

# Connections to the Common Core State Standards Initiative

## About the Common Core State Standards

For over a decade, research studies of mathematics education . . . have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. (National Governors Association Center for Best Practices and Council of Chief State School Officers 2010, 3)

The Common Core State Standards offer a set of focused standards that aim for clarity, coherence, and specificity. The Core Standards for Mathematics define what students should understand and be able to do in their study of mathematics. The activities in this resource are aligned to the Standards that follow.

Please note that some activities are more clearly aligned with Grade 4 or Grade 6 Standards. Mastery of these concepts and procedures comes over time and with a curriculum and instruction that continues to address these important skills throughout subsequent units and years of mathematics instruction. Offering activities and lessons that mathematically support children as well as bridge their instruction as they move from one year of study to the next becomes increasingly important as we continually refine and articulate what children should know and be able to do in mathematics.

Page	Month	Domain	Standard	Focus	Activity
33	September/ October	Measurement and Data	5.MD.2	Collect, analyze, and interpret data in a literature context.	<i>Chrysanthemum</i> by Kevin Henkes
40	September/ October	Operations and Algebraic Thinking	4.OA.4	Find factors of the numbers 1 to 30; explore the relationship among factors, divisors, and multiples.	<i>The Factor Game</i>
44	September/ October	Operations and Algebraic Thinking	4.OA.4	Identify an array's dimensions as the factors of that product; recognize that factors come in pairs.	Factor Pairs and Arrays
56	September/ October	Operations and Algebraic Thinking	4.OA.4	Investigate odd and even sums and products based upon their respective addends and factors.	<i>Fair Game 2</i>

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63	September/ October	Operations and Algebraic Thinking  The Number System	4.OA.4  6.NS.4	Explore and identify prime and composite numbers.	<i>The Sieve of Eratosthenes</i>
69	September/ October	Operations and Algebraic Thinking	4.OA.4	Multiplication fact practice in a game context.	<i>Rio</i>
71	September/ October	Operations and Algebraic Thinking  The Number System	4.OA.4  6.NS.4	Multiplication and division fact practice in a game context.	<i>Multiplication Tic-Tac-Toe (The Product Game)</i>
71	September/ October	Operations and Algebraic Thinking	5.OA.6	Investigate the rules of divisibility and why they make sense.	Exploration of Divisibility Rules
72	September/ October	Operations and Algebraic Thinking  The Number System	4.OA.4  6.NS.4	Practice of conventional notation of factorization.	Conventional Factorization Notation
102	November	Operations and Algebraic Thinking	5.OA.3	Describe rules in words and an algebraic equation that relates one set of values (in-values) to another set (out-values).	<i>Guess My Rule</i>
109	November	Geometry  The Number System	5.G.1  6.NS.6b	Plot points on a coordinate graph; identify and articulate how and where a graph relates to the function, equation, and T-chart it represents.	Coordinate Graph Exploration

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120	November	Operations and Algebraic Thinking	5.OA.3 6.OA.6b	Explore and represent a growth pattern.	<i>Growing Caterpillars</i>
133	November	Operations and Algebraic Thinking  The Number System  Geometry	5.OA.2  6.NS.6b  5.G.2	Explore and represent a linear function in a literature context.	<i>Five Dog Night</i> by Eileen Christelow
137	November	Operations and Algebraic Thinking  The Number System  Geometry	5.OA.2  6.NS.6b  5.G.2	Explore and represent a nonlinear function in a literature context.	<i>Minnie's Diner</i> by Dayle Ann Dodds
142	November	Operations and Algebraic Thinking	5.OA.1 5.OA.2	Explore the meaning of the equals sign.	True, False, Open Number Sentences
144	November	Operations and Algebraic Thinking	5.OA.1 5.OA.2	Explore the order of operations in a game context.	<i>Three Strikes and You're Out</i>
161	December	Operations and Algebraic Thinking	4.OA.1 4.OA.2 4.OA.3	Investigate, classify, solve, and create multiplication and division problems according to their structure.	Classification of Multiplication Story-Problem Structures
169	December	Operations and Algebraic Thinking	4.OA.1 4.OA.2 4.OA.3	Create and solve multiplication and division problems according to an identified structure.	Multiplication and Division Storybooks

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Page	Month	Domain	Standard	Focus	Activity
178	December	Operations and Algebraic Thinking Number and Operations: Base Ten	5.OA.2 5.NBT.2	Solve more complex problems by using what they know about simpler related problems.	Silent Multiplication
182	December	Number and Operations: Base Ten	5.NBT.5 5.NBT.6	Apply multiplication and division strategies within a problem-solving context.	<i>Where Does 100 Land?</i>
186	December	Number and Operations in Base Ten	5.NBT.5	Explore, practice, and apply alternative as well as standard multiplication algorithms.	Multiplication Algorithms
217	January	Number and Operations: Base Ten	5.NBT.5 5.NBT.6	Explore the relationship between multiplication and division in a literature context.	<i>Esio Trot</i> by Roald Dahl
219	January	Number and Operations: Base Ten	5.NBT.6	Practice division computation in a game context; reason about the significance and relationship of dividends, divisors, and resulting remainders.	<i>Leftovers</i>
224	January	Number and Operations: Base Ten	5.NBT.6	Practice division computation in a game context; think flexibly about division and multiplication as divisors and dividends are built.	<i>Seth's Game</i>
228, 235	January	Number and Operations: Base Ten	5.NBT.6	Interpret and represent remainders in story problem and problem-solving contexts.	Remainder Explorations: Story Problems and Riddles
239	January	Number and Operations: Base Ten	5.NBT.6	Explore, practice, and apply alternative as well as standard division algorithms.	Division Algorithms

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267	February/ March	Number and Operations: Fractions	4.NF.1 4.NF.2 4.NF.3 4.NF.4 5.NF.1 5.NF.2	Represent and compare fractions with a linear model.	Fraction Kit
271	February/ March	Number and Operations: Fractions	4.NF.1 4.NF.2 4.NF.3 4.NF.4 5.NF.1 5.NF.2	Explore, identify, and articulate parts of a whole in a game context (Fraction Kit Activity).	<i>Cover the Whole and Cover the Whole: The Sequel</i>
274	February/ March	Number and Operations: Fractions	5.NF.1 5.NF.2	Explore equivalence and compare magnitudes of fractions in a game context.	<i>The Comparing Game</i>
277	February/ March	Number and Operations: Fractions	5.NF.1 5.NF.2	Investigate fractional parts and how they relate to the area of a given shape; Explore the area model of fractions.	<i>How Much Is Blue?</i>
282	February/ March	Number and Operations: Fractions	5.NF.1 5.NF.2	Compare and order fractions with like and unlike denominators.	<i>Put in Order</i>
284	February/ March	Number and Operations: Base Ten	5.NBT.1 5.NBT.2 5.NBT.3	Explore and identify decimal representations of fractions.	<i>Decimal Gardens</i>
290	February/ March	Number and Operations: Base Ten	5.NBT.1 5.NBT.2 5.NBT.3	Construct, visualize, and represent decimal numbers with a physical model.	<i>Place-Value Round Robin</i>

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Page	Month	Domain	Standard	Focus	Activity
298	February/ March	Number and Operations: Base Ten  Ratios and Proportional Relationships	5.NBT.1 5.NBT.2 5.NBT.3 6.RP.3c	Construct and estimate percentages created on a hundreds grid.	<i>Percent Designs</i>
304	February/ March	Number and Operations: Fractions	5.NF.1 5.NF.2	Explore, create, and defend strategies for adding and subtracting fractions.	Models for Addition and Subtraction
325	April	Geometry	5.G.4 6.G.1	Investigate fixed area and how it is related to perimeter; i.e. Shapes with the same area can have different-length perimeters.	<i>Area Stays the Same</i>
328	April	Geometry	5.G.4 6.G.1	Investigate fixed perimeter and how it is related to area; i.e. Shapes with the same length perimeter can have different areas.	<i>Perimeter Stays the Same</i>
330	April	Geometry	5.G.4 6.G.1	Explore area and perimeter and the relationship of one to the other in a problem-solving context.	<i>Dog Yards</i>
334	April	Geometry	5.G.3 5.G.4 6.G.1	Calculate areas of irregular polygons.	<i>Paving Patios</i>
335	April	Geometry	5.G.3 5.G.4 6.G.1	Calculate and generalize about the areas of triangles and squares within squares.	<i>Bear Paw Borders</i>
335	April	Geometry	5.G.3 5.G.4 6.G.1	Predict, measure, calculate, and generalize about the areas of triangles resulting from the partitioning of a rectangle.	<i>Criss-Cross</i>

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337	April	Operations and Algebraic Thinking  Geometry	5.OA.3  5.G.1	Predict, calculate, and generalize about perimeters of growing areas of linear banquet tables	<i>Banquet Table Problem</i>
339	April	Measurement and Data	5.MD.3 5.MD.4 5.MD.5	Construct and articulate predictions and generalizations about objects (boxes) and their volumes.	<i>Filling Boxes</i>
340	April	Measurement and Data	5.MD.3 5.MD.4 5.MD.5	Explore and calculate volume of irregular solids.	<i>The Painted Cube Problem</i>
344	April	Measurement and Data	5.MD.3 5.MD.4 5.MD.5	Explore and calculate the dimensions of a solid when the volume is doubled.	<i>Doubling the Number of Cubes</i>
346	April	Measurement and Data	5.MD.3 5.MD.4 5.MD.5	Estimate and compare magnitudes of volume of containers of varying sizes and volumes.	<i>Put in Order</i>
350	April	Geometry	5.G.4 6.G.1	Explore, construct, and defend invented and standard formulas for areas.	Calculating Area
363	May	Data Analysis and Probability	5.MD.2 6.SP.1 6.SP.2 6.SP.3	Explore and identify the measures of central tendency of a given data set: mode, median, and mean.	What Do You Mean?
369	May	Statistics and Probability	6.SP.1 6.SP.2 6.SP.3 6.SP.4 6.SP.5	Explore and identify the median, mode, and mean of a collected set of data.	Exploring the Mean

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371	May	Statistics and Probability	6.SP.1 6.SP.2 6.SP.3 6.SP.4 6.SP.5	Construct and articulate predictions and generalizations about collected sets of data.	<i>Data About Us</i>
373	May	Statistics and Probability	6.SP.1 6.SP.4	Read, analyze and interpret collected data in various formats presented in everyday media.	<i>Graph Round Robin</i>
376	May	Statistics and Probability	6.SP.1 6.SP.2 6.SP.3 6.SP.4 6.SP.5	Make, collect, and record measurements within a literature context; Identify, compute, and analyze measurement averages: mean, median, and mode.	<i>A Giant Among Wizards</i>
395	June	Number and Operations: Base Ten	5.NBT.1 5.NBT.2	Explore the magnitude and representation of numbers beyond one million.	<i>The King's Chessboard</i> by David Birch
401	June	Geometry  Ratios and Proportional Relationships	5.G.4  6.RP.1 6.RP.3	Explore and make generalizations about the relationship between the area and perimeter as similar shapes grow.	<i>Rep-Tiles</i>
408	June	Number and Operations	6.RP.1 6.RP.2 6.RP.3	Compare, identify, and calculate rates by applying proportional reasoning.	A Few Good Problems
409	June	Ratios and Proportional Relationships	6.RP.1 6.RP.3	Compare and determine rates; informally manipulate ratios.	Rate Pictures
411	June	Ratios and Proportional Relationships	6.RP.1 6.RP.3	Solve problems involving proportions in a variety of contexts without dependence on rules or formulas.	Rate Problems
412	June	Number and Operations	5.NBT.1 5.NBT.2	Review and extend multiplication strategies and understandings.	Context: Multiplication and Division Games to Revisit