Mathletics Illinois Learning Standards

Activities (Courses), Skill Quests and eBooks



Grades 3-6

August, 2025



Mathletics

Illinois Learning Standards Activities (Courses), Skill Quests and eBooks August, 2025

Grade 3	4
CC.3.OA Operations & Algebraic Thinking	4
Represent and solve problems involving multiplication and division	4
Understand properties of multiplication and the relationship between multiplication and division	5
Multiply and divide within 100	6
Solve problems involving the four operations, and identify and explain patterns in arithmetic	6
CC.3.NBT Number & Operations in Base Ten	7
Use place value understanding and properties of operations to perform multi-digit arithmetic	7
CC.3. NF Number & Operations – Fractions	8
Develop understanding of fractions as numbers	8
CC.3.MD Measurement & Data	10
Solve problems involving measurement and estimation	10
Represent and interpret data	10
Geometric measurement: understand concepts of area and relate area to multiplication and to addition	11
Geometric measurement: recognize perimeter	
CC.3.G Geometry	12
Reason with shapes and their attributes	12
Grade 4	14
CC.4.OA Operations & Algebraic Thinking	14
Use the four operations with whole numbers to solve problems	14
Gain familiarity with factors and multiples	15
Generate and analyze patterns	15
CC.4.NBT Number & Operations in Base Ten	15
Generalize place value understanding for multi-digit whole numbers	15
Use place value understanding and properties of operations to perform multi-digit arithmetic	16
CC.4.NF Number & Operations – Fractions	18
Extend understanding of fraction equivalence and ordering	18
Build fractions from unit fractions	18
Understand decimal notation for fractions, and compare decimal fractions	20
CC.4.MD Measurement & Data	21
Solve problems involving measurement and conversion of measurements	21
Represent and interpret data	23
Geometric measurement: understand concepts of angle and measure angles	
CC.4.G Geometry	24
Draw and identify lines and angles, and classify shapes by properties of their lines and angles	24
Grade 5	26
CC.5.OA Operations & Algebraic Thinking	26
Write and interpret numerical expressions	26
Analyze patterns and relationships	26
CC.5.NBT Number & Operations in Base Ten	27

Understand the place value system	27
Perform operations with multi-digit whole numbers and with decimals to hundredths	28
CC.5.NF Number & Operations – Fractions	29
Use equivalent fractions as a strategy to add and subtract fractions	29
Apply and extend previous understandings of multiplication and division	30
CC.5.MD Measurement & Data	32
Convert like measurement units within a given measurement system	32
Represent and interpret data	33
Geometric measurement: understand concepts of volume	33
CC.5.G Geometry	34
Graph points on the coordinate plane to solve real-world and mathematical problems	34
Classify two-dimensional figures into categories based on their properties	35
Grade 6	36
CC.6.RP Ratios & Proportional Relationships	36
Understand ratio concepts and use ratio reasoning to solve problems	36
CC.6.NS The Number System	37
Apply and extend previous understandings of multiplication and division to divide fractions by fractions	37
Compute fluently with multi-digit numbers and find common factors and multiples	38
Apply and extend previous understandings of numbers to the system of rational numbers	39
CC.6.EE Expressions & Equations	42
Apply and extend previous understandings of arithmetic to algebraic expressions	42
Reason about and solve one-variable equations and inequalities	43
Represent and analyze quantitative relationships between dependent and independent variables	45
CC.6.G Geometry	45
Solve real-world and mathematical problems involving area, surface area, and volume	45
CC.6.SP Statistics & Probability	47
Develop understanding of statistical variability	47
Summarize and describe distributions	47

Grade 3

CC.3.OA Operations & Algebraic Thinking

Represent and solve problems involving multiplication and division

CC.3.OA.1 Interpret products of whole numbers.	
■ Activities	
Operations & Algebraic Thinking 1	Groups of Two
	Groups of Three
	Groups of Four
	Groups of Five
	Groups of Six
	Groups of Seven
	Groups of Eight
	Groups of Nine
	Groups of Ten
	Multiplication Arrays
	Arrays 1
	Frog Jump Multiplication
	Model Multiplication to 5 x 5
★ Skill Quests	
Introduction to multiplication	Multiplying using arrays & repeated addition
Ebooks	
Grade 3, Series D: Multiplication and Division	Introducing multiplication
Grade 3 Multiplication Worksheets	

CC.3.OA.2 Interpret whole-number quotients of whole numbers.	
■ Activities	
Operations & Algebraic Thinking 2	Divide Into Equal Groups
	Dividing Threes
	Dividing Fours
	Dividing Fives
	Dividing Sixes
	Dividing Sevens
	Dividing Eights
	Dividing Nines
	Dividing Tens
	Frog Jump Division
	Share the Treasure
★ Skill Quests	
Introduction to division	Dividing by sharing (up to 50)
	Dividing by grouping (up to 50)

	Create & solve problems involving equal groups	
	Using repeated subtraction to divide	
□ Ebooks		
Grade 3, Series D: Multiplication and Division	Division	
Grade 3 Division Worksheets		

CC.3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.		
□ Activities		
Operations & Algebraic Thinking 3-9	Fill the Jars	
	Problems: Times and Divide	
业 Skill Quests		
Multiplication & division problems	Multiplication problems: fair share/equal grouping	
	Multiplication/division problems: arrays	
□ Ebooks		
Grade 3: Rich Task	Fish Nets	
Grade 3, Series D: Multiplication and Division	Mental multiplication strategies	
Grade 3 Multiplication Worksheets		
Grade 3, Series D: Multiplication and Division Division		
Grade 3 Division Worksheets		

CC.3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	
□ Activities	
Operations & Algebraic Thinking 3-9	Related Facts 2
	Missing Numbers: × and ÷ facts
业 Skill Quests	
Multiply & divide: finding the unknown	Multiplying & dividing: finding the unknown

Understand properties of multiplication and the relationship between multiplication and division

CC.3.OA.5 Apply properties of operations as strategies to multiply and divide. Activities	
Operations & Algebraic Thinking 3-9	Multiplication Turn-Abouts
	Multiplication Properties
	Fact Families: Multiply and Divide
🕍 Skill Quests	
Multiplication properties	Multiplication properties
Ebooks	
Grade 3, Series D: Multiplication and Division	Multiplication facts
	Mental multiplication strategies
Grade 3 Multiplication Worksheets	

Grade 3, Series D: Multiplication and Division	Division
Grade 3 Division Worksheets	

CC.3.OA.6 Understand division as an unknown-factor problem.		
□ Activities		
Teacher directed		
业 Skill Quests		
Division: unknown-factor problems	Understand division as an unknown-factor problem	
□ Ebooks		
Grade 3, Series D: Multiplication and Division	Division	
Grade 3 Division Worksheets		

Multiply and divide within 100

CC.3.OA.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. Activities Operations & Algebraic Thinking 3-9 **Times Tables Skill Quests Multiplication & division facts** Multiplication facts: 2, 4, 8 Multiplication facts: 5, 10 Multiplication facts: 3, 6, 9 Multiplication facts: 7 Recalling multiplication facts to 5 x 5 Recalling multiplication facts to 10 x 10 Division facts: 2, 4, 8 Division facts: 5, 10 Division facts: 3, 6, 9 Division facts: 7 **Ebooks** Grade 3, Series D: Multiplication and Division Multiplication facts Mental multiplication strategies **Grade 3 Multiplication Worksheets** Grade 3, Series D: Multiplication and Division Division **Grade 3 Division Worksheets**

Solve problems involving the four operations, and identify and explain patterns in arithmetic

	CC.3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. Activities	
	Operations & Algebraic Thinking 3-9	Word Problems with Letters

址 Skill Quests	
2-step word problems: 4 operations	2-step word problems with addition & subtraction
	2-step word problems with the 4 operations
□ Ebooks	
Grade 3, Series D: Patterns and Algebra	Equations and equivalence

CC.3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.	
■ Activities	
Operations & Algebraic Thinking 3-9	Increasing Patterns
	Decreasing Patterns
	Describing Patterns
🕍 Skill Quests	
Number patterns	Identifying & creating number patterns
	Identifying odd & even number patterns
	Exploring number patterns in tables & charts
☐ Ebooks	
Grade 3, Series D: Patterns and Algebra	Patterns and functions

CC.3.NBT Number & Operations in Base Ten

Use place value understanding and properties of operations to perform multi-digit arithmetic

CC.3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	
■ Activities	
Number & Operations in Base Ten	Nearest Ten?
	Nearest Hundred?
¥ Skill Quests	
Round to the nearest 10 or 100	Rounding numbers up to 1000 to the nearest 100
	Rounding numbers up to 1000 to the nearest 10
☐ Ebooks	
Grade 3, Series D: Reading and Understanding Whole Numbers	Round and estimate

CC.3.NBT.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	
Number & Operations in Base Ten	Strategies for Column Addition Add 3-Digit Numbers Add 3-Digit Numbers: Regroup Add Multi-Digit Numbers 1
	Addition Properties

	Missing Numbers 1
	3-Digit Differences
	3-Digit Differences with Zeros
	3-Digit Differences: 1 Regrouping
	3-Digit Differences: 2 Regroupings
业 Skill Quests	
Add within 1000	Add 2- & 3-digit numbers: number line
	Add 2- & 3-digit numbers: jump strategy
	Add two 2-digit numbers: base ten blocks
	Add 2- & 3-digit numbers: expanded form
	Add two 2-digit numbers: compensation
Subtract within 1000	Subtract 2-digit from 3-digit: number line
	Subtract 2-digit from 3-digit: jump strategy
	Subtract two 2-digit numbers: base ten blocks
	Subtract 2-digit from 3-digit: expanded form
Add & subtract within 1000	Add & subtract up to 3-digits: number line
	Add & subtract up to 3-digits: jump strategy
	Add & subtract two 2-digits: place value blocks
	Add & subtract up to 3-digits: expanded form
	Add & subtract two 2-digits: compensation
Ebooks	
Grade 3 Addition Worksheets	
Grade 3 Subtraction Worksheets	

CC.3.NBT.3 Multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.		
■ Activities		
Number & Operations in Base Ten	Multiply Multiples of 10	
™ Skill Quests		
Multiply by a multiple of 10	Using place value to multiply by multiples of 10	
	Multiplying by a multiple of 10	

CC.3. NF Number & Operations – Fractions

Develop understanding of fractions as numbers

CC.3.NF.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. Activities	
Number & Operations-Fractions	Shade Fractions
	Model Fractions
	What Fraction Is Shaded 1
	Halves and Fourths
	Thirds and Sixths
业 Skill Quests	

Introduction to fractions	Introducing the numerator & denominator
	Introducing eighths
	Halves, fourths & eighths of objects or shapes
	Halves, thirds or quarters of shapes: partitioning
	Introducing sixths
	Thirds & sixths of objects, shapes & sets
☐ Ebooks	
Grade 3, Series D: Fractions	Introducing fractions

CC.3.NF.2

Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

□ Activities	
Number & Operations-Fractions	Identifying Fractions on a Number Line
🕍 Skill Quests	
Locate unit fractions on a number line	Locating unit fractions on a number line
Locate fractions on a number line	Locating fractions on a number line
Ebooks	
Grade 3, Series D: Fractions	Introducing fractions

CC.3.NF.3

Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions. Explain why the fractions are equivalent. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.

■ Activities	
Number & Operations-Fractions	Equivalent Fraction Wall 1
	Compare Fractions 1a
	Comparing Fractions 1
站 Skill Quests	
Investigate equivalent fractions	Investigating equivalent fractions
Find simple equivalent fractions	Recognize & generate simple equivalent fractions
Whole numbers as fractions	Express & recognize whole numbers as fractions
Compare fractions	Comparing fractions: same numerator or denominator
Ebooks	
Grade 3, Series D: Fractions	Types of fractions

CC.3.MD Measurement & Data

Solve problems involving measurement and estimation

CC.3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes.		
☐ Activities		
Measurement & Data 1-4	What is the Time?	
	Five Minute Times	
	Time Mentals	
	Elapsed Time	
业 Skill Quests		
Tell & write time to the minute	Telling time to the minute, digital & analog	
	Calculating elapsed time	
	Using timetables	
□ Ebooks		
Grade 3, Series D: Fractions	Telling time	
	Measuring time	

CC.3.MD.2

Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units to represent the problem.

■ Activities	
Measurement & Data 1-4	Mass Word Problems
	Cups, Pints, Quarts, Gallons
★ Skill Quests	
Liquid volume	Estimating, comparing & measuring in liters
	Liquid volume: milliliters
	Solving word problems involving liquid volume
Ebooks	
Grade 3, Series D: Measurement	Volume and capacity
	Mass

Represent and interpret data

CC.3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. Measurement & Data 1-4 Making Picture Graphs: With Scale Pictographs Bar Graphs 1 Bar Graphs 2 Add and Subtract Using Graphs

	Picture Graphs: with scale & half symbols
🕍 Skill Quests	
Scaled picture & bar graphs	Reading & representing data: scaled picture graph
	Reading & representing data: scaled bar graph
Ebooks	
Grade 3, Series D: Chance and Data	Data

CC.3.MD.4

Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

□ Activities	
Measurement & Data 1-4	Measure to the Nearest Half Inch
业 Skill Quests	
Represent & read line plots	Representing & reading line plots
Ebooks	
Grade 3, Series D: Chance and Data	Data

Geometric measurement: understand concepts of area and relate area to multiplication and to addition

CC.3.MD.5

Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.

Teacher directed Skill Quests Estimate area with tiling Measure area with unit squares Description: Description: Measuring area with unit squares Measuring area with unit squares Area

CC.3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).		
■ Activities		
Measurement & Data 6-8	Area of Shapes	
	Calculate Area of Shapes (inches, feet, yards)	
	Biggest Shape	
业 Skill Quests		
Measure area with formal units	Introducing formal units for area	
	Measuring the area of rectangles	
□ Ebooks		
Grade 3, Series D: Measurement	Area	

CC.3.MD.7 Relate area to the operations of multiplication and addition. Activities Measurement & Data 6-8 Area of Squares and Rectangles Calculate Area of Squares and Rectangles Area: Compound Figures **Skill Quests** Find the area with repeated addition Finding the area of rectangles, repeated addition Area problems: multiplication Solving area problems using multiplication Find the area using area models Finding the area of rectangles, area models Find the area of rectilinear figures Finding the area of rectilinear figures **Ebooks** Grade 3, Series D: Measurement Area

Geometric measurement: recognize perimeter

CC.3.MD.8

Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

area and different perimeters.		
□ Activities		
Measurement & Data 6-8	Perimeter	
	Perimeter: Squares and Rectangles	
	Perimeter Detectives 1	
	Perimeter of Shapes	
★ Skill Quests		
Perimeter problems	Finding the perimeter & area of rectangles	
	Relating perimeter & area	
	Introducing perimeter	
	Finding the perimeter of rectangles	
	Finding a missing side length given the perimeter	
	Finding the perimeter of polygons	
□ Ebooks		
Grade 3, Series D: Measurement	Units of length	

CC.3.G Geometry

Reason with shapes and their attributes

CC.3.G.1

Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

	i i	
■ Activities		
Geometry	Shapes	
	Collect the Shapes 1	

	Collect the Shapes 2
	Collect More Shapes
	Collect the Polygons
	Count Sides and Corners
🕍 Skill Quests	
Shapes & their attributes	Sorting & naming quadrilaterals
	Comparing & describing two-dimensional shapes
Ebooks	
Grade 3, Series D: Space, Shape and Position	Investigating 2D shapes

CC.3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.		
■ Activities		
Teacher directed		
业 Skill Quests		
Partition shapes	Partition shapes into parts with equal areas	
□ Ebooks		
Grade 3, Series D: Fractions	Introducing fractions	

Grade 4

CC.4.OA Operations & Algebraic Thinking

Use the four operations with whole numbers to solve problems

CC.4.OA.1

Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations.

Activities

Teacher directed

Skill Quests

Interpret multiplication as a comparison

Describe comparisons using multiplication language

CC.4.OA.2

Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison.

Activities

Teacher directed

Skill Quests

Comparison word problems Solving comparison word problems

CC.4.OA.3

Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Activities

Grade 4, Series E: Patterns and Algebra

Operations & Algebraic Thinking	Problems: Multiply and Divide	
	Word Problems with Letters	
	Multiply and Divide Problems 1	
🕍 Skill Quests		
Word problems: 4 operations	Multi-step multiplication/division word problems	
	Solving division word problems	
	Solving multiplication word problems	
	2-step addition & subtraction word problems	
☐ Ebooks		

Equations and equivalence

Gain familiarity with factors and multiples

CC.4.OA.4

Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

■ Activities		
Operations & Algebraic Thinking	Multiples	
	Factors	
	Find the Factor	
	Prime or Composite?	
™ Skill Quests		
Factors, multiples & prime numbers	Finding multiples: whole numbers up to 100	
	Finding factors: whole numbers up to 100	
	Prime & composite numbers	
□ Ebooks		
Grade 4: Rich Task	Split that Fact	
Grade 4, Series E: Multiplication and Division	Using known facts	
Grade 4 Multiplication Worksheets		

Generate and analyze patterns

CC.4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. Activities

■ Activities	
Operations & Algebraic Thinking	Increasing Patterns
	Decreasing Patterns
	Describing Patterns
¥ Skill Quests	
Number & shape patterns	Generate shape patterns from a given rule
	Generate addition patterns from a given rule
	Generate subtraction patterns from a given rule
	Generate multiplication patterns from a given rule
☐ Ebooks	
Grade 4, Series E: Patterns and Algebra	Patterns and functions

CC.4.NBT Number & Operations in Base Ten

Generalize place value understanding for multi-digit whole numbers

CC.4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.	
■ Activities	
Number & Operations in Base Ten 1-3	Place Value 1 (×10 and ÷10)
	Place Value 2 (×10 and ÷10)

™ Skill Quests	
Place value for multi-digit numbers	Generalizing place value understanding
☐ Ebooks	
Grade 4, Series E: Multiplication and Division	Mental multiplication strategies
Grade 4 Multiplication Worksheets	

CC.4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.		
■ Activities		
Number & Operations in Base Ten 1-3	Numbers from Words to Digits 1	
	Numbers from Words to Digits 2	
	Expanded Form	
	Expanding Numbers	
	Understanding Place Value 2	
	Understanding Place Value 3	
	Place Value to Millions	
	Place Value 3	
	Greater Than or Less Than 1	
业 Skill Quests		
Read & write multi-digit numbers	Reading & writing multi-digit numbers	
	Comparing two 6-digit numbers	
Ebooks		
Grade 4, Series E: Reading and Understanding Whole Numbers	Looking at whole numbers	
	Place value of whole numbers	

CC.4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.	
■ Activities	
Number & Operations in Base Ten 1-3	Rounding Numbers
	Nearest Thousand?
🕍 Skill Quests	
Round 6-digit numbers	Rounding 6-digit numbers to any place value
☐ Ebooks	
Grade 4, Series E: Reading and Understanding Whole Numbers	Round and estimate

Use place value understanding and properties of operations to perform multi-digit arithmetic

CC.4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.	
■ Activities	
Number & Operations in Base Ten 4-6	Add Multi-Digit Numbers 1
	Add Multi-Digit Numbers 2

	Adding Colossal Columns
	Subtracting Colossal Columns
	2-Digit Differences: Regroup
	3-Digit Differences: 2 Regroupings
	3-Digit Differences with Zeros
🕍 Skill Quests	
Add multi-digit numbers	Adding multi-digit numbers, no regrouping
	Adding multi-digit numbers, regrouping
Ebooks	
Grade 4, Series E: Addition and Subtraction	Written methods
Grade 4 Addition Worksheets	
Grade 4 Subtraction Worksheets	

CC.4.NBT.5

Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

■ Activities	
Number & Operations in Base Ten 4-6	Multiply 2 Digits Area Model
	Contracted Multiplication
	Double and Halve to Multiply
★ Skill Quests	
Multiply multi-digit numbers	Multiply multi-digit numbers, algorithm
	Multiply multi-digit numbers using place value
	Multiply multi-digit numbers, area model
Ebooks	
Grade 4, Series E: Multiplication and Division	Using known facts
	Mental multiplication strategies
Grade 4 Multiplication Worksheets	

CC.4.NBT.6

Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Teacher directed Skill Quests Divide multi-digit numbers Dividing numbers, place value blocks Dividing numbers, area model Dividing numbers, place value strategy Introducing remainders in division Ebooks Grade 4, Series E: Multiplication and Division Division Mental division strategies Grade 4 Division Worksheets Grade 4: Rich Task Leftovers

CC.4.NF Number & Operations – Fractions

Extend understanding of fraction equivalence and ordering

CC.4.NF.1

Explain why a fraction a/b is equivalent to a fraction ($n \times a$)/($n \times b$) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

■ Activities	
Number & Operations-Fractions	The Equivalent Fraction
	Equivalent Fraction Wall 1
	Equivalent Fraction Wall 2
	Selecting Equivalent Fractions
站 Skill Quests	
Fraction equivalence	Equivalent fractions with models
	Equivalent fractions with multiplication
☐ Ebooks	
Grade 4, Series E: Fractions	Types of fractions
Grade 4 Fractions Worksheets	

CC.4.NF.2

Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions.

Activities	
Number & Operations-Fractions	Compare Fractions 1b
	Comparing Fractions 1
🕍 Skill Quests	
Compare fractions	Compare fractions using models
	Compare fractions, different numerator/denominator
	Compare fractions using common denominators
Ebooks	
Grade 4, Series E: Fractions	Working with fractions
Grade 4 Fractions Worksheets	

Build fractions from unit fractions

CC.4.NF.3a

Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

separating parts referring to the same whole.	
□ Activities	
Number & Operations-Fractions	Add Like Fractions
	Subtract Like Fractions
	Add Subtract Fractions 1
™ Skill Quests	
Understand adding/subtracting fractions	Adding unit fractions, same denominators: models

	Adding fractions, same denominator
	Subtracting fractions, same denominator
	Adding & subtracting fractions, same denominator
☐ Ebooks	
Grade 4, Series E: Fractions	Types of fractions
Grade 4 Fractions Worksheets	

CC.4.NF.3b

Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions.

· · ·	
■ Activities	
Teacher directed	
¥ Skill Quests	
Decompose fractions	Decomposing fractions
☐ Ebooks	
Grade 4, Series E: Fractions	Types of fractions
Grade 4 Fractions Worksheets	

Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Add and subtract mixed numbers with like denominators. Image: Activities Number & Operations-Fractions Add Like Mixed Numbers Skill Quests Add & subtract mixed numbers Adding mixed numbers, same denominator Subtracting mixed numbers, same denominator Types of fractions Grade 4, Series E: Fractions Types of fractions Grade 4 Fractions Worksheets

CC.4.NF.3d Understand a fraction a/b with a > 1 as a sum of fractions 1/b. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. E Activities Teacher directed ✓ Skill Quests Word problems: add & subtract fractions Fbooks Grade 4, Series E: Fractions Types of fractions Types of fractions Types of fractions

CC.4.NF.4a

Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Understand a fraction a/b as a multiple of 1/b.

Activities

 Number & Operations-Fractions
 Multiply Fraction by Whole Number

 Model Fractions to Multiply

Skill Quests

Fractions: multiples of unit fractions Fractions: multiples of unit fractions

Ebooks

Grade 4 Fractions Worksheets

CC.4.NF.4b

Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.

Activities

Number & Operations-Fractions

Multiply Fraction by Whole Number

Model Fractions to Multiply

Skill Quests

Multiply fractions by whole numbers

Multiply fractions by whole numbers using models

Ebooks

Grade 4 Fractions Worksheets

CC.4.NF.4c

Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Solve word problems involving multiplication of a fraction by a whole number.

Activities

Teacher directed



Word problems: multiply fractions Word problems: multiply fractions by whole numbers

Ebooks

Grade 4 Fractions Worksheets

Understand decimal notation for fractions, and compare decimal fractions

CC.4.NF.5

Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.

Activities

Teacher directed

Skill Quests

Add fractions: denominator of 10 and 100 Adding fractions with denominators of 10 and 100

CC.4.NF.6 Use decimal notation for fractions with denominators 10 or 100.	
■ Activities	
Number & Operations-Fractions	Decimals from Words to Digits 1
★ Skill Quests	
Fractions as decimals	Introducing decimal notation
	Introducing tenths
	Introducing hundredths
☐ Ebooks	
Grade 4, Series E: Fractions	Fractions, decimals and percentages
Grade 4 Fractions Worksheets	

CC.4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.	
□ Activities	
Number & Operations-Fractions	Decimals on the Number Line
	Comparing Decimals 1
	Decimal Order 1
★ Skill Quests	
Compare decimals to hundredths	Compare & order decimals to hundredths

CC.4.MD Measurement & Data

Solve problems involving measurement and conversion of measurements

CC.4.MD.1

Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

in a two-column table.	
■ Activities	
Measurement & Data 1-3	Inches, Feet, Yards
	Ounces and Pounds
	Cups, Pints, Quarts, Gallons
	Customary Units of Length
	Customary Units of Capacity
	Customary Units of Weight 1
	Meters and Kilometers
	Centimeters and Millimeters
	Milliliters and Liters
	Converting cm and mm
	Grams and Kilograms Conversion
	Converting Units of Mass
	Time Conversions: Whole Numbers 1
址 Skill Quests	
Convert units of measure	Units of length: mm/cm/m/km

	Units of mass: g/kg & oz/lb	
	Units of time: sec/min/hr & day/week/year	
	Units of volume & capacity: mL/L	
□ Ebooks		
Grade 4, Series E: Length, Area and Perimeter	Units of length	
Grade 4, Series E: Time	Measuring time	
Grade 4, Series E: Volume, Capacity and Mass	Volume and capacity	
	Mass	

CC.4.MD.2

Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

□ Activities	
Measurement & Data 1-3	Money Problems: Four Operations
	Making Change (USD)
	Mass Word Problems
	Using Timetables
🕍 Skill Quests	
Word problems: units of measure	Length word problems
	Mass word problems
	Elapsed time word problems
	Volume & capacity word problems
	Money word problems
Ebooks	
Grade 4, Series E: Time	Measuring time
Grade 4, Series E: Volume, Capacity and Mass	Volume and capacity
	Mass

CC.4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.	
□ Activities	
Measurement & Data 1-3	Perimeter: Squares and Rectangles
	Perimeter Detectives 1
	Area: Squares and Rectangles
🕍 Skill Quests	
Area & perimeter	Finding the area of a rectangle, formula
	Finding the perimeter of a rectangle, formula
☐ Ebooks	
Grade 4, Series E: Length, Area and Perimeter	Perimeter
	Area

Represent and interpret data

CC.4.MD.4

Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.

Activities

Teacher directed

Skill Quests

Fractions on a line plot Fractions on a line plot

Ebooks

Grade 4, Series E: Chance and Data Data

Geometric measurement: understand concepts of angle and measure angles

CC.4.MD.5a

Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.

Activities

Teacher directed

Skill Quests

Angle measurements in a circle Using a circular protractor to measure angles

Ebooks

Grade 4, Series E: Space, Shape and Position Lines, angles and shapes

CC.4.MD.5b

Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. An angle that turns through *n* one-degree angles is said to have an angle measure of n degrees.

Activities

Measurement & Data 5-7

Comparing Angles

Equal Angles

Skill Quests

Teacher directed

Ebooks

Grade 4, Series E: Space, Shape and Position Lines, angles and shapes

CC.4.MD.6

Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

Activities

Measurement & Data 5-7 Estimating Angles

Measuring Angles

Skill Quests

Measure & estimate angles	Measuring & estimating angles
Ebooks	
Grade 5, Series F: Geometry	Lines and angles

CC.4.MD.7

Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.

■ Activities	
Measurement & Data 5-7	Angles of Revolution: Unknown Values
业 Skill Quests	
Problems with adjacent angles	Solving problems with adjacent angles

CC.4.G Geometry

Draw and identify lines and angles, and classify shapes by properties of their lines and angles

CC.4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	
■ Activities	
Geometry	What Line am I?
	Right Angle Relation
	Triangles: Acute, Right, Obtuse
	What Type of Angle?
🕍 Skill Quests	
Spatial features in 2-D figures	Classifying angles
	Labeling points & lines
	Identifying spatial features in two-dimensional shapes
☐ Ebooks	
Grade 4, Series E: Space, Shape and Position	Lines, angles and shapes

CC.4.G.2

Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

angles of a specifical size in the specifical size of the specifical size in the specifical size of the specifical	
■ Activities	
Geometry	Collect the Shapes 2
	Shapes
站 Skill Quests	
Classify 2-D figures	Classifying plane shapes by their spatial features
	Classifying triangles by their sides & angles
Ebooks	
Grade 4, Series E: Space, Shape and Position	Lines, angles and shapes

CC.4.G.3

Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

■ Activities	
Geometry	Symmetry
	Symmetry or Not?
	Line of Symmetry
★ Skill Quests	
Lines of symmetry	Lines of symmetry
☐ Ebooks	
Grade 4, Series E: Space, Shape and Position	Lines, angles and shapes

Grade 5

CC.5.OA Operations & Algebraic Thinking

Write and interpret numerical expressions

CC.5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.		
■ Activities		
Operations & Algebraic Thinking	Order of Operations 1 (PEDMAS)	
	Operations Order 1 (PEDMAS)	
™ Skill Quests		
Grouping symbols	Order of operations with grouping symbols	
Ebooks		
Grade 6, Series G: Patterns and Algebra	Properties of arithmetic	

CC.5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.	
■ Activities	
Teacher directed	
业 Skill Quests	
Write & interpret expressions	Writing & interpreting expressions without solving

Analyze patterns and relationships

CC.5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. Activities Operations & Algebraic Thinking Table of Values Skill Quests Numerical patterns Comparing numerical patterns Interpreting & creating a number pattern table Graphing ordered pairs from numerical patterns Ebooks Grade 6, Series G: Patterns and Algebra Patterns and functions

CC.5.NBT Number & Operations in Base Ten

Understand the place value system

Grade 5, Series F: Multiplication and Division

CC.5.NBT.1

Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

Activities

Number & Operations in Base Ten 1-4	Place Value 1 (×10 and ÷10)
	Place Value 2 (×10 and ÷10)
★ Skill Quests ★ Continue of the property of the proper	
The place value system	Identifying the place value of a digit in a number
	Understanding the place value system: powers of 10
Ebooks	

CC.5.NBT.2

Mental multiplication strategies

Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Activities

Number & Operations in Base Ten 1-4	Multiplying by 10, 100, 1000
	Dividing by 10, 100, 1000
	Multiply Decimals and Powers of 10
	Divide by Powers of 10
★ Skill Quests	
Multiply & divide by powers of 10	Multiplying decimals by powers of 10
	Dividing decimals by powers of 10
	Finding numbers before & after using powers of 10
	Writing numbers using powers of 10
☐ Ebooks	
Grade 5. Series F: Multiplication and Division	Mental multiplication strategies

CC.5.NBT.3a

Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.

Activities

Number & Operations in Base Ten 1-4	Decimals from Words to Digits 1
	Decimals from Words to Digits 2
	Decimal Place Value

Skill Quests

Read & write decimals to thousandths	Reading & writing decimals to thousandths
--------------------------------------	---

E Fbooks

Grade 5, Series F: Fractions, decimals and percentages	Fractions, decimals and percentages
Grade 6, Series G: Fractions, decimals and percentages	Decimals

CC.5.NBT.3b

Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

of comparisons.	
□ Activities	
	Decimal Order 1
	Decimal Order 2
🕍 Skill Quests	
Compare decimals to thousandths	Comparing & ordering decimals to thousandths
Ebooks	
Grade 5, Series F: Fractions, decimals and percentages	Fractions, decimals and percentages
Grade 6, Series G: Fractions, decimals and percentages	Decimals

CC.5.NBT.4 Use place value understanding to round decimals to any place.	
■ Activities	
Number & Operations in Base Ten 1-4	Rounding Decimals 1
🕍 Skill Quests	
Round decimals	Rounding decimals
□ Ebooks	
Grade 6, Series G: Fractions, decimals and percentages	Decimals

Perform operations with multi-digit whole numbers and with decimals to hundredths

CC.5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm.		
■ Activities		
Number & Operations in Base Ten 5-7	Long Multiplication	
¥ Skill Quests		
Multiply multi-digit numbers, algorithm	Multiplying multi-digit numbers, algorithm	
□ Ebooks		
Grade 5, Series F: Multiplication and Division	Written methods	
Grade 5 Multiplication and Division Worksheets		

CC.5.NBT.6

Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Divide multi-digit numbers	Using facts to divide 2-digit multiples of 10
	Multiplying & dividing 2-digit multiples of 10
	Multiplication/division problems: multiples of 10
	Dividing by subtracting partial products
	Dividing multi-digit numbers, algorithm
	Divide multi-digit numbers, whole number remainder
Ebooks	
Grade 5, Series F: Multiplication and Division	Mental division strategies
	Written methods
Grade 5 Multiplication and Division Worksheets	

CC.5.NBT.7

Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Activities **Teacher directed Skill Quests Operations with decimals** Adding decimals to hundredths, algorithm Subtracting decimals using mental strategies Subtracting decimals to hundredths, algorithm Multiplying decimals & whole numbers Multiplying decimals to hundredths, algorithm Multiplying decimals using mental strategies Multiplicative relationships with decimals Divide whole numbers & decimals, mental strategies Dividing whole numbers & decimals, algorithm **Ebooks Grade 6, Series G: Fractions, Decimals and Percentages** Calculating

CC.5.NF Number & Operations – Fractions

Use equivalent fractions as a strategy to add and subtract fractions

	Adding mixed numbers
	Subtracting fractions, proper & improper
	Subtracting mixed numbers
☐ Ebooks	
Grade 5, Series F: Fractions, Decimals and Percentages	Calculating
Grade 6, Series G: Fractions, Decimals and Percentages	Calculating
Grade 6: Rich Task	The Gumball Heist

CC.5.NF.2

Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

■ Activities	
Number & Operations-Fractions	Fraction Word Problems
¥ Skill Quests	
Add/subtract fraction word problems	Solving word problems: fractions & mixed numbers
	Solving fraction word problems

Apply and extend previous understandings of multiplication and division

CC.5.NF.3

Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

■ Activities	
Number & Operations-Fractions	Partition into Equal Parts
★ Skill Quests	
Fractions as division	Interpreting fractions as division

CC.5.NF.4a

Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.

product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q + b$.	
■ Activities	
Number & Operations-Fractions	Model Fractions to Multiply
	Multiply Fraction by Whole Number
	Multiply: Whole Number and Fraction
	Multiply Fraction by Fraction
	Multiply Two Fractions 1
🕍 Skill Quests	
Multiply fractions	Multiplying a fraction by a whole number
	Multiplying a fraction by a fraction
Ebooks	
Grade 6, Series G: Fractions, Decimals and Percentages	Calculating
Grade 7, Series H: Fractions (newer book)	Where does it work? - Multiplying and dividing fractions

CC.5.NF.4b

Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

■ Activities	
Teacher directed	
Area of a rectangle, fractional sides	Find the area of a rectangle with fractional sides
☐ Ebooks	
Grade 6, Series G: Fractions, Decimals and Percentages	Calculating
Grade 7, Series H: Fractions (newer book)	Where does it work? - Multiplying and dividing fractions

CC.5.NF.5a

Interpret multiplication as scaling (resizing) by: comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

■ Activities Teacher directed ★ Skill Quests Compare products & factors Comparing products & factors

CC.5.NF.5b

Interpret multiplication as scaling (resizing) by: explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a) / (n \times b)$ to the effect of multiplying a/b by 1.

Teacher directed ** Skill Quests Effects of multiplying fractions Interpreting multiplying fractions as scaling

CC.5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers.	
■ Activities	
Number & Operations-Fractions	More Fraction Problems
™ Skill Quests	
Multiply fractions word problems	Word problems: multiply fractions & mixed numbers

CC.5.NF.7a

Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.

■ Activities	
Number & Operations-Fractions	Divide Fractions Visual Model

址 Skill Quests	
Divide unit fractions by whole numbers	Dividing unit fractions by whole numbers, models

Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Activities Number & Operations-Fractions Divide by a Unit Fraction ** Skill Quests Divide whole numbers by unit fractions, models

CC.5.NF.7c

Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions.

by unit fractions. Activities Teacher directed Skill Quests Divide unit fractions word problems Word problems: divide unit fractions/whole numbers

CC.5.MD Measurement & Data

Convert like measurement units within a given measurement system

CC.5.MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	
■ Activities	
Measurement & Data	Converting Units of Length
	Customary Units of Length
	Operations with Length
	Meters and Kilometers
	Converting Units of Mass
	Customary Units of Weight 1
	Customary Units of Weight 2
	Milliliters and Liters
	Customary Units of Capacity
★ Skill Quests	
Convert measurement units	Converting between standard metric units of length
	Converting between standard metric units of mass
	Converting metric units of volume & capacity
	Converting between customary units of length
	Converting customary units of volume & capacity
	Converting between customary units of mass
	Word problems: measurement conversions
☐ Ebooks	

Grade 4, Series E: Length, Area and Perimeter	Units of length
Grade 4, Series E: Time	Measuring time
Grade 4, Series E: Volume, Capacity and Mass	Volume and capacity
	Mass
Grade 5, Series F: Length, Area and Perimeter	Units of length
Grade 5, Series F: Volume, Capacity and Mass	Volume and capacity
	Mass

Represent and interpret data

CC.5.MD.2

Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots.

Activities

Teacher directed



Fraction problems: line plots Represent & interpret measurements: line plots

Geometric measurement: understand concepts of volume

CC.5.MD.3a

Recognize volume as an attribute of solid figures and understand concepts of volume measurement. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

Activities

Measurement & Data Volume of Solids and Prisms - 1cm³ blocks

Skill Quests

Teacher directed

Ebooks

Grade 5, Series F: Volume, Capacity and Mass Volume and capacity

CC.5.MD.3b

Recognize volume as an attribute of solid figures and understand concepts of volume measurement. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

Activities

Measurement & Data

Volume of Solids and Prisms - 1cm³ blocks

Skill Quests

Teacher directed

Ebooks

Grade 5, Series F: Volume, Capacity and Mass

Volume and capacity

CC.5.MD.4

Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

Activities

Measurement & Data Volume of Solids and Prisms - 1cm³ blocks

	How many Blocks?
🕍 Skill Quests	
Measure volume with unit cubes	Measuring volume: unit cubes & cubic centimeters
Ebooks	
Grade 5, Series F: Volume, Capacity and Mass	Volume and capacity

CC.5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. Activities	
Measurement & Data	Volume: Rectangular Prisms 1
	Volume: Rectangular Prisms 2
™ Skill Quests	
Volume: rectangular prisms	Volume: additive & multiplicative strategies
Volume formulas: rectangular prism	Applying volume formulas for rectangular prisms
Volume: composite rectangular prisms	Volume of composite rectangular prisms
□ Ebooks	
Grade 5, Series F: Volume, Capacity and Mass	Volume and capacity

CC.5.G Geometry

Graph points on the coordinate plane to solve real-world and mathematical problems

CC.5.G.1

Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

■ Activities	
Geometry	Coordinate Graphs: 1st Quadrant
¥ Skill Quests	
The coordinate plane	Introducing the coordinate plane
Ebooks	
Grade 5, Series F: Position	Coordinates
Grade 6, Series G: Position	Coordinates

Classify two-dimensional figures into categories based on their properties

CC.5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.	
■ Activities	
Geometry	Properties of Quadrilaterals
业 Skill Quests	
Attributes of 2-D figures	Sorting plane shapes
☐ Ebooks	
Grade 5, Series F: Geometry	2D Shapes

CC.5.G.4 Classify two-dimensional figures in a hierarchy based on properties.	
■ Activities	
Geometry	Collect More Shapes
	Collect the Shapes 2
	Collect the Polygons
🕍 Skill Quests	
Classify 2-D figures, properties	Classifying 2-D figures in a hierarchy
	Classifying quadrilaterals
☐ Ebooks	
Grade 5, Series F: Geometry	2D Shapes

Grade 6

CC.6.RP Ratios & Proportional Relationships

Understand ratio concepts and use ratio reasoning to solve problems

CC.6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.	
□ Activities	
Teacher directed	
业 Skill Quests	
Introduction to ratios	Defining, understanding & writing ratios
□ Ebooks	
Grade 8, Series I Curriculum Ready: Rates and Ratios	Ratios

CC.6.RP.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.	
■ Activities	
Ratios & Proportional Relationships	Rates
' Skill Quests	
Introduction to unit rate	Understanding unit rates & making comparisons

CC.6.RP.3a Use ratio and rate reasoning to solve real-world and mathematical problems. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.		
□ Activities		
Teacher directed		
业 Skill Quests		
Ratio tables	Creating tables of equivalent ratios	
	Plotting coordinates from ratio tables	
□ Ebooks		
Grade 8, Series I Curriculum Ready: Rates and Ratios	Ratios	
	Equivalent ratios	

CC.6.RP.3b Use ratio and rate reasoning to solve real-world and mathematical problemsSolve unit rate problems including those involving unit pricing and constant speed.	
□ Activities	
Ratios & Proportional Relationships	Rate Word Problems
	Average Speed
	Best Buy

¥ Skill Quests	
Unit rate	Solving unit rate problems for given time periods
	Solving unit rate problems involving unit pricing
Ebooks	
Grade 8, Series I Curriculum Ready: Rates and Ratios	Ratios
	Equivalent ratios

CC.6.RP.3c Use ratio and rate reasoning to solve real-world and mathematical problems. Find a percent of a quantity as a rate per 100; solve problems involving finding the whole given a part and the percent. Activities		
Ratios & Proportional Relationships	Percentage of an amount using fractions (<100%) Quantities to Percentages (no units) Solve Percent Equations Percentage Word Problems	
业 Skill Quests		
Percent of a quantity	Expressing rates as a percent Solving percent problems: finding the whole	
□ Ebooks		
Grade 8, Series I Curriculum Ready: Rates and Ratios	Ratios Equivalent ratios	

CC.6.RP.3d Use ratio and rate reasoning to solve real-world and mathematical problems. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. Activities **Ratios & Proportional Relationships Customary Units of Length Customary Units of Capacity** Customary Units of Weight 1 Customary Units of Weight 2 **¥** Skill Quests **Convert measurements using ratios** Converting measurement units using ratios **Ebooks Grade 8, Series I Curriculum Ready: Rates and Ratios** Ratios **Equivalent ratios**

CC.6.NS The Number System

Apply and extend previous understandings of multiplication and division to divide fractions by fractions

CC.6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions.	
□ Activities	
The Number System 1-4	Divide Fractions by Fractions 1

	Dividing Fractions
🕍 Skill Quests	
Divide fractions	Dividing a fraction by a positive integer
	Dividing a positive integer by a fraction
	Dividing a fraction by a fraction
	Dividing fractions & mixed numbers
	Solving word problems: division of fractions
Ebooks	
Grade 7, Series H: Fractions	Division of fractions
Grade 7, Series H: Fractions 2	Division of fractions
Grade 7, Series H Curriculum Ready: Fractions	Multiplying and dividing fractions

Compute fluently with multi-digit numbers and find common factors and multiples

CC.6.NS.2 Fluently divide multi-digit numbers using the standard algorithm.		
■ Activities		
The Number System 1-4	Divide: 1-Digit Divisor 2	
	Divide: 2-Digit Divisor, Remainder	
	Long Division	
¥ Skill Quests		
Divide multi-digit numbers, algorithm	Divide 4-digit by 2-digit numbers, no remainder	
	Divide 4-digit by 2-digit numbers, with remainders	
	Divide 4-digit by 2-digit numbers	
Ebooks		
Grade 6, Series G: Multiplication and division	Written methods	
Grade 6: Division Worksheets		

CC.6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	
■ Activities	
The Number System 1-4	Adding Decimals
	Subtracting Decimals
	Adding and Subtracting Decimals
	Multiply Decimal by Decimal
	Divide Decimal by Whole Number
	Divide Decimal by Decimal
★ Skill Quests	
Operations with multi-digit decimals	Adding decimals using the standard algorithm
	Subtracting decimals using the standard algorithm
	Multiplying decimals using the standard algorithm
	Dividing decimals using the standard algorithm
	Word problems: adding & subtracting decimals
	Word problems: multiplying & dividing decimals
☐ Ebooks	

Grade 6, Series G: Fractions, Decimals and Percentages	Calculating
Grade 6: Operations with Decimals Worksheets	Calculating

CC.6.NS.4

Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

'	
■ Activities	
The Number System 1-4	Find the Factor
	Greatest Common Factor
	Multiples
	Least Common Multiple
★ Skill Quests	
GCF & LCM	Greatest common factor
	Least common multiple
	Solving word problems: factors & multiples
	Factoring using the distributive property
Ebooks	
Grade 7, Series H: Special Numbers, Factors and	Factors
Multiples	The highest Common Factor (HCF)
	Multiples
	Lowest Common Multiple (LCM)
Grade 7, Series H: Special Numbers, Factors and	Factors
Multiples 2	The highest Common Factor (HCF)
	Multiples
	Lowest Common Multiple (LCM)

Apply and extend previous understandings of numbers to the system of rational numbers

CC.6.NS.5

Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

Activities

Teacher directed



Positive & negative numbers Investigating & interpreting integers

Ebooks

Grade 6, Series G: Reading and Understanding Whole Numbers

Types of numbers

CC.6.NS.6a

Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, and that 0 is its own opposite.

□ Activities	
The Number System 6-8	Integers on a Number Line
🕍 Skill Quests	
Opposites on the number line	Opposites on the number line
Ebooks	
Grade 7, Series H Curriculum Ready: Directed Numbers	Directed numbers

CC.6.NS.6b

Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

■ Activities	
The Number System 6-8	Number Plane
	Ordered Pairs
	Coordinate Graphs
🕍 Skill Quests	
Graph in the 4 quadrants	Graphing coordinates in the 4 quadrants
	Graphing coordinates across the x- & y-axis
Ebooks	
Grade 7, Series H Curriculum Ready: Directed Numbers	Directed numbers

CC.6.NS.6c

Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

■ Activities	
The Number System 6-8	Number Plane
	Ordered Pairs
	Coordinate Graphs
站 Skill Quests	
Graph rational numbers	Placing rational numbers on the number line
	Graphing rational numbers on the coordinate plane
Ebooks	
Grade 7, Series H Curriculum Ready: Directed Numbers	Directed numbers

CC.6.NS.7a

Understand ordering and absolute value of rational numbers. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.

Teacher directed ✓ Skill Quests Compare rational numbers Comparing integers Comparing rational numbers

Ebooks Grade 7, Series H Curriculum Ready: Directed Numbers Directed numbers

CC.6.NS.7b Understand ordering and absolute value of rational numbers. Write, interpret, and explain statements of order for rational numbers in real-world contexts.		
□ Activities		
The Number System 6-8	Ordering Integers (Number Line)	
	Comparing Integers	
业 Skill Quests		
Order rational numbers	Exploring the everyday language of integers	
	Statements of order: rational numbers	
□ Ebooks		
Grade 7, Series H Curriculum Ready: Directed Numbers	Directed numbers	

CC.6.NS.7d Understand ordering and absolute value of rational numbers. Distinguish comparisons of absolute value from statements about order.		
□ Activities		
Teacher directed		
业 Skill Quests		
Absolute value vs order	Interpreting meanings of integers in context	
□ Ebooks		
Grade 7, Series H Curriculum Ready: Directed Numbers	Directed numbers	

CC.6.NS.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.		
■ Activities		
Teacher directed		
业 Skill Quests		
Solve problems by graphing: 4 quadrants	Solving problems by graphing in the 4 quadrants	

	Find the distance between 2 points, absolute value
Ebooks	
Grade 7, Series H: The Number Plane	The number plane

CC.6.EE Expressions & Equations

Grade 7, Series H Curriculum Ready: Algebra Basics

Apply and extend previous understandings of arithmetic to algebraic expressions

CC.6.EE.1 Write and evaluate numerical expressions involving whole-number exponents.		
□ Activities		
Expressions & Equations	Exponents	
	I am Thinking of a Number!	
	Order of Operations 2 (PEDMAS)	
业 Skill Quests		
Numerical expressions with exponents	Writing numerical expressions with exponents	
	Evaluating numerical expressions with exponents	
□ Ebooks		
Grade 7, Series H Curriculum Ready: Whole Numbers	Exponent notation for numbers	

CC.6.EE.2a Write, read, and evaluate expressions in which letters stand for numbers. Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5 – y.		
■ Activities		
Expressions & Equations	Writing Algebraic Expressions	
★ Skill Quests		
Write expressions: numbers & variables	Writing expressions with numbers & variables	
□ Ebooks		

Algebra basics

CC.6.EE.2b Write, read, and evaluate expressions in which letters stand for numbers. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.		
■ Activities		
Teacher directed		
业 Skill Quests		
Parts of an expression	Identifying parts of an expression	
□ Ebooks		
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics	

CC.6.EE.2c

Write, read, and evaluate expressions in which letters stand for numbers. Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

□ Activities	
Expressions & Equations	Simple Substitution 1
¥ Skill Quests	
Evaluate algebraic expressions	Evaluating algebraic expressions
	Evaluating expressions using order of operations
☐ Ebooks	
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics

CC.6.EE.3 Apply the properties of operations to generate equivalent expressions.		
☐ Activities		
Expressions & Equations	Multiplication Properties	
业 Skill Quests		
Properties of operations: expressions	Properties of operations: equivalent expressions	
□ Ebooks		
Grade 7, Series H Curriculum Ready: Whole Numbers	Arithmetic laws	
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics	

CC.6.EE.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).		
□ Activities		
Teacher directed		
业 Skill Quests		
Equivalent expressions	Identifying equivalent expressions	
☐ Ebooks		
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics	

Reason about and solve one-variable equations and inequalities

CC.6.EE.5

Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or

inequality true. Activities **Teacher directed Skill Quests Test solutions** Testing solutions: equations Testing solutions: inequalities

☐ Ebooks	
Grade 6, Series G: Patterns and Algebra	Algebraic thinking
	Solving equations – introducing variables
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics

CC.6.EE.6

Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

■ Activities	
Expressions & Equations	Writing Algebraic Expressions
¥ Skill Quests	
Write algebraic expressions	Writing algebraic expressions
Ebooks	
Grade 6, Series G: Patterns and Algebra	Solving equations – simplifying algebraic statements
Grade 6: Rich Task	Pyramid prediction
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics

CC.6.EE.7

Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.

■ Activities	
Expressions & Equations	Write an Equation: Word Problems
Solve 1-step equations	Preserving equality in equations
	Solving simple linear equations using models
	1-step equations: add/subtract, positive integers
	1-step equations: add/subtract, rational numbers
	1-step equations: multiply, positive integers
	1-step equations: multiply, rational numbers
	1-step equations: division, rational numbers
	Writing & solving 1-step equations
Ebooks	
Grade 6, Series G: Patterns and Algebra	Solving equations – introducing variables
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics

CC.6.EE.8

Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

■ Activities	
Expressions & Equations	Graphing Inequalities 2
🕍 Skill Quests	
Write & represent inequalities	Writing inequalities
	Represent algebraic inequalities on a number line

☐ Ebooks	
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics

Represent and analyze quantitative relationships between dependent and independent variables

CC.6.EE.9

Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable.

Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.

■ Activities	
Teacher directed	
🕍 Skill Quests	
Independent & dependent variables	Independent & dependent variables
Ebooks	
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics

CC.6.G Geometry

Solve real-world and mathematical problems involving area, surface area, and volume

CC.6.G.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.	
■ Activities	
Geometry	Area: Right Triangles
	Area: Triangles
	Area: Squares and Rectangles
	Area: Parallelograms
	Area: Quadrilaterals
	Area: Compound Figures
★ Skill Quests	
Area: triangles & quadrilaterals	Finding the area of a right triangle
	Investigating the area of special quadrilaterals
	Real-world area problems: special quadrilaterals
Ebooks	
Grade 6, Series G: Length, Perimeter and Area	Area
Grade 6: Rich Task	Predicting Area
Grade 7, Series H: Area and Volume	Area of a square
	Area of a rectangle
	Area of a triangle
	Composite areas

CC.6.G.2

Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = I w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

□ Activities	
Geometry	Volume: Rectangular Prisms 1
	Volume: Rectangular Prisms 2
¥ Skill Quests	
Volume: rectangular prisms, formula	Volume: rectangular prisms, fraction edge lengths
Ebooks	
Grade 6, Series G: Volume, Capacity and Mass	Volume and capacity
Grade 7, Series H: Area, Volume and Capacity	Volume of a cube
	Volume of a rectangular prism
Grade 7, Series H: Area, Volume and Capacity 2	Volume of a cube
	Volume of a rectangular prism

CC.6.G.3

Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

Activities

Teacher directed



Polygons in the coordinate plane Drawing polygons in the coordinate plane

CC.6.G.4

Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

these figures. Apply these teeringues in the context of solving real world and mathematical prosecus.	
■ Activities	
Geometry	Nets
	Surface Area: Rectangular Prisms
	Surface Area: Triangular Prisms
¥ Skill Quests	
Surface area	Connecting 3-D objects with their nets
	Calculating the surface area of rectangular prisms
☐ Ebooks	
Grade 6, Series G: Geometry	3D shapes
Grade 6: Rich Task	Wrapping a prism

CC.6.SP Statistics & Probability

Develop understanding of statistical variability

CC.6.SP.1

Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.

Activities

Teacher directed

Skill Quests

Statistical questions Evaluating statistical questions

Ebooks

Grade 6, Series G: Data Representation Collecting and analyzing data

CC.6.SP.2

Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

Activities

Teacher directed

Skill Quests

Shape of data distribution Introducing the shape of data distribution

Ebooks

Grade 6, Series G: Data Representation Collecting and analyzing data

CC.6.SP.3

Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number

Activities

Teacher directed

¥ Skill Quests

- Skill Quests	
Measures of center & variation	Measures of center & variation
	Introducing the upper & lower quartiles
	Introducing interquartile range
	Understanding the median
	Understanding the mean
☐ Ebooks	
Grade 6, Series G: Data Representation	Collecting and analyzing data

Summarize and describe distributions

CC.6.SP.4

Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

Activities

Statistics & Probability Line Plots

	Dot Plots
	Histograms
	Box Plots 1
🕍 Skill Quests	
Data displays	Constructing data displays
	Reading & interpreting data in a dot plot
	Reading & interpreting data in a histogram
	Reading & interpreting plots
Ebooks	
Grade 6, Series G: Data Representation	Types of graphs

CC.6.SP.5 Summarize numerical data sets in relation to their context.	
□ Activities	
Statistics & Probability	Mean
	Median
	Mode
	Data Extremes and Range
	Calculating Interquartile Range
★ Skill Quests	
Summarize numerical data	Summarizing numerical data
Report observations	Reporting observations in a data display
Attributes of data	Describing attributes of data in data displays
Calculate measures of center & variation	Calculating the mean absolute deviation
	Calculating the median
	Calculating the mean
	Identifying clusters, gaps & outliers
	Identifying skewed & symmetrical sets of data
Relating measures of center & variation	Choosing appropriate measures of center/variation
	Comparing measures of center & variation
☐ Ebooks	
Grade 6, Series G: Data Representation	Collecting and analyzing data



For more information about Mathletics, contact our friendly team.

www.mathletics.com/contact

