


Legend


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Topic	Number	Standard	Discover
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Grade – Kindergarten

Number and Operations	Numbers		
	K.NO.1	Know number names and count up to 100 by ones and tens (K.CC.1,2)	-
	K.NO.2	Read and write numbers 0 to 20 (K.CC.3)	-
	K.NO.3	Count to tell the number of objects and be able to represent as a written numeral (K.CC.3,4,5)	-
	K.NO.4	Compare number of objects between groups; compare written numerals between 1 and 10 (K.CC.6,7)	-
	Place Value		
K.NO.5	Begin to organize objects up to 19 into groups of tens and ones (K.NBT.1)	-	
Operations and Algebraic Thinking	Addition		
	K.OAT.1	Understand addition as putting together and adding to (K.OA.1,2)	
	K.OAT.2	Represent and solve addition word problems within 10; fluently add within 5 (K.OA.3,4,5)	
	Subtraction		
	K.OAT.3	Understand subtraction as taking apart and taking from (K.OA.1,2)	
	K.OAT.4	Represent and solve subtraction word problems within 10; fluently subtract within 5 (K.OA.3,4,5)	
Measurement	Measurement		
	K.M.1	Describe and compare measurable attributes of objects, such as length or weight (K.MD.1,2)	-
	K.M.2	Understand that thermometers are used to measure temperature	
	Time		
	K.M.3	Order a sequence of events by time (e.g., before, after, morning, night, seasons)	
	K.M.4	Understand that clocks and calendars are used to measure time	
Geometry	Shapes		
	K.GEO.1	Identify, describe, analyze, and compare two- and three-dimensional shapes (regardless of size or orientation) by size, color, and shape; describe relative positions of objects (e.g., above, beside, behind, nearer, farther) (K.G.1,2,3,4)	-
	K.GEO.2	Create two- and three-dimensional shapes by building or drawing; compose simple shapes to form larger shapes (K.G.5,6)	-

Data Analysis, Statistics, and Probability	Data		
	K.DSP.1	Classify objects into given categories; count the number of objects in each category and sort the categories by count up to 10 (K.MD.3)	-


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Topic	Number	Standard	Discover
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Grade 1

Numbers and Operations	Numbers			
	1.NO.1	Count, read, write, and understand numbers up to 120 (1.NBT.1)		
	1.NO.2	Count by twos, fives, and twenty-fives up to 100		
	Place Value			
	1.NO.3	Understand and compare two-digit numbers organized as groups of tens and ones (1.NBT.2,3)		
	1.NO.4	Understand and mentally find ten more or ten less than a given two-digit number (1.NBT.5)		
	1.NO.5	Add and subtract multiples of ten within 100 using models or drawings (1.NBT.4,6)		
	Addition and Subtraction			
	Operations and Algebraic Thinking	1.OAT.1	Understand, represent, compare, and apply addition and subtraction properties to word problems within 20; fluently add and subtract within 10 (1.OA.1,2,3,4,5,6); add up to three whole numbers within 20 (1.OA.2); add two-digit and one-digit numbers with regrouping within 100 using models or drawings (1.NBT.4)	
		1.OAT.2	Work with addition and subtraction equations including unknowns (1.OA.7,8)	
Measurement	Length			
	1.M.1	Measure, order, compare, and express lengths of objects by counting non-standard units (1.MD.1,2)	-	
	Time			
	1.M.2	Tell and write time in hours and half-hours using analog and digital clocks (1.MD.3)		
	Money			
1.M.3	Identify pennies, nickels, dimes, quarters, half-dollars, and dollar bills			
Geometry	Shapes			
	1.GEO.1	Describe, build, and draw shapes with defining attributes (1.G.1)	-	
	1.GEO.2	Compose two- and three- dimensional shapes to form composite or new shapes (1.G.2)	-	
	Fractions			
	1.GEO.3	Partition circles and rectangles into two and four equal parts; describe the whole and its parts using the words halves, fourths, quarters, half of, quarter of and third of (1.G.3)		

Data Analysis, Statistics, and Probability	Data		
	1.DSP.1	Organize, represent, compare, and interpret data with up to three categories (1.MD.4)	-


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Topic	Number	Standard	Explore
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Grade 2

Numbers and Operations	Numbers		
	2.NO.1	Read, write, and understand numbers up to 1000 using standard, number name, and expanded forms (2.NBT.3)	
	2.NO.2	Count by ones, fives, tens, and hundreds up to 1000 (2.NBT.2)	
	Place Value		
	2.NO.3	Understand and compare three-digit numbers organized as groups of hundreds, tens, and ones; use place value to understand addition and subtraction (2.NBT.1,4,9)	
	2.NO.4	Mentally add and subtract multiples of ten and multiples of a hundred within 1000 (2.NBT.8)	
	2.NO.5	Add and subtract within 1000 with regrouping using models or drawings (2.NBT.7)	
	Addition and Subtraction		
	2.OAT.1	Understand, represent, compare, and apply addition and subtraction properties within 100 to solve one- and two- step word problems (2.OA.1) (2.NBT.5); add up to four 2-digit numbers (2.NBT.6)	
	2.OAT.2	Memorize and fluently add and subtract within 20 (2.OA.2)	
Operations and Algebraic Thinking	Multiplication		
	2.OAT.3	Determine if a group of objects within 20 represents an odd or even number (2.OA.3)	
	2.OAT.4	Write an equation to represent the total as a sum of equal addends with up to 5 groups of 5 objects (2.OA.3,4)	
	Length		
Measurement	2.M.1	Measure and estimate lengths in standard units (e.g., inches, feet, centimeters, meters) using appropriate tools (e.g., rulers, yardsticks, meter sticks) (2.MD.1,3)	-
	2.M.2	Measure, compare, and describe the length of an object using two units of measurement (e.g. inches and yards, centimeters and meters) (2.MD.2)	-
	2.M.3	Measure to compare the length of two objects using a standard length unit (2.MD.4)	-
	2.M.4	Use addition and subtraction equations within 100 to solve word problems involving lengths of the same unit (2.MD.5)	
	2.M.5	Represent whole numbers as equally spaced lengths from 0 on a number line; represent sums and differences within 100 on a number line (2.MD.6)	
	Time		
	2.M.6	Tell and write time to the nearest five minutes from analog and digital clocks using	


		a.m. and p.m. (2.MD.7)	
		Money	
	2.M.7	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ (2.MD.8)	
Data Analysis, Statistics, and Geometry		Shapes	
	2.GEO.1	Recognize and draw two- and three- dimensional shapes having specified attributes (2.G.1)	-
		Area	
	2.GEO.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of squares (2.G.2)	
		Fractions	
	2.GEO.3	Partition circles and rectangles into two, three, and four equal parts; describe the whole and its parts using the words halves, thirds, half of, third of, etc.; understand that equal parts need not have the same shape (2.G.3)	
		Data	
	2.DSP.1	Generate measurement data by measuring lengths of several objects to the nearest whole unit; show the measurements by making a line plot (2.MD.9)	
2.DSP.2	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories; solve simple addition, subtraction, and comparison problems using information in a bar graph (2.MD.10)		


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Topic	Number	Standard	Explore
Grade 3			
Numbers and Operations	Place Value		
	3.NO.1	Use place value understanding of up to five-digit whole numbers to round to the nearest 10, 100, and 1,000 (3.NBT.1)	
	Addition and Subtraction		
	3.NO.2	Add and subtract up to four digits with and without regrouping (3.NBT.2)	
	Fractions		
3.NO.3	Understand, express, and order fractions between zero and one, simple mixed numbers, and whole numbers as fractions (3.NF.1,2)		
3.NO.4	Understand and create equivalent fractions with denominators 2,3,4,6,8 using fraction models (3.NF.3)		
Operations and Algebraic Thinking	Multiplication and Division		
	3.OAT.1	Understand the meaning and relationship of multiplication and division (3.OA.1,2,6)	
	3.OAT.2	Memorize and fluently multiply and divide using the multiplication facts through 10 (3.OA.3,7); mentally multiply by 10 and 100 (3.NBT.3)	
	3.OAT.3	Represent and determine the unknown whole number in an equation (3.OA.4)	
	3.OAT.4	Apply properties of operations (commutative, associative, distributive) to multiply and divide (3.OA.5)	
	Problem Solving		
	3.OAT.5	Solve two-step word problems using the four basic operations and estimate to check (3.OA.8)	
	3.OAT.6	Begin to understand and apply the standard order of operations (3.OA.8)	
	Patterns		
	3.OAT.7	Identify arithmetic patterns using properties of operations (3.OA.9)	
Measurement	Measurement		
	3.M.1	Solve problems involving measurement and estimation of intervals of time (nearest minute), liquid volume (liter), and masses of objects (gram, kilogram) (3.MD.1,2)	-
	3.M.2	Read and understand a calendar using day, week, month, and year	
	3.M.3	Explain and measure temperature using Celsius and Fahrenheit scales	
	Geometric Measurement		
3.M.4	Understand concepts of area and its measurement by counting unit squares (cm ² , m ² , in ² , ft ²); apply multiplication and addition to area (3.MD.5,6,7)	-	
3.M.5	Solve real-world and mathematical problems recognizing area and perimeter of plane figures; distinguish between linear and area measurements (3.MD.8)	-	
Geometry	Money		
	3.M.6	Construct various equivalent combinations of money; add and subtract money amounts	
	Shapes		
	3.GEO.1	Sort and classify shapes to compare and contrast attributes (3.G.1,2)	
	Fractions		
3.GEO.2	Partition shapes into equal areas and express as a fraction (3.G.2)		



Data Analysis, Statistics, and Probability	Data	
	3.DSP.1	Draw and interpret scaled picture and bar graphs to represent a data set (3.MD.3)
3.DSP.2	Measure length using rulers marked with halves and fourths of an inch and the nearest whole centimeter; show data by making a line plot (3.MD.4)	



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Topic	Number	Standard		Explore	Challenge
Grade 4					
Numbers and Operations	Place Value				
	4.NO.1	Use place value understanding of multi-digit whole numbers to round to any place up to millions (4.NBT.1,3)			
	4.NO.2	Read, write, compare, and understand whole numbers using standard, number name, and expanded forms (4.NBT.2)			
	Basic Operations				
	4.NO.3	Add and subtract multi-digit whole numbers; multiply up to 4 digits X 1 digit and 2 digits X 2 digits; divide using a one-digit divisor and up to a four-digit dividend with and without a remainder (4.NBT.4,5,6)			
	Fractions and Decimals				
	4.NO.4	Understand, express, and order fractions with different numerators and denominators; numerically express equivalent fractions (4.NF.1,2)			
4.NO.5	Add and subtract fractions and mixed numbers with common denominators; multiply fractions by whole numbers (4.NF.3,4)				
4.NO.6	Understand, compare, and use decimal notation for fractions with denominators of 10 or 100 (4.NF.5,6,7)				
Operations and Algebraic Thinking	Multiplication				
	4.OAT.1	Memorize and fluently multiply using the multiplication facts through 12			
	Problem Solving				
	4.OAT.2	Solve multi-step word problems including remainder interpretation and estimate to check; create equations with a letter for the unknown (4.OA.1,2,3)			
	Factors				
	4.OAT.3	Find all factor pairs for a whole number within 100; identify whole numbers as prime or composite (4.OA.4)			
	4.OAT.4	Understand the basic concepts of least common multiple (LCM) and greatest common factor (GCF)			
Measurement	Patterns				
	4.OAT.5	Generate and analyze number and shape patterns (4.OA.5)		-	-
	Measurement/Conversion				
	4.M.1	Solve problems involving measurement (time, volume, mass, money, simple fractions, decimals, distance) (4.MD.2)		-	-
	4.M.2	Convert measurement from a larger unit to a smaller unit (km, m, cm; kg, g; lb, oz; L, mL; hr, min, sec) (4.MD.1)			
	4.M.3	Apply area and perimeter formulas (4.MD.3)			-
	4.M.4	Read a Fahrenheit and Celsius thermometer knowing the significance of 32°F, 212°F, 0°C, and 100°C			
	Angles				
	4.M.5	Recognize angles as geometric shapes that are formed wherever two rays share a common end point; understand concepts of angle measurement and measure angles in whole-number degrees (4.MD.5,6,7)			-
	Money				
4.M.6	4.M.6 Know how to count up to make change				

Geometry	Lines/Angles			
	4.GEO.1	Draw and identify points, lines, line segments, rays, angles, and perpendicular and parallel lines (4.G.1)		
	4.GEO.2	Classify figures with perpendicular and parallel lines, and angles of a specified size (4.G.2)		
	4.GEO.3	Recognize and draw lines of symmetry with two-dimensional figures (4.G.3)		
Data Analysis, Statistics, and Probability	Data			
	4.DSP.1	Solve addition and subtraction problems using a line plot to display a data set of measurement in fractions of a unit (halves, fourths, and eighths) (4.MD.4)		

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Topic	Number	Standard	Challenge		
Grade 5					
Numbers and Operations	Place Value				
	5.NO.1	Read, write, and compare decimals to the thousandths place using standard, number name, and expanded forms; round decimals to any place (5.NBT.3,4)			
	5.NO.2	Explain patterns in relation to the powers of 10 (5.NBT.1,2)			
	Basic Operations				
	5.NO.3	Multiply multi-digit whole numbers; divide using a two-digit divisor and up to a four-digit dividend; add, subtract, multiply, and divide decimals up to the hundredths place (5.NBT.5,6,7)			
	Fractions				
	5.NO.4	Add and subtract fractions and mixed numbers with unlike denominators; multiply a fraction or a whole number by a fraction; divide fractions by whole numbers (5.NF.1,2,3,4,5,6,7)			
	5.NO.5	Simplify fractions to lowest terms			
	Numerical Expressions				
	Operations and Algebraic Thinking	5.OAT.1	Write and interpret simple numerical expressions using parentheses, brackets, and braces (5.OA.1,2)		
Factors					
5.OAT.2		Determine the least common multiple (LCM) and greatest common factor (GCF) of two numbers			
Patterns					
5.OAT.3		Generate, identify the relationship, and graph ordered pairs using numerical patterns with two given rules (5.OA.3)			
Measurement		Conversion			
		5.M.1	Convert like units within a given measurement system (e.g., cm to m, m to cm) (5.MD.1)		
		Volume			
		5.M.2	Understand concepts of volume measurement in cubic measure (cm ³ , in ³ , ft ³) and apply to multiplication and addition (5.MD.3,4,5)		
		Geometric Measurement			
5.M.3	Know the relationship between radius and diameter		-		
Geometry	Graphs				
	5.GEO.1	Graph points in the first quadrant of the coordinate plane to solve real-world and mathematical problems (5.G.1,2)		-	
	Sides/Angles				
5.GEO.2	Classify two-dimensional figures into categories based on their properties of sides and angles (5.G.3,4)				
Data Analysis, Statistics, and Probability	Data				
	5.DSP.1	Use basic operations to solve problems using a line plot to display a data set of measurement in fractions of a unit (halves, fourths, and eighths) (5.MD.2)			
	5.DSP.2	Find the mean, median, mode, and range of a given set of data			

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Topic	Number	Standard	Challenge
Grade 6			
Numbers and Operations	Rational Numbers		
	6.NO.1	Add, subtract, multiply, and divide multi-digit whole numbers and decimals (6.NS.2,3)	-
	6.NO.2	Find common factors and multiples (6.NS.4); understand and apply prime factorization and exponents (6.EE.1)	
	6.NO.3	Understand, compare, and order integers; apply integer principles within the four basic operations; graph ordered pairs on a coordinate plane (6.NS.5,6,7,8)	
	6.NO.4	Divide fractions by fractions; express a remainder as a fraction or decimal; convert within fractions, decimals, and percents; convert fractions to terminating, repeating, or rounded decimals (6.NS.1)	
	Ratios/Proportions/Percentages		
6.NO.5	Understand and apply ratio concepts and use ratio reasoning to solve problems (6.RP.1,2,3)		
Operations and Algebraic Thinking	Expressions and Equations		
	6.OAT.1	Apply basic operations to algebraic expressions; solve and explain one-variable equations and inequalities; identify parts of an expression using mathematical terms (6.EE.1,2,3,4,5,6,7,8)	-
	6.OAT.2	Represent, graph, and analyze quantitative relationships between dependent and independent variables (6.EE.9)	
Measurement	Elapsed Time		
	6.M.1	Calculate elapsed time	
Geometry	Area/Volume		
	6.GEO.1	Solve real-world and mathematical problems involving area, surface area, and volume (6.G.1,2,3,4)	-
Data Analysis, Statistics, and Probability	Statistics and Probability		
	6.DSP.1	Develop understanding of statistical variability (6.SP.1,2,3)	-
	6.DSP.2	Summarize and describe distributions (6.SP.4,5)	

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Topic	Number	Standard					
Grade 7							
Numbers and Operations	Rational Numbers						
	7.NO.1	Apply and extend the four basic operations to rational numbers (7.NS.1,2,3)					
	7.NO.2	Understand and apply properties of operations (7.NS.2)					
	7.NO.3	Perform operations with numbers expressed in scientific notation, exponents, and square root					
	Ratios/Proportions/Percentages						
7.NO.4	Analyze and apply proportional relationships (7.RP.1,2,3)						
Operations and Algebraic Thinking	Expressions/Equations/Inequalities						
	7.OAT.1	Use properties of operations to generate equivalent expressions (7.EE.1,2)					
	7.OAT.2	Solve real-life and mathematical problems using numerical and algebraic expressions and equations (7.EE.3,4)	•	•	•		
	7.OAT.3	Represent, graph, analyze, and generalize patterns, ratios, and inequalities using symbolic rules	•	•	•		
	Measurement Systems						
7.M.1	Convert between a variety of standard/metric measures (e.g., in to cm, cm to in)	-	-	-			
Geometry	Figures						
	7.GEO.1	Draw, construct, and describe geometrical figures and identify the relationships between them (7.G.1,2,3)	-	-	-		
	Geometrical Measurements						
7.GEO.2	Solve real-world and mathematical problems involving angle measure, perimeter, area, surface area, and volume (7.G.4,5,6)	•	•	•			
Data Analysis, Statistics, and Probability	Statistics and Probability						
	7.DSP.1	Use random sampling to draw inferences about a population (7.SP.1,2)					
	7.DSP.2	Draw informal comparative inferences about two populations (7.SP.3,4)					
	7.DSP.3	Investigate chance processes and develop, use, and evaluate probability models (7.SP.5,6,7,8)					

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Topic	Number	Standard	Challenge	Class Pack	Team
Grade 8					
Number and Operations	Rational/Irrational Numbers				
	8.NO.1	Informally understand and use number sense for irrational numbers (8.NS.1,2)			
Operations and Algebraic Thinking	Expression/Equations/Inequalities				
	8.OAT.1	Work with radicals and integer exponents (8.E.E.1,2,3,4)	-	-	-
	8.OAT.2	Understand and graph the connections between proportional relationships, lines, slope, and linear equations (8.EE.5,6)	-	-	-
	8.OAT.3	Analyze and solve linear equations and pairs of simultaneous linear equations (8.EE.7,8)	-	-	-
	Functions				
8.OAT.4	Define, evaluate, compare, and use functions to model relationships between quantities (8.F.1,2,3,4,5)	-	-	-	
Measurement	Mathematical Precision				
	8.M.1	Use appropriate significant digits in calculations	-	-	-
Geometry	Figures				
	8.GEO.1	Understand congruence and similarity using various mediums including geometric software (8.G.1,2,3,4,5)	-	-	-
	8.GEO.2	Understand and apply the Pythagorean Theorem (8.G.6,7,8)	-	-	-
	Volume				
8.GEO.3	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres (8.G.9)	•	•	•	
Data Analysis, Statistics, and Probability	Statistics and Probability				
	8.DSP.1	Investigate patterns of association in bivariate data (8.SP.1,2,3,4)			