy as Pie Students identify numerals (zero through eight) and total number amounts (one through ten), then move forward a corresponding number of spaces on a game board.	Addition	Addition and Subtraction	Ages 6–8 Grades K–2

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Eggcellent Students choose numbers whose sums enable them to reach the final space on a game board in the fewest number of moves. 1	Addition	Addition and Subtraction	Ages 6–8 Grades 1–2
Egg-stremely Equal Students divide large sets of eggs into several equal parts.	Fractions	Multiplication and Division	Ages 4–8 Grades K–2
Equivalent Expressions Students identify expressions equivalent to a given expression. The state of the sequence of the state of the s	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 11–13 Grades 6–8

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Evaluating Expressions Students match variable expressions, including expressions with multiple operations, to their values.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 11–13 Grades 6–8
Factor Factory	Number Sense	Multiplication and	Ages 9–11
Students explore finding the prime factorization of whole numbers.		Division	Grades 4–6
Field Trip Students solve multi-digit multiplication problems in a field trip environment through the aid of manipulatives. On a trip to the live source of 2 trudents environment through the manipulatives.	Multiplication	Multiplication and Division	Ages 8–11 Grades 3–5
Figure Find	Geometry	Angle Measurement	Ages 9–12
Students select the correct figure by using classification information such as amount of sides and size of angles.			Grades 4–6

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Figure the Fact Students add numeric values from one through ten to values from zero through ninety-nine, with sums ranging from one through one-hundred.	Addition	Addition and Subtraction	Ages 7–9 Grades 1–4
Fill It Up Students fill to the line to show 1/4, 1/2, 3/4, 4/4, 1/3, 2/3, or 3/3 of a measuring cup.	Fractions	Rational Numbers	Ages 6–8 Grades 2–4
Students tell which of three fractions is greatest, placing images on a number line to help in comparison.	Fractions	Rational Numbers	Ages 8–11 Grades 3–5

Activity	Topic	Learning Trajectory /	Age/Grade
		Subject	Range
Forest Race 2	Fractions	Rational Numbers	Ages 8–11
Students find equivalent fraction by using a number line. **Note approximate to be consultative for the student in a final final final form of the student for the student is consultative for state the superior state to consultative for state the superior state the supe			Grades 4–6
0 1 2 3 4 5 6 7 0 9			
Four-Quadrant Treasure Trove	Algebra and	Patterns and Algebraic	Ages 9–11
Students choose the correct spot for buried treasure by following directions from their correct location on a four-quadrant grid.	Patterns	Thinking	Grades 4–7
Fraction Bake 1	Fractions	Rational Numbers	Ages 7–9
Students follow a recipe that requires fractions of a whole by combining unit fractions to create representations of non-unit fractions.			Grades 3–5
this needs 2 cop of miles			

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Fraction Bake 2	Fractions	Rational Numbers	Ages 8–11
Students follow a recipe that requires fractions of a whole by combining unit fractions to create representations of non-unit fractions greater than 1.			Grades 3–5
Now we need 2 cope of trown supp.			
Fraction Blast	Fractions	Rational Numbers	Ages 8–11
Students use a rocket-launching scenario to identify the fractions placed on a number line.			Grades 3–5
Fraction by Fraction	Fractions	Rational Numbers	Ages 8–11
Match multiplication expressions involving fractions to representations.			Grades 4–6
and the each product to the fraction tile that represents it.			

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Fraction Dash	Fractions	Rational Numbers	Ages 8–11
Students use the knowledge of a fraction placed a number line to determine another fraction from its placement on the same number line.			Grades 3–5
Fraction Fracture	Fractions	Rational Numbers	Ages 10–12
Students explore the division of fractions and mixed numbers. Compatible the relating numbers $\frac{3}{4} \div \frac{4}{5} = \frac{3}{4} \times \frac{5}{4} = \frac{3 \times 4}{3 \times 4} = \frac{15}{3}$			Grades 5–7
Fraction Word Problems 1	Problem	Rational Numbers	Ages 8–11
Students use a word problem scenario and fraction bars to add and subtract fractions which have common denominators.	Solving		Grades 4–6

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Fraction Word Problems 2 Students use a word problem scenario and fraction tiles to add fractions which do not have common denominators.	Problem Solving	Rational Numbers	Ages 8–11 Grades 4–6
Fraction Word Problems 3 Students use a word problem scenario and fraction tiles to subtract fractions which do not have common denominators.	Problem Solving	Rational Numbers	Ages 8–11 Grades 4–6
Function Machine 1 Students identify a math function (rule) by observing a series of operations that apply a consistent addition or subtraction value (+ 2, - 5, etc.).	Algebra and Patterns	Addition and Subtraction	Ages 6–8 Grades 1–3

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Function Machine 2 Students identify a math function (rule) by observing a series of operations that apply a consistent multiplication, addition, or subtraction value (x 3, + 2, - 5, etc.).	Algebra and Patterns	Multiplication and Division	Ages 8–11 Grades 2–4
Function Machine 3 Students identify a math function (rule) by observing a series of operations that apply a consistent division, multiplication, addition, or subtraction value (÷ 4, x 3, + 2, - 5, etc.).	Algebra and Patterns	Multiplication and Division	Ages 8–12 Grades 3–5
Function Machine 4 Students identify combined math functions (rules) by observing a series of operations that apply multiplication and addition or multiplication and subtraction values: (x * n) + m, or (x * n) - m.	Algebra and Patterns	Multiplication and Division	Ages 8–12 Grades 3–5

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Function Machine 5 Students identify math functions (rules) by observing a series of operations that apply division (x / p) , or multiplication and addition $(x * n) + m$, or multiplication and subtraction $(x * n) - m$. Variations include $(x * x) + x$, $(x * x) + (x * n)$, and $(x * x) - (x * n)$.	Algebra and Patterns	Multiplication and Division	Ages 9–12 Grades 4–6
Geometry Doodle 1 Students explore translations and find the coordinates of the vertices of a point after these translations.	Geometry	Spatial Sense and Motions	Ages 10–12 Grades 6–8
Geometry Doodle 2 Students explore reflections across the x- and y-axes and find the coordinates of the vertices of a point after these reflections.	Geometry	Spatial Sense and Motions	Ages 10–12 Grades 6–8

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Geometry Doodle 3 Students explore rotations, both clockwise and counterclockwise and find the coordinates of the vertices of a point after these rotations.	Geometry	Spatial Sense and Motions	Ages 10–12 Grades 6–8
Geometry Snapshots Students identify an image that correctly matches a target image from four multiple-choice selections.	Geometry	Spatial Sense and Motions	Ages 5–7 Grades K–2
Geometry Snapshots Students identify an image that correctly matches a target image from four multiple-choice selections.	Geometry	Spatial Sense and Motions	Ages 5–7 Grades K–2

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Geometry Snapshots Students identify an image that correctly matches a target image from four multiple-choice selections.	Geometry	Spatial Sense and Motions	Ages 5–7 Grades K–2
Geometry Snapshots Students identify an image that correctly matches a target image from four multiple-choice selections.	Geometry	Spatial Sense and Motions	Ages 6–8 Grades 1–3
Geometry Snapshots Students identify an image that correctly matches a target image from four multiple-choice selections.	Geometry	Spatial Sense and Motions	Ages 7–11 Grades 3–5
Geometry Snapshots Students must match target image to the correct multiple-choice image.	Geometry	Spatial Sense and Motions	Ages 7–10 Grades 4–6

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Geometry Snapshots Students identify an image that correctly matches a target image from four multiple-choice selections.	Geometry	Spatial Sense and Motions	Ages 8–11 Grades 4–6
Geometry Snapshots Students identify an image that correctly matches a target image from four multiple-choice selections.	Geometry	Spatial Sense and Motions	Ages 8–12 Grades 4–6
Histogram O Rama	Statistics and	Probability and Statistics	Ages 11–13
Students create a histogram from a set of data to answer a question about the data.	Graphing		Grades 6–8
I Spy and Multiply	Multiplication	Multiplication and	Ages 9–11
Students select multiples of various numbers. Find tour multiples of 8 32 64 40 14 24 28		Division	Grades 4–6

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Students match verbal expressions with numeric expressions.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 11–13 Grades 6–8
Inequality Graphs Students match inequalities to graphs on a number line.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 11–13 Grades 6–8
Jungle Race Students identify fractions that describe points on a number line.	Fractions	Rational Numbers	Ages 7–9 Grades 3–5
Kitchen Counter Students click on objects, one at a time, while the numbers from one to ten are counted aloud.	Number Sense	Counting (Verbal)	Ages 3–6 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Legends of the Lost Shape Students identify target shapes using textual clues provided.	Geometry	Recognizing Geometric Shapes	Ages 8–12 Grades 4–6
Line Plots Students create a line plot from a set of data to answer a question about the data.	Statistics and Graphing	Probability and Statistics	Ages 11–13 Grades 4–6
Lots O' Socks: Adding Game	Addition	Addition and Subtraction	Ages 6–8
Students identify numerals (one through ten) and number amounts (one through twenty), and then move forward a corresponding number of spaces on a game board.			Grades K-2
Marching Patterns 1		Patterns and Algebraic	Ages 5–7
Students extend a linear pattern by one repetition of the unit.	Algebra and Patterns	Thinking	Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Marching Patterns Students extend a linear pattern by one repetition of the unit.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 5–7 Grades PreK–K
Marching Patterns Students extend a linear pattern by one repetition of the unit.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 5–7 Grades PreK–K
Matching Expressions Students match equivalent expressions, some using the commutative property.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 7–9 Grades 1–3
Matching Fractions Students match equivalent fractions to one another. Match replaced fraction. 1	Fractions	Rational Numbers	Ages 8–11 Grades 3–5

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Math-O-Scope Students identify numbers (representing values that are ten more, ten less, one more, or one less than a target number) within the hundreds chart to reveal a partially hidden photograph.	Number Sense	Counting (Strategies)	Ages 7–9 Grades 1–3
0 1 2 3 4 5 6 7 8 9 0 K			
Memory Geometry 1: Exact Matches Students match familiar geometric shapes within the framework of a "Concentration" card game. Shapes are in the same orientation.	Geometry	Recognizing Geometric Shapes	Ages 3–5 Grades PreK–K
Memory Geometry 2: Turned Shapes Students match familiar geometric shapes within the framework of a "Concentration" card game. Shapes are in different orientations.	Geometry	Recognizing Geometric Shapes	Ages 3–5 Grades PreK–K

Activity	Topic	Learning Trajectory /	Age/Grade
		Subject	Range
Memory Geometry 3: Shapes-A-Round Students match geometric shapes within the framework of a "Concentration" card game. Shapes are in different orientations.	Geometry	Recognizing Geometric Shapes	Ages 3–5 Grades PreK–K
Memory Geometry 4: Shapes of Things Students match familiar geometric shapes to items seen in the real world that share that geometric shape within the framework of a "Concentration" card game.	Geometry	Recognizing Geometric Shapes	Ages 3–5 Grades PreK–K
Memory Geometry 5: Shapes in the World Students match familiar geometric shapes to items seen in the real world that share that geometric shape within the framework of a "Concentration" card game.	Geometry	Recognizing Geometric Shapes	Ages 3–5 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Memory Number 1: Counting Cards Students match number cards (each with a numeral and corresponding dot cluster) within the framework of a "Concentration" card game.	Number Sense	Counting (Object)	Ages 4–6 Grades PreK–K
Memory Number 2: Counting Cards to Numerals Students match cards with dot arrays to cards with the corresponding numerals within the framework of a "Concentration" card game.	Number Sense	Counting (Object)	Ages 4–6 Grades PreK–K
Memory Number 3: Dots to Dots Students match cards with framed dots to cards with the same number of unframed dots, in a "Concentration" card game.	Number Sense	Counting (Object)	Ages 4–6 Grades K–1

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Missing Number Mania Students identify missing numbers in multiplication and division equations. 5 x 4 =	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 8–10 Grades 2–4
Mowing Lawns Students solve problems involving rate by using a double number line. **Towns** **T	Ratio, Proportion, and Percent	Rational Numbers	Ages 11–14 Grades 6–8
Multi-digit Multiplication Builder Students use number blocks to help find the product of multi-digit multiplication. **Note: The product of the option of	Multiplication	Multiplication and Division	Ages 9–11 Grades 4–6
Mystery Pictures 1 Students construct predefined pictures by selecting shapes that match a series of target shapes.	Geometry	Recognizing Geometric Shapes	Ages 3–5 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Mystery Pictures 2 Students construct predefined pictures by identifying shapes named in VO and text prompts.	Geometry	Recognizing Geometric Shapes	Ages 3–5 Grades PreK–K
Mystery Pictures 3	Geometry	Recognizing Geometric	Ages 3–6
Students construct predefined pictures by selecting shapes that match a series of target shapes.		Shapes	Grades PreK–K
Mystery Pictures 4 Students construct predefined pictures by identifying component shapes.	Geometry	Recognizing Geometric Shapes	Ages 5–7 Grades K–1
Mystery Pictures Free Explore Students freely construct pictures by assembling a variety of shapes.	Geometry	Recognizing Geometric Shapes	Ages 3–7 Grades K–1

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Number Compare 1: Dots and Numerals Students compare two cards and choose the one with the greater value.	Number Sense	Comparing and Ordering Numbers	Ages 4–6 Grades PreK–1
Number Compare 2: Dots to 7 Students compare two cards and choose the one with the greater number of dots.	Number Sense	Comparing and Ordering Numbers	Ages 5–7 Grades PreK–1
Number Compare 3: Dots to 10 Students compare two cards and choose the one with the greater number of dots.	Number Sense	Comparing and Ordering Numbers	Ages 6–8 Grades K–1
Number Compare 4: Numerals to 100 Students compare two cards and choose the one with the larger numeral.	Number Sense	Comparing and Ordering Numbers	Ages 7–9 Grades 1–3

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Number Compare 5: Dot Arrays to 100 Students compare two cards and choose the one with the larger number of dots.	Number Sense	Multiplication and Division	Ages 8–11 Grades 2–4
Number Patterns Students recognize a numeric pattern and then supply the next three numbers.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 7–9 Grades 1–3
Number Snapshots 1 Students identify an image that correctly matches a target image from four multiple-choice selections.	Number Sense	Recognizing Numbers	Ages 3–5 Grades PreK–K
Number Snapshots 2 Students identify an image that correctly matches a target image from four multiple-choice selections.	Number Sense	Recognizing Numbers	Ages 4–6 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Number Snapshots 3 Students identify an image that correctly matches a target image from four multiple-choice selections.	Number Sense	Recognizing Numbers	Ages 5–7 Grades PreK–1
Number Snapshots 4 Students identify an image that correctly matches a target image from four multiple-choice selections.	Number Sense	Recognizing Numbers	Ages 5–7 Grades PreK–1
Number Snapshots 5 Students identify an image that correctly matches a target image from four multiple-choice selections.	Number Sense	Recognizing Numbers	Ages 5–7 Grades PreK–1

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Number Snapshots 6 Students identify an image that correctly matches a target image from four multiple-choice selections.	Addition	Recognizing Numbers	Ages 6–8 Grades K–1
Number Snapshots 7	Addition	Recognizing Numbers	Ages 5–7
Students identify an image that correctly matches a target image from four multiple-choice selections.			Grades K–1
Number Snapshots 8 Students identify an image that correctly	Addition	Recognizing Numbers	Ages 6–8 Grades K–2
matches a target image from four multiple-choice selections.			
5 4 8 9			

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Number Snapshots 9	Number Sense	Recognizing Numbers	Ages 6–8
Students identify an image that correctly matches a target image from four multiple-choice selections.			Grades 1–3
20 15 11 17			
Number Snapshots 10	Number Sense	Recognizing Numbers	Ages 7–9
Students identify an image that correctly matches a target image from four multiple-choice selections.			Grades 2–4
44 24 33 36			
Numeral Train Game	Number Sense	Counting (Object)	Ages 4–6
Students identify numerals (1-5) and move forward a corresponding number of spaces on a game board.			Grades PreK-K
START OK			

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Off the Tree Students add two amounts of dots to identify their total number value (from two through ten) and move forward a corresponding number of spaces on a game board.	Addition	Addition and Subtraction	Ages 5–7 Grades K–1
One-Quadrant Treasure Trove Students choose the correct spot for buried treasure by following directions from their correct location on a single-quadrant grid.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 9–11 Grades 4–7
Ordinal Construction Company Students learn ordinal positions (1st through 10th) by moving objects between the floors of a building.	Number Sense	Comparing and Ordering Numbers	Ages 5–7 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Out on a Limb	Fractions	Rational Numbers	Ages 8–11
Students determine which of four birds will fly away by choosing the bird sitting at the placement of a certain fraction on a number line.			Grades 3–5
Which bird is located or $\frac{1}{4}$?			
Painter's Ratios	Ratio,	Rational Numbers	Ages 11–13
Students use diagrams to answer ratio word problems.	Proportion, and Percent		Grades 6–8
The picture on the used has 3 pins at one pane to 3 pins at their pins of the			
Party Time 1 Students practice one-to-one correspondence by matching party utensils to placemats.	Number Sense	Comparing and Ordering Numbers	Ages 4–6 Grades PreK–K
OK OK			

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Party Time 2 Students identify the numeral that represents a target amount of party items to be placed on a table.	Number Sense	Counting (Object)	Ages 4–6 Grades PreK–K
Party Time 3 Students place items on a tray (up to 10) to match target numerals.	Number Sense	Counting (Object)	Ages 4–6 Grades PreK–K
Party Time Free Explore Students explore counting and related number topics by putting party items on a table.	Number Sense	Comparing and Ordering Numbers	Ages 4–6 Grades PreK–K
Pattern Planes 1 Students duplicate a linear pattern from a guide.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 3–6 Grades PreK–K

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Pattern Planes 2 Students duplicate a linear pattern from a guide.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 3–6 Grades PreK–K
Pattern Planes 3 Students duplicate a linear pattern from a guide.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 3–5 Grades PreK–K
Patterns Free Explore Students explore patterning by creating rhythmic patterns of their own.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 3–5 Grades PreK–K
Paula's Symmetrical Patterns Students determine which line is a line of symmetry on different figures.	Geometry	Symmetrical Shapes	Ages 10–12 Grades 6–8

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Perimeter Students use repeated addition to find the perimeters of various figures.	Geometry	Area, Perimeter, and Volume	Ages 8–10 Grades 3–5
Piece Puzzler 1 Students complete puzzles using pattern shapes.	Geometry	Composing Geometric Shapes	Ages 4–6 Grades PreK–K
Piece Puzzler 2 Students complete puzzles using pattern shapes.	Geometry	Composing Geometric Shapes	Ages 4–6 Grades PreK–K
Piece Puzzler 3 Students complete puzzles using pattern shapes.	Geometry	Composing Geometric Shapes	Ages 5–7 Grades K–1

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Piece Puzzler 4 Students complete puzzles using pattern or Tangram shapes.	Geometry	Composing Geometric Shapes	Ages 5–7 Grades K–1
Piece Puzzler 5 Students find several solutions to each puzzle by substituting shapes for each other.	Geometry	Composing Geometric Shapes	Ages 6–8 Grades 1–3
Piece Puzzler Free Explore Students explore shapes by moving and manipulating them to make pictures.	Geometry	Composing Geometric Shapes	Ages 4–6 Grades PreK–K
Pin the Number Line Students use a number line to add and subtract integers. The number line and the integers will be from -10 to 10.	Number Sense	Rational Numbers	Ages 11–13 Grads 6–8

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Pizza Pizzazz 1 Students count items up to 10, matching target amounts.	Number Sense	Comparing and Ordering Numbers	Ages 3–5 Grades PreK–K
Pizza Pizzazz 2 (1–5)	Number Sense	Counting (Object)	Ages 4-6
Students count items up to 5, putting toppings on a pizza to match a target amount.			Grades PreK–K
OK OK			
Pizza Pizzazz 2 (1–10)	Number Sense	Counting (Object)	Ages 5–7
Students count items up to 10, matching			Grades PreK–3
target amounts.			
Pizza Pizzazz 3: Make Number Pizzas	Number Sense	Counting (Object)	Ages 4–6 Grades
(1-5) Students add tennings to a pizza (up to 5)			Grades PreK–K
Students add toppings to a pizza (up to 5) to match target numerals.			
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Activity	Topic	Learning Trajectory /	Age/Grade
		Subject	Range
Pizza Pizzazz 3: Make Number Pizzas (1–10)	Number Sense	Counting (Object)	Ages 4–6 Grades PreK–K
Students add toppings to a pizza (up to 10), to match target numerals.			Prek-K
3 77777 OK 27772			
Pizza Pizzazz 4	Number Sense	Addition and Subtraction	Ages 3–6
Students add and subtract numbers up to 5 (with objects shown, then hidden) matching target amounts.			Grades PreK–K
PIZZA OK			
Pizza Pizzazz 5	Number Sense	Addition and Subtraction	Ages 6–8
Students add toppings to a pizza (up to 10), finding missing addends.			Grades K–1
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Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Pizza Pizzazz Free Explore Students explore counting and related number topics by adding toppings to pizzas.	Number Sense	Comparing and Ordering Numbers	Ages 3–5 Grades PreK–1
Power Play Negative	Number Sense	Exponents and Roots	Ages 12–14
Match exponential expressions, including negative exponents, to expanded forms.			Grades 6–8
Power Play	Number Sense	Exponents and Roots	Ages 12–14
Match exponential expressions to expanded forms.			Grades 6–8
Prism Fill 1	Geometry	Area, Perimeter, and	Ages 8–12
Students work through finding the volume of right rectangular prisms.		Volume	Grades 4–6

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Prism Fill 2 Students work through finding the volume of right triangular prisms. Find the volume of to torgular prim. Values of torquire jum : a rose of torquire boxe. Work find the volume in a strong biologist prim. Values of torquire jum : a strong biologist prim. Values of torquire jum : a strong biologist boxe. Work find the volume in a strong biologist boxe. Work find the volume in a strong biologist boxe. Work find the volume in the strong biologist	Geometry	Area, Perimeter, and Volume	Ages 9–12 Grades 5–7
Probability Pro	Probability	Probability and Statistics	Ages 11–13
Students find the relative populations of colored faces on a number cube as well as the percentage of rolls of the cube for a certain color. Students restriction Part of the Color of the Part o			Grades 6–8
Racing Robots	Geometry	Exponents and Roots	Ages 12–14
Students use a race scenario to find the distances involved in a right triangle. **But leader used to dis house on the first used to make the first used to the student of the but leader to the first used to the student of the but leader to the first used to the student of the but leader to the first used to the student of the but leader to the student of the stud			Grades 6–8
Reptile Ruler Students learn about non-standard linear measurement by using a ruler to determine the length of various reptiles.	Measurement	Length Measurement	Ages 7–10 Grades PreK–2

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Road Race Students identify numbers of sides (three, four, or five) on polygons and move forward a corresponding number of spaces on a game board.	Number Sense	Counting (Object)	Ages 4–6 Grades PreK–K
Road Race Counting Game Students identify number amounts (from one through five) and move forward a corresponding number of spaces on a game board.	Number Sense	Counting (Object)	Ages 3–6 Grades PreK–K
Rocket Blast 1 Students estimate the placement of a tick mark to the nearest whole number on a 1–20 number line.	Number Sense	Comparing and Ordering Numbers	Ages 6–8 Grades 1–3

Activity	Торіс	Learning Trajectory /	Age/Grade	
		Subject	Range	
Rocket Blast 2 Students estimate the placement of a tick mark to the nearest whole number on a 1–100 number line.	Number Sense	Comparing and Ordering Numbers	Ages 7–10 Grades 1–3	
0 1 2 3 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Number Sense	Comparing and Ordering	Ages 8–11	
Students estimate the placement of a tick mark to the nearest whole number on a 1–1000 number line.		Numbers	Grades 2–4	
0 1 2 3 4 5 6 7 8 9 P P	Fractions	Rational Numbers	Ages 5–7	
Students identify figures that show two equal parts. Saled the sondwich that shows bakes.			Grades 1–3	
Sandwich Shop 2 Students identify the figure that's been fractioned into equal parts.	Fractions	Rational Numbers	Ages 6–8 Grades 2–4	

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Students analyze scatter plots to answer questions about line of best fit, the relationship, and outliers.	Statistics and Graphing	Probability and Statistics	Ages 11–13 Grades 6–8
School Supply Shop Students count objects by tens to reach a target number up to 100.	Number Sense	Counting (Objects)	Ages 6–8 Grades K–2
Sea to Shore: Plus One Students identify number amounts by counting. They move forward a number of spaces on a game board that is one more than a given numeral.	Addition	Counting (Verbal)	Ages 6–8 Grades K–2

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Seed Sprout 1: Integers	Number Sense	Rational Numbers	Ages 11–13
Students determine where a seed will be planted using a number line that includes both negative and positive numbers.			Grades 6–8
Seed Sprout 2: Rational Numbers	Fractions	Rational Numbers	Ages 11–13
Students determine where a seed will be planted using a number line that includes both negative and positive decimals and fractions. $ \frac{1}{4} \frac{2}{3} \frac{1}{4} \frac{1}{2} $			Grades 6–8
Shape Parts 1 Students use shape parts to construct a shape that matches a target.	Geometry	Recognizing Geometric Shapes	Ages 5–8 Grades PreK–1

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Shape Parts 2 Students use shape parts to construct a shape that matches a target.	Geometry	Recognizing Geometric Shapes	Ages 5–8 Grades PreK–1
Shape Parts 3 Students build a "real-world" object. Objects are in standard orientation, but students must copy them in an orientation different from the original.	Geometry	Recognizing Geometric Shapes	Ages 7–9 Grades 1–3
Shape Parts 4 Students build a "real-world" object. Objects are in standard orientation. Concentric shapes are included.	Geometry	Recognizing Geometric Shapes	Ages 7–9 Grades 1–4

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Shape Parts 5 Students build a "real-world" object based on a verbal description of its component shapes.	Geometry	Recognizing Geometric Shapes	Ages 7–9 Grades 2–4
Shape Parts 6 Students build a "real-world" object, using angles at the vertices to make it "stronger."	Geometry	Recognizing Geometric Shapes	Ages 7–9 Grades 3–5
Shape Parts 7 Students build a "real-world" object using verbal descriptions of shapes; shapes are defined verbally in terms of sides and angles (e.g., equilateral triangle).	Geometry	Recognizing Geometric Shapes	Ages 8–11 Grades 3–5

Activity	Торіс	Learning Trajectory /	Age/Grade	
		Subject	Range	
Shape Shop 1 Students identify shapes by their attributes or properties (number of sides and angles).	Geometry	Recognizing Geometric Shapes	Ages 5–8 Grades K–1	
Shape Shop 2 Students identify shapes by their attributes or properties. The hoping you have a shape with sic orgies that one of the same size.	Geometry	Recognizing Geometric Shapes	Ages 6–8 Grades K–1	
Shape Shop 3 Students identify shapes by their attributes or properties. In looking for a shape with four sides. All the sides are the some length. There are two point of equal origin, but the origins are not all equal.	Geometry	Recognizing Geometric Shapes	Ages 8–11 Grades 2–5	
Snack Time Students divide a target number into equal groups to find a quotient.	Division	Multiplication and Division	Ages 6–8 Grades 2–4	

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Space Race: Number Choice Students choose numbers that enable them to reach the final space on a game board in a designated number of moves.	Number Sense	Comparing and Ordering Numbers	Ages 4–6 Grades PreK–K
Stacking Cubes	Geometry	Area, Perimeter, and	Ages 8–11
Students use a shipping scenario to determine volume of stacked cubes.		Volume	Grades 4–6
Super Shape 1	Geometry	Composing Geometric	Ages 5–7
Students complete puzzles using pattern shapes.		Shapes	Grades K–1
Super Shape 2	Geometry	Composing Geometric	Ages 5–7
Students decompose a shape and combine the resultant pieces to fill in puzzle outlines.		Shapes	Grades K–1

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Super Shape 3 Students decompose shapes and combine the resultant smaller pieces to fill in puzzle outlines.	Geometry	Composing Geometric Shapes	Ages 5–7 Grades 1–3
Super Shape 4 Students complete puzzles using shapes that are derived from decomposition of a single larger shape.	Geometry	Composing Geometric Shapes	Ages 5–7 Grades 1–3
Super Shape 5 Students decompose shapes and combine the resultant pieces to fill in puzzle outlines.	Geometry	Composing Geometric Shapes	Ages 6–8 Grades 2–4

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
Super Shape 6 Students decompose shapes and combine the resultant pieces to fill in puzzle outlines.	Geometry	Composing Geometric Shapes	Ages 7–9 Grades 4–6
Super Shape 7 Students decompose shapes and combine the resultant pieces to fill in puzzle outlines.	Geometry	Composing Geometric Shapes	Ages 8–11 Grades 4–6
Termination Station Students observe a fraction as a long division problem and determine if it repeats a single digit, repeats a block of two digits, or terminates. Description	Decimals	Rational Numbers	Ages 10–12 Grades 6–8

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
The Great Divide Students explore the standard long division algorithm. Name to confidence from the form to be a form of the standard product of the standard product of the standard form of the	Division	Multiplication and Division	Ages 9–11 Grades 4–6
The Powers of Ten	Number Sense	Exponents and Roots	Ages 12–14
Students explore scientific notation. Convert 3,580,000 to scientific noutation. The number of pinces the decimal point must move to the last to make a number between 1 and to b 3,580,000 =			Grades 6–8
Tidal Tally	Algebra and	Counting (Strategies)	Ages 6–8
Students identify missing addends (hidden objects) by counting forward from given addends (visible objects) to reach a numerical total.	Patterns		Grades 1–3
Tire Recycling	Number Sense	Counting (Objects)	Ages 6–8
Students count objects by 5s up to 100, or by 2s up to 40			Grades 1–3

Activity	Торіс	Learning Trajectory /	Age/Grade
		Subject	Range
What is the Function? Students determine function rules from linear graph representations.	Algebra and Patterns	Patterns and Algebraic Thinking	Ages 11–13 Grades 6–8
Word Problems 1 Students solve word problems (totals to 10). Marisa has 2 red crayons and 6 yellow crayons. How many crayons does she have allogether?	Problem Solving	Addition and Subtraction	Ages 5–7 Grades K–1
Word Problems 2 Students solve word problems (single-digit addition and subtraction). There are 14 bananas and 19 monkeys If the zookeeper tries to give one to each monkey, how many monkeys won't get a banana?	Problem Solving	Addition and Subtraction	Ages 6–8 Grades 1–3
Word Problems 3 Students solve word problems (1- and 2-digit addition and subtraction). We gave our teacher a banch of flowers with 9 roses and some disses. There are 18 flowers allogether. How many are	Problem Solving	Addition and Subtraction	Ages 6–8 Grades 1–3

Activity	Торіс	Learning Trajectory /	Age/Grade	
		Subject	Range	
Word Problems 4 Students solve word problems (1- and 2-digit addition and subtraction). 11 children are taking swimming lessons. They're having so much fish that they got 28 of their friends to join them. How many children are taking swimming lessons now?	Problem Solving	Addition and Subtraction	Ages 7–9 Grades 2–4	
Word Problems 5	Problem	Multiplication and	Ages 7–9	
Students solve word problems using multiplication or division. For the art lesson, Maya handed out glue sticks. She put 3 glue sticks on each of 5 tables. How many glue sticks did Maya hand out in all?	Solving	Division	Grades 3–5	
Word Problems 6 Students solve word problems using multiplication or division. At soccer camp, the 56 players were told to divide themselves equally into 7 groups. How many players are in each group?	Problem Solving	Multiplication and Division	Ages 7–9 Grades 3–5	
Word Problems 7 Students solve word problems involving multi-digit addition and subtraction. Our school cook is making fruit salad. She has some fruit in the bowl already. She adds stravberries, watermelon, blueberries, and peaches. Now there are 8 different kinds of fruit in the bowl. How many kinds of fruit were in the bowl before she added these?	Problem Solving	Addition and Subtraction	Ages 8–11 Grades 3–5	

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Ages 8–11
Grades 4–6
Ages 8–12
Grades 4–6

Activity	Topic	Learning Trajectory /	Age/Grade
		Subject	Range
Word Problems 12	Problem	Multiplication and	Ages 8–12
Students solve word problems involving multi-digit multiplication and division.	Solving	Division	Grades 4–6
The cook is preparing potato salad for 1,050 people. If it takes 12 pounds of potatoes for 50 people, how many pounds of potatoes will be needed? O 1 2 3 4 5 6 7 8 9			
Workin' on the Railroad	Measurement	Length Measurement	Ages 6–9
Students identify the length (in non-			Grades
standard units) of railroad trestles they			PreK–1
built to span a gully.			