Mathletics

Ohio's Learning Standards

Activities (Courses), Skill Quests and eBooks

Grades 3-6

September, 2025

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Grade 3

3.OA Operations & Algebraic Thinking

Represent and solve problems involving multiplication and division

3.OA.1 Interpret products of whole numbers.	
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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	

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	

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
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	

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
Skill Quests	
Multiply & divide: finding the unknown	Multiplying & dividing: finding the unknown

Understand properties of multiplication and the relationship between multiplication and division

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	

3.OA.6 Understand division as an unknown-factor problem.	
Activities	
Teacher directed	
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

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

3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter or a symbol standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. Students may use parentheses for clarification since algebraic order of operations is not expected.	
Activities	
Operations & Algebraic Thinking 3-9	Word Problems with Letters
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

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

3.NBT Number & Operations in Base Ten

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

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

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.	
Activities	
Number & Operations in Base Ten	Strategies for Column Addition
	Missing Numbers 1
	Add 3-Digit Numbers
	Add 3-Digit Numbers: Regroup
	Add Multi-Digit Numbers 1
	Add Three 2-Digit Numbers: Regroup
	Addition Properties
	3-Digit Differences

	3-Digit Differences with Zeros
	3-Digit Differences: 1 Regrouping
	3-Digit Differences: 2 Regroupings
Skill Quests	
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	

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	
	Multiplying by a multiple of 10

3. NF Number & Operations – Fractions

Develop understanding of fractions as numbers

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
	Halves and Fourths
	Thirds and Sixths
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

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

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
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

3.MD Measurement & Data

Solve problems involving measurement and estimation

3.MD.1	
Tell and write time to the nearest minute and measure time intervals in minutes. Solve real-word problems involving addition and subtraction of time intervals (elapsed time) in minutes, e.g. by representing the problem on a number line diagram or clock.	
Activities	
Measurement & Data 1-4	What is the Time?
	Five Minute Times
	Time Mentals
	Elapsed Time
	Count Money (USD)
	How Much Money? (USD)

Skill Quests	
Tell & write time to the minute	Telling time to the minute, digital & analog
	Calculating elapsed time
	Using timetables
Use money to make purchases	Using money to make purchases
Ebooks	
Grade 3, Series D: Fractions	Telling time
	Measuring time

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

3.MD.3

Create scaled picture graphs to represent a data set with several categories. Create scaled bar graphs to represent a data set with several categories. Solve two-step “how many more” and “how many less” problems using information presented in the scaled graphs. For example, create a bar graph in which each square in the bar graph might represent 5 pets, then determine how many more/less in two given categories.

Activities	
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

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
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

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.	
Activities	
Teacher directed	
Skill Quests	
Estimate area with tiling	Estimating area with tiling
Measure area with unit squares	Measuring area with unit squares
Ebooks	
Grade 3, Series D: Measurement	Area

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
Skill Quests	
Measure area with formal units	Introducing formal units for area
	Measuring the area of rectangles
Ebooks	
Grade 3, Series D: Measurement	Area

3.MD.7 Relate area to the operations of multiplication and addition.	
Activities	
Teacher directed	
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

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.

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

3.G Geometry

Reason with shapes and their attributes

3.G.1

Draw and describe triangles, quadrilaterals (rhombuses, rectangles, and squares), and polygons (up to 8 sides) based on the number of sides and the presence or absence of square corners (right angles).

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

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	
Skill Quests	
Partition shapes	Partition shapes into parts with equal areas
Ebooks	
Grade 3, Series D: Fractions	Introducing fractions

Grade 4

4.OA Operations & Algebraic Thinking

Use the four operations with whole numbers to solve problems

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

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

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	
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	
Grade 4, Series E: Patterns and Algebra	Equations and equivalence

Gain familiarity with factors and multiples

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

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	
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

4.NBT Number & Operations in Base Ten

Generalize place value understanding for multi-digit whole numbers

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 by applying concepts of place value, multiplication or division.	
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	

4.NBT.2 Read and write multi-digit whole numbers using standard form, word form 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. Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1 000 000.	
Activities	
Number & Operations in Base Ten 1-3	Place Value 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
	Greater Than or Less Than 1
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

4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place through 1, 000, 000	
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

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
Subtract multi-digit numbers	Subtracting multi-digit numbers, no regrouping
	Subtracting multi-digit numbers, regrouping
Ebooks	
Grade 4, Series E: Addition and Subtraction	Written methods
Grade 4 Addition Worksheets	
Grade 4 Subtraction Worksheets	

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	

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.

Activities	
Number & Operations in Base Ten 4-6	Remainders by Arrays
	Remainders by Tables
	Divide: 1 -Digit Divisor 1
	Divide: 1 -Digit Divisor 2
	Divide: 1 -Digit Divisor, Remainder
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

4.NF Number & Operations – Fractions

Extend understanding of fraction equivalence and ordering limited to fractions with denominators 2,3,4,5,6,8,10,12 and 100

4.NF.1 Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × 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
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	

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 by applying and extending previous understandings of operations on whole numbers limited to fractions with denominators 2,3,4,5,6,8,10,12 and 100 (Fractions need not be simplified)

4.NF.3 Understand a fraction a/b with a > 1 as a sum of fractions 1/b.	
Activities	
Number & Operations-Fractions	Add Like Fractions
	Subtract Like Fractions

	Add Subtract Fractions 1
	Add Like Mixed Numbers
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
Decompose fractions	Decomposing fractions
Add & subtract mixed numbers	Adding mixed numbers, same denominator
	Subtracting mixed numbers, same denominator
Word problems: add & subtract fractions	Word problems: adding & subtracting fractions
Ebooks	
Grade 4, Series E: Fractions	Types of fractions
Grade 4 Fractions Worksheets	

4.NF.4	
Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.	
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
Multiply fractions by whole numbers	Multiply fractions by whole numbers using models
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 limited to fractions with denominators 2,3,4,5,6,8,10,12 and 100

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

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	

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

4.MD Measurement & Data

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit

4.MD.1

Know relative sizes of measurement units within one system of units. Metric units include km, m, cm and mm; kg, g; and l, ml. Express a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

Activities	
Measurement & Data 1-4	Meters and Kilometers
	Centimeters and Millimeters
	Milliliters and Liters
	Converting cm and mm
	Grams and Kilograms Conversion
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

4.MD.2

Solve real-world problems involving money, time, and metric measurement. a) Using models, add and subtract money and express the answer in decimal notation. b) Using number line diagrams, clocks, or other models, add and subtract intervals of time in hours and minutes. c) Add, subtract, and multiply whole numbers to solve metric measurement problems involving distances, liquid volumes, and masses of objects.

Activities	
Measurement & Data 1-4	Making Change (USD)
	Mass Word Problems
	Using Timetables
	Time Conversions: Whole Numbers 1
Skill Quests	
Money word problems	Money word problems
Tell & write time to the minute	Telling time to the minute, digital & analog
	Calculating elapsed time
	Using timetables
Word problems: units of measure	Length word problems
	Mass word problems
	Volume & capacity word problems
Ebooks	
Grade 4, Series E: Time	Measuring time
Grade 4, Series E: Volume, Capacity and Mass	Volume and capacity
	Mass

4.MD.3

Develop efficient strategies to determine the area and perimeter of rectangles in real-world and mathematical problems.

Activities	
Measurement & Data 1-4	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

4.MD.4

Display and interpret data in graphs (picture graphs, bar graphs, and line plots) to solve problems using numbers and operations for this grade.

Activities	
Measurement & Data 1-4	Line Plots
Skill Quests	
Fractions on a line plot	Fractions on a line plot
Represent data in a picture graph	Representing data in a picture graph
Represent data in a bar graph	Representing data in a bar graph
Ebooks	
Grade 4, Series E: Chance and Data	Data

Geometric measurement: understand concepts of angle and measure angles

4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.	
Activities	
Measurement & Data 5-7	Comparing Angles
	Equal Angles
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

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

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
Skill Quests	
Problems with adjacent angles	Solving problems with adjacent angles

4.G Geometry

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

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 2-D shapes
Ebooks	
Grade 4, Series E: Space, Shape and Position	Lines, angles and shapes

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

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

Grade 5

5.OA Operations & Algebraic Thinking

Write and interpret numerical expressions

5.OA.1 Use parentheses in numerical expressions, and evaluate expressions with this symbol. Formal use of algebraic order of operations is not necessary.	
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

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

Analyze patterns and relationships

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
	Coordinate Graphs: 1st Quadrant
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

5.NBT Number & Operations in Base Ten

Understand the place value system

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	
Teacher directed	
Skill Quests	
The place value system	Identifying the place value of a digit in a number
	Understanding the place value system: powers of 10
Ebooks	
Grade 5, Series F: Multiplication and Division	Mental multiplication strategies

5.NBT.2 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

5.NBT.3 Read, write, and compare decimals to thousandths.	
Activities	
Number & Operations in Base Ten 1-4	Decimals from Words to Digits 1
	Decimals from Words to Digits 2
	Place Value to Millions
	Place Value to Billions
	Decimal Place Value
	Decimal Order 1
	Decimal Order 2
Skill Quests	
Read & write decimals to thousandths	Reading & writing decimals to thousandths
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

5.NBT.4 Use place value understanding to round decimals to any place.	
Activities	
Number & Operations in Base Ten 1-4	Rounding Numbers
	Nearest Thousand?
	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

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	

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.	
Activities	
Number & Operations in Base Ten 5-7	Divide: 2-Digit Divisor, Remainder
	Long Division
	Mental Methods Division 2
	Mental Methods Division 3
Skill Quests	
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	

5.NBT.7

Solve real-world problem by adding, subtracting, multiplying, and dividing decimals using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction or multiplication and division; relate the strategy to a written method and explain the reasoning used. a) Add and subtract decimals, including decimals with whole numbers, (whole numbers through the hundreds place and decimals through the hundredths place). b) Multiply whole numbers by decimals (whole numbers through the hundreds place and decimals through the hundredths place). c) Divide whole numbers by decimals and decimals by whole numbers less than one through the hundredths place using numbers whose division can be readily modeled)

Activities	
Number & Operations in Base Ten 5-7	Add Decimals 1
	Subtract Decimals 1
	Multiply Decimals 1
	Multiply Decimals: Area Model
	Divide Decimal by Whole Number
	Money Problems: Four Operations
Skill Quests	
Add & subtract with decimals	Adding decimals to hundredths, algorithm
	Subtracting decimals using mental strategies
	Subtracting decimals to hundredths, algorithm
Multiply whole numbers by decimals	Multiplying decimals & whole numbers
	Multiplicative relationships with decimals
Divide whole numbers & decimals	Divide whole numbers & decimals, mental strategies
	Dividing whole numbers & decimals, algorithm
Ebooks	
Grade 6, Series G: Fractions, Decimals and Percentages	Calculating

5.NF Number & Operations – Fractions

Use equivalent fractions as a strategy to add and subtract fractions

5.NF.1

Add and subtract fractions with unlike denominators (including mixed numbers and fractions greater than 1) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

Activities	
Number & Operations-Fractions	Add Unlike Fractions
	Add Unlike Mixed Numbers
	Subtract Unlike Fractions
	Subtract Unlike Mixed Numbers
Skill Quests	
Add & subtract fractions	Adding fractions & mixed numbers
	Subtracting fractions & mixed numbers
	Adding & subtracting fractions & mixed numbers
	Adding fractions, proper & improper
	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

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

5.NF.3

Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ 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

5.NF.4

Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

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
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

5.NF.5 Interpret multiplication as scaling (resizing).	
Activities	
Teacher directed	
Skill Quests	
Compare products & factors	Comparing products & factors
Effects of multiplying fractions	Interpreting multiplying fractions as scaling

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

5.NF.7 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 Fractions Visual Model
	Divide by a Unit Fraction
Skill Quests	
Divide unit fractions by whole numbers	Dividing unit fractions by whole numbers, models
Divide whole numbers by unit fractions	Dividing whole numbers by unit fractions, models
Divide unit fractions word problems	Word problems: divide unit fractions/whole numbers

5.MD Measurement & Data

Convert like measurement units within a given measurement system

5.MD.1 Know relative sizes of these U.S. customary measurement units: pounds, ounces, miles, yards, feet, inches, gallons, quarts, pints, cups, fluid ounces, hours, minutes, and seconds. Convert between pounds and ounces; miles and feet; yards, feet, and inches; gallons, quarts, pints, cups, and fluid ounces; hours, minutes, and seconds in solving multi-step, real-world problems.	
Activities	
Measurement & Data	Ounces and Pounds
	Inches, Feet, Yards
	Cups, Pints, Quarts, Gallons
	Customary Units of Length
	Customary Units of Weight 1
	Customary Units of Weight 2
	Customary Units of Capacity
	Time Conversions: Whole Numbers 1
	Time Conversions: Whole Numbers 2
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

5.MD.2 Display and interpret data in graphs (picture graphs, bar graphs, and line plots) to solve problems using numbers and operations for this grade, e.g., including U.S. customary units in fractions 1/2, 1/4, 1/8, or decimals.	
Activities	
Teacher directed	
Skill Quests	
Fraction problems: line plots	Represent & interpret measurements: line plots

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

5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.	
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

5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	
Activities	
Measurement & Data	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

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

5.G Geometry

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

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	
Teacher directed	
Skill Quests	
The coordinate plane	Introducing the coordinate plane
Ebooks	
Grade 5, Series F: Position	Coordinates
Grade 6, Series G: Position	Coordinates

5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	
Activities	
Teacher directed	
Skill Quests	
Graph in the first quadrant	Graphing in the first quadrant
Ebooks	
Grade 5, Series F: Position	Coordinates
Grade 6, Series G: Position	Coordinates

Classify two-dimensional figures into categories based on their properties

5.G.3 Identify and describe commonalities and differences between types of triangles based on angle measures (equiangular, right, acute, and obtuse triangles) and side lengths (isosceles, equilateral, and scalene triangles).	
Activities	
Geometry	Triangle - Tasters
Skill Quests	
Classify triangles	Classifying triangles by their sides & angles

5.G.4 Identify and describe commonalities and differences between types of quadrilaterals based on angle measures, side lengths, and the presence or absence of parallel and perpendicular lines, e.g., squares, rectangles, parallelograms, trapezoids, and rhombuses.	
Activities	
Geometry	Collect More Shapes
	Collect the Shapes 2
	Collect the Polygons
Skill Quests	
Identify different quadrilaterals	Sorting & naming quadrilaterals
Ebooks	
Grade 5, Series F: Geometry	2D Shapes

Grade 6

6.RP Ratios & Proportional Relationships

Understand ratio concepts and use ratio reasoning to solve problems

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

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

6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.	
Activities	
Ratios & Proportional Relationships	Rate Word Problems
	Ratios
	Equivalent Ratios
	Ratio Word Problems
	Average Speed
	Best Buy
	Percentage of an amount using fractions (<100%)
	Quantities to Percentages (no units)
	Solve Percent Equations
	Percentage Word Problems
	Customary Units of Length
	Customary Units of Capacity
	Customary Units of Weight 1
The Number System 6-8	Graphing from a Table of Values
	Graphing from a Table of Values 2
Skill Quests	
Ratio tables	Creating tables of equivalent ratios

	Plotting coordinates from ratio tables
Unit rate	Solving unit rate problems for given time periods
	Solving unit rate problems involving unit pricing
Percent of a quantity	Expressing rates as a percent
	Solving percent problems: finding the whole
Convert measurements using ratios	Converting measurement units using ratios
Ebooks	
Grade 8, Series I Curriculum Ready: Rates and Ratios	Ratios
	Equivalent ratios

6.NS The Number System

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

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

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	

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

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 Multiples	Factors
	The highest Common Factor (HCF)
	Multiples
	Lowest Common Multiple (LCM)
Grade 7, Series H: Special Numbers, Factors and Multiples 2	Factors
	The highest Common Factor (HCF)
	Multiples
	Lowest Common Multiple (LCM)

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

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	
Skill Quests	
Positive & negative numbers	Investigating & interpreting integers
Ebooks	
Grade 6, Series G: Reading and Understanding Whole Numbers	Types of numbers

6.NS.6 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.	
Activities	
The Number System 6-8	Integers on a Number Line
	Number Plane
	Ordered Pairs
	Coordinate Graphs
Skill Quests	
Opposites on the number line	Opposites on the number line
Graph in the 4 quadrants	Graphing coordinates in the 4 quadrants
	Graphing coordinates across the x- & y-axis
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

6.NS.7 Understand ordering and absolute value of rational numbers.	
Activities	
The Number System 6-8	Ordering Integers (Number Line)
	Comparing Integers
	Absolute Value
Skill Quests	
Compare rational numbers	Comparing integers
	Comparing rational numbers
Order rational numbers	Exploring the everyday language of integers
	Statements of order: rational numbers
Introduction to absolute value	Introducing absolute value
Absolute value vs order	Interpreting meanings of integers in context
Ebooks	
Grade 7, Series H Curriculum Ready: Directed Numbers	Directed numbers

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	
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

6.EE Expressions & Equations

Apply and extend previous understandings of arithmetic to algebraic expressions

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)
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

6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.	
Activities	
Expressions & Equations	Writing Algebraic Expressions
	Simple Substitution 1
Skill Quests	
Write expressions: numbers & variables	Writing expressions with numbers & variables
Parts of an expression	Identifying parts of an expression
Evaluate algebraic expressions	Evaluating algebraic expressions
	Evaluating expressions using order of operations
Ebooks	
Grade 7, Series H Curriculum Ready: Algebra Basics	Algebra basics

6.EE.3 Apply the properties of operations to generate equivalent expressions.	
Activities	
Expressions & Equations	Multiplication Properties

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

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	
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

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

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	
Teacher directed	
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

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
Skill Quests	
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

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	
Teacher directed	
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

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

6.G Geometry

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

6.G.1

Through composition into rectangles or decomposition into triangles, find the area of right triangles, other triangles, special quadrilaterals, and polygons; 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

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 = l 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

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	
Skill Quests	
Polygons in the coordinate plane	Drawing polygons in the coordinate plane

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.

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

6.SP Statistics & Probability

Develop understanding of statistical variability

6.SP.1

Develop statistical reasoning by using the GAISE model: a) Formulate Questions: Recognize and formulate a statistical question as one that anticipates variability and can be answered with quantitative data b) Collect Data: Design and use a plan to collect appropriate data to answer a statistical question. (GAISE Model, step 2) c) Analyze Data: Select appropriate graphical methods and numerical measures to analyze data by displaying variability within a group, comparing individual to individual, and comparing individual to group. (GAISE Model, step 3) d) Interpret Results: Draw logical conclusions from the data based on the original question. (GAISE Model, step 4).

Activities	
Teacher directed	
Skill Quests	
Statistical questions	Evaluating statistical questions
Conduct a statistical investigation	Conducting a statistical investigation
Compare graphical data methods	Comparing graphical data methods
Ebooks	
Grade 6, Series G: Data Representation	Collecting and analyzing data

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

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	
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

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-and-Whisker 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

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

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