

Mathletics

Alberta Program of Studies

Activities (Courses) and Skill Quests



Grades 4-6

July, 2026

Mathletics

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Grade 4

Number

Students apply place value to decimal numbers. 4.N.Decimal numbers		
Activities		Skills & Procedures
Decimals	Decimal Place Value	Identify the place value of each digit in a number, including tenths and hundredths.
	Decimals from Words to Digits 1	Express numbers, including decimal numbers, using words and numerals.
	Nearest Whole Number	Round numbers to various places, including tenths.
	Rounding Decimals 1	
	Comparing Decimals 1	Compare and order numbers, including decimal numbers.
	Decimal Order 1	- Compare and order numbers, including decimal numbers. - Express the relationship between two numbers, including decimal numbers, using $<$, $>$, or $=$.
	Who's got the Money?	Express a monetary value in cents as a monetary value in dollars, using decimal notation.
Skill Quests		Skills & Procedures
Numbers to 1 000 000	Reading & writing numbers to 1 000 000	- Express numbers, including decimal numbers, using words and numerals. - Identify the place value of each digit in a number, including tenths and hundredths. - Relate the values of adjacent places, including tenths and hundredths. - Determine the value of each digit in a number, including tenths and hundredths. - Express various compositions of a number, including decimal numbers, using place value. - Round numbers to various places, including tenths. - Compare and order numbers, including decimal numbers. - Express the relationship between two numbers, including decimal numbers, using $<$, $>$, or $=$.
	Place value	
	Expanded form	
	Expanded notation	
	Rounding numbers	
	Comparing & ordering numbers to 1 000 000	
Decimal tenths & hundredths	Understanding tenths	- Identify the place value of each digit in a number, including tenths and hundredths. - Express numbers, including decimal numbers, using words and numerals. - Express various compositions of a number, including decimal numbers, using place value. - Round numbers to various places, including tenths. - Compare and order numbers, including decimal numbers. - Express the relationship between two numbers, including decimal numbers, using $<$, $>$, or $=$. - Express a monetary value in cents as a monetary value in dollars, using decimal notation.
	Understanding hundredths	
	Rounding decimals	
	Comparing & ordering decimals	
	Using decimals to represent money	

Students add and subtract within 10 000, including decimal numbers to hundredths. 4.N.Add and subtract within 10 000		
Activities		Skills & Procedures
Addition & subtraction	Add 3-Digit Numbers	Add and subtract numbers, including decimal numbers, using standard algorithms.
	Add 3-Digit Numbers: Regroup	
	3-Digit Differences	

	3-Digit Differences: 1 Regrouping	
	3-Digit Differences: 2 Regroupings	
	3-Digit Differences with Zeros	
	Adding Colossal Columns	
	Subtracting Colossal Columns	
	Estimate Sums	Assess the reasonableness of a sum or difference, using estimation.
	Estimate Differences	
	Decimal Complements	Add and subtract numbers, including decimal numbers, using standard algorithms.
	Magic Symbols 2	
	Subtract Decimals 1	
	Estimate Decimal Differences 2	Assess the reasonableness of a sum or difference, using estimation.
 Skill Quests		Skills & Procedures
Add & subtract within 10 000	Adding up to 3-digit numbers	- Add and subtract numbers, including decimal numbers, using standard algorithms. - Assess the reasonableness of a sum or difference, using estimation. - Solve problems, using addition and subtraction, including problems involving money.
	Adding up to 4-digit numbers	
	Subtracting up to 3-digit numbers	
	Subtracting up to 4-digit numbers	
	Estimating sums & differences	
	Addition & subtraction word problems	
Add & subtract decimals to hundredths	Adding tenths, algorithm	- Add and subtract numbers, including decimal numbers, using standard algorithms. - Assess the reasonableness of a sum or difference, using estimation. - Solve problems, using addition and subtraction, including problems involving money.
	Subtracting tenths, algorithm	
	Estimating sums & differences up to hundredths	
	Decimal word problems, addition & subtraction	
	Money word problems	

Students explain properties of prime and composite numbers using multiplication and division.

4.N.Prime and composite numbers

 Activities		Skills & Procedures
Prime & composite numbers	Factors	Determine the factors of a number within 100.
	Find the Factor	
	Prime or Composite Numbers?	Describe a number as prime or composite.
	Multiples	Determine the first five multiples of a given number within 100.
	Greatest Common Factor	Recognize the greatest common factor (greatest common divisor) of two numbers within 100.
 Skill Quests		Skills & Procedures
Factors & multiples	Determining the factors of a number	- Determine the factors of a number within 100. - Recognize the greatest common factor (greatest common divisor) of two numbers within 100. - Determine the first five multiples of a given number within 100.
	Determining the multiples of a number	
Prime & composite numbers	Identifying prime & composite numbers	Describe a number as prime or composite.

Students multiply and divide natural numbers within 10 000.

4.N.Multiply and divide within 10 000

 Activities		Skills & Procedures
Multiplication & division	Multiplication Facts	Recall and apply multiplication number facts, with factors to 12, and related division number facts.

	Division Facts 1	- Recall and apply multiplication number facts, with factors to 12, and related division number facts. - Divide and express a quotient with or without a remainder.
	Multiplying by 10, 100, 1000	Investigate patterns in multiplication and division of natural numbers by 10, 100, and 1000.
	Dividing by 10, 100, 1000	- Investigate patterns in multiplication and division of natural numbers by 10, 100, and 1000. - Divide and express a quotient with or without a remainder.
	Multiply Multiples of 10	Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using personal strategies.
	Grid Methods 1	
	Multiply: 2-Digit by 1-Digit	Examine standard algorithms for multiplication and division.
	Divide: 1-Digit Divisor 1	- Examine standard algorithms for multiplication and division. - Divide and express a quotient with or without a remainder.
	Multiply: 1-Digit Number	Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using standard algorithms.
	Divide: 1-Digit Divisor 2	- Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using standard algorithms. - Divide and express a quotient with or without a remainder.
	Divide: 1-Digit Divisor, Remainder	- Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using standard algorithms. - Divide and express a quotient with or without a remainder.
	Estimate Quotients	- Investigate strategies for estimation of products and quotients. - Assess the reasonableness of a product or quotient, using estimation.
 Skill Quests		Skills & Procedures
Multiplication & division facts	Multiplying by 2	- Recall and apply multiplication number facts, with factors to 12, and related division number facts. - Solve problems, using multiplication and division.
	Multiplying by 3	
	Multiplying by 4	
	Multiplying by 5	
	Multiplying by 6	
	Multiplying by 7	
	Multiplying by 8	
	Multiplying by 9	
	Multiplying by 10	
	Multiplying by 11	
	Multiplying by 12	
	Multiplication facts to 12 x 12	
	Dividing by 2	
	Dividing by 3	
	Dividing by 4	
	Dividing by 5	
	Dividing by 6	
	Dividing by 7	
	Dividing by 8	
	Dividing by 9	
	Dividing by 10	
	Dividing by 11	
	Dividing by 12	
Multiply & divide by 10, 100 & 1000	Multiplying by 10, 100 & 1000	Investigate patterns in multiplication and division of natural numbers by 10, 100, and 1000.
	Dividing by 10 & 100	
Multiplication strategies	Multiplying using the distributive property	Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using personal strategies.
	Multiplying using an area model	
	Multiplying using factoring	

	Multiplying using doubling	
Division strategies	Dividing using halving	• Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using personal strategies. • Divide and express a quotient with or without a remainder.
	Dividing using base 10 blocks	
	Dividing using place value	
	Dividing using an area model	
	Dividing with remainders	
Multiplication algorithms	Multiplying using partial products	• Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using standard algorithms.
	Multiplying using the standard algorithm	
Division algorithms	Dividing using the standard algorithm	• Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using standard algorithms.
	Dividing using short division	
Division word problems	Division word problems	• Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using personal strategies. • Multiply and divide 3-digit natural numbers by 1-digit natural numbers, using standard algorithms. • Divide and express a quotient with or without a remainder. • Solve problems, using multiplication and division.

Students apply equivalence to the interpretation of fractions.

4.N.Equivalence of fractions

 Activities		Skills & Procedures
Fractions	Selecting Equivalent Fractions	• Model equivalent fractions by partitioning a whole in multiple ways. • Determine fractions equivalent to a given fraction.
	Equivalent Fraction Wall 2	
	Equivalent Fractions	• Determine fractions equivalent to a given fraction.
	Equivalent Fractions on a Number Line 1	• Relate the position of equivalent fractions on the number line.
	Simplify Fractions	• Simplify a given fraction by dividing the numerator and denominator by a common factor. • Express a fraction in simplest form. • Compare and order fractions.
	Comparing Fractions 1	
	Comparing Fractions 2	
	Ordering Fractions 1	
 Skill Quests		Skills & Procedures
Fractions	Determining equivalent fractions using models	• Determine fractions equivalent to a given fraction. • Relate the position of equivalent fractions on the number line. • Simplify a given fraction by dividing the numerator and denominator by a common factor. • Express a fraction in simplest form. • Compare and order fractions.
	Equivalent fractions on the number line	
	Determining equivalent fractions, multiplication	
	Simplifying fractions	
	Comparing & ordering fractions	
Fraction & decimal equivalence	Fraction & decimal equivalence	• Relate fractions and equivalent decimal numbers to their positions on the number line. • Express fractions as decimal numbers and vice versa, limited to denominators that are 10 or 100.

Students interpret percentages. 4.N.Percentages		
Activities		Skills & Procedures
Percentages	Modelling Percentages	- Investigate percentage in familiar situations. - Express the fraction, decimal, and percentage representations of the same part-whole relationship.
	Percentages to Fractions (with and without simplification)	Express the fraction, decimal, and percentage representations of the same part-whole relationship.
	Common Fractions as Percentages	
	Percents and Decimals	
	Mixed decimal, percentage and fraction conversions	
	Match Decimals and Percentages	
Skill Quests		Skills & Procedures
Investigate percentages	Comparing percentages	- Compare percentages within 100%. - Express the fraction, decimal, and percentage representations of the same part-whole relationship.
	Fraction & percentage equivalence	
	Decimal & percentage equivalence	
	Fraction, decimal & percentage equivalence	

Algebra

Students represent and apply equality in multiple ways. 4.A.Equality		
Activities		Skills & Procedures
Equality	Composing Numbers to 20	Investigate preservation of equality, using a balance model.
	Composing Additions to 20	
	Problems: Times and Divide	- Write equations involving one operation to represent a situation. - Solve problems, using equations, limited to equations with one operation.
	Equivalent Facts: Multiply	Apply preservation of equality to determine the unknown value in an equation, limited to equations with one operation.
	Missing Values	
	Find the Missing Number 1	
Skill Quests		Skills & Procedures
Order of operations	Order of operations	Evaluate expressions according to the order of operations.
Write & solve equations	Writing & solving 1-step equations	- Write equations involving one operation to represent a situation. - Apply preservation of equality to determine the unknown value in an equation, limited to equations with one operation. - Solve problems, using equations, limited to equations with one operation.
	Solving 1-step equations	

Geometry

Students analyze and explain geometric properties. 4.G.Geometric properties		
Activities		Skills & Procedures
Geometry	What Line am I?	Identify relationships between the sides of a polygon, including parallel, equal length, or perpendicular, by measuring.
	Triangles: Acute, Right, Obtuse	Classify triangles as right, acute, or obtuse, using geometric properties related to angles.

	Triangle - Tasters	- Describe triangles according to side length. - Classify triangles as right, acute, or obtuse, using geometric properties related to angles.
	Properties of Quadrilaterals	Classify quadrilaterals in a hierarchy according to geometric properties.
	Transformations	Verify geometric properties of polygons by translating, rotating, or reflecting, using hands-on materials or digital applications.
 Skill Quests		Skills & Procedures
Polygons	Properties of quadrilaterals	- Identify relationships between the sides of a polygon, including parallel, equal length, or perpendicular, by measuring. - Identify relationships between angles at vertices of a polygon, including equal, supplementary, and complementary, by measuring. - Describe triangles according to side length. - Classify triangles as right, acute, or obtuse, using geometric properties related to angles. - Classify quadrilaterals in a hierarchy according to geometric properties.
	Angles in polygons	
	Classifying triangles	
	Classifying quadrilaterals	
Three-dimensional shapes	Faces & edges	Identify relationships between the faces of three-dimensional models of prisms, including parallel or perpendicular, by measuring.
Transformations	Translations & reflections	Verify geometric properties of polygons by translating, rotating, or reflecting, using hands-on materials or digital applications.

Measurement

Students interpret and express area. 4.M.Area		
 Activities		Skills & Procedures
Measurement	Bigger or Smaller Shape	- Measure area with non-standard units by tiling. - Visualize and model the area of various rectangles as two-dimensional arrays of square shaped units.
	Equal Areas	
	Area of Shapes	- Measure area with standard units by tiling with square centimetres. - Visualize and model the area of various rectangles as two-dimensional arrays of square shaped units. - Determine the area of a rectangle, using multiplication.
 Skill Quests		Skills & Procedures
Area	Measuring area, non-standard units	- Measure area with non-standard units by tiling. - Measure area with standard units by tiling with square centimetres. - Visualize and model the area of various rectangles as two-dimensional arrays of square shaped units. - Determine the area of a rectangle, using multiplication. - Identify referents for a square centimetre.
	Measuring area, standard units	
	Area of a rectangle, multiplication	
	Introducing the square centimetre	

Students determine and express angles using standard units. 4.M.Angles		
 Activities		Skills & Procedures
Measurement	What Type of Angle?	Describe an angle as acute, right, obtuse, or straight.
	Measuring Angles	Measure an angle with degrees, using a protractor.
	Estimating Angles	Estimate angles by comparing to benchmarks of 45°, 90°, 180°, 270°, and 360°.
 Skill Quests		Skills & Procedures
Angles	Measuring angles using a protractor	- Measure an angle with degrees, using a protractor. - Describe an angle as acute, right, obtuse, or straight. - Relate angles of 90°, 180°, 270°, and 360° to fractions of a circle.
	Classifying angles	
	Relating angles to fractions of a circle	

Patterns

Students interpret and explain arithmetic and geometric sequences. 4.P.Sequences		
Activities		Skills & Procedures
Sequences	Increasing Patterns	- Investigate increasing sequences, including the Fibonacci sequence, in multiple representations. - Create and explain increasing or decreasing sequences, including numerical sequences.
	Decreasing Patterns	Create and explain increasing or decreasing sequences, including numerical sequences.
	Pick the Next Number	
	Describing Patterns	
	Table of Values	- Investigate increasing sequences, including the Fibonacci sequence, in multiple representations. - Create and explain increasing or decreasing sequences, including numerical sequences.
Skill Quests		Skills & Procedures
Arithmetic & geometric sequences	Increasing numerical sequences	- Investigate increasing sequences, including the Fibonacci sequence, in multiple representations. - Create and explain increasing or decreasing sequences, including numerical sequences. - Express a numerical sequence to represent a concrete or pictorial sequence. - Recognize arithmetic and geometric sequences. - Describe the initial term and the constant change in an arithmetic sequence. - Express the first five terms of an arithmetic sequence related to a given initial term and constant change. - Describe the initial term and the constant change in a geometric sequence. - Express the first five terms of a geometric sequence related to a given initial term and constant change.
	Decreasing numerical sequences	
	Creating a table to represent a pictorial sequence	
	Increasing visual sequences	
	Geometric sequences	
	Describing sequences	

Time

Students communicate duration with standard units of time. 4.T.Time		
Activities		Skills & Procedures
Time	Elapsed Time	Determine duration in minutes, using a clock.
	Time Mentals	Apply addition and subtraction strategies to the calculation of duration.
	What Time Will it Be?	
	Using Timetables	- Apply addition and subtraction strategies to the calculation of duration. - Solve problems involving duration.
	Time Conversions: Whole Numbers 1	Convert between hours, minutes, and seconds.
Skill Quests		Skills & Procedures
Time	Relating time to fractions	- Express time of day, using fractions. - Determine duration in minutes, using a clock. - Apply addition and subtraction strategies to the calculation of duration. - Convert between hours, minutes, and seconds. - Solve problems involving duration.
	Determining duration using a clock	
	Calculating duration using addition & subtraction	
	Converting units of time	

Statistics

Students evaluate the use of scale in graphical representations of data.

4.S.Data

Activities		Skills & Procedures
Data & graphs	Picture Graphs: with scale & half symbols	Interpret data represented in various graphs.
	Making Picture Graphs: With Scale	Represent data in a graph, using many-to-one correspondence.
	Bar Graphs 1	Interpret data represented in various graphs.
	Reading from a Column Graph	
	Dot Plots	
Skill Quests		Skills & Procedures
Graphs with many-to-one correspondence	Bar graphs	Represent data in a graph, using many-to-one correspondence.
	Pictographs	Interpret data represented in various graphs.

Grade 5

Number

Students analyze patterns in place value.

5.N.Patterns in place value

Activities		Skills & Procedures
Place value	Numbers from Words to Digits 2	Express numbers within 10 000 000, including decimal numbers to thousandths, using words and numerals.
	Expanded Notation	
	Understanding Place Value 3	
	Decimals from Words to Digits 2	
	Decimals on a Number Line	Relate a decimal number to its position on the number line.
	Decimal Order 2	- Compare and order numbers, including decimal numbers. - Express the relationship between two numbers, including decimal numbers, using $<$, $>$, or $=$.
	Rounding Numbers	
	Nearest Whole Number	Round numbers, including decimal numbers, to various places according to context.
	Rounding Decimals 1	
Skill Quests		Skills & Procedures
Numbers to 10 000 000	Reading & writing numbers to 10 000 000	- Express numbers within 10 000 000, including decimal numbers to thousandths, using words and numerals. - Compare and order numbers, including decimal numbers. - Express the relationship between two numbers, including decimal numbers, using $<$, $>$, or $=$. - Round numbers, including decimal numbers, to various places according to context.
	Place value	
	Comparing & ordering numbers	
	Rounding numbers	
Decimals to thousandths	Understanding thousandths	- Express numbers within 10 000 000, including decimal numbers to thousandths, using words and numerals. - Relate a decimal number to its position on the number line. - Compare and order numbers, including decimal numbers. - Express the relationship between two numbers, including decimal numbers, using $<$, $>$, or $=$. - Round numbers, including decimal numbers, to various places according to context.
	Expanded form	
	Expanded notation	
	Decimals on the number line	
	Comparing & ordering decimals	
	Rounding decimals	

Students add and subtract within 1 000 000, including decimal numbers to thousandths, using standard algorithms.

5.N.Add and subtract within 1 000 000

Activities		Skills & Procedures
Addition & subtraction	Add Multi-Digit Numbers 2	Add and subtract numbers, including decimal numbers, using standard algorithms.
	Subtracting Colossal Columns	
	Estimation: Add and Subtract	Assess the reasonableness of a sum or difference, using estimation.
	Adding Decimals	Add and subtract numbers, including decimal numbers, using standard algorithms.
	Subtracting Decimals	
	Adding and Subtracting Decimals	
	Estimate Decimal Sums 1	Assess the reasonableness of a sum or difference, using estimation.
	Estimate Decimal Differences 1	
	Estimate Decimal Differences 2	

Skill Quests		Skills & Procedures
Add & subtract within 1 000 000	Adding up to 5-digit numbers	- Add and subtract numbers, including decimal numbers, using standard algorithms. - Assess the reasonableness of a sum or difference, using estimation. - Solve problems, using addition and subtraction, including problems involving money.
	Subtracting up to 5-digit numbers	
	Addition & subtraction word problems	
	Estimating sums & differences	
Add & subtract decimals to thousandths	Adding decimals to thousandths	- Add and subtract numbers, including decimal numbers, using standard algorithms. - Assess the reasonableness of a sum or difference, using estimation. - Solve problems, using addition and subtraction, including problems involving money.
	Subtracting decimals to thousandths	
	Estimating sums & differences to thousandths	
	Adding & subtracting decimals, word problems	

Students determine divisibility of natural numbers.		
5.N.Divisibility		
Activities		Skills & Procedures
Multiplication & division	Divisibility Tests (2, 5, 10)	- Investigate divisibility by natural numbers from 0 to 10. - Generalize divisibility tests for 2, 3, and 5.
	Divisibility Tests (3, 4, 9)	
	Divisibility - Tests	Investigate divisibility by natural numbers from 0 to 10.
	Tests of Divisibility 1	
	Factors	Determine factors of natural numbers, using divisibility tests.
Skill Quests		Skills & Procedures
Divisibility	Divisibility tests for 2	- Investigate divisibility by natural numbers from 0 to 10. - Generalize divisibility tests for 2, 3, and 5. - Determine factors of natural numbers, using divisibility tests.
	Divisibility tests for 3	
	Divisibility tests for 4	
	Divisibility tests for 5	
	Divisibility tests for 6	
	Divisibility tests for 8	
	Divisibility tests for 9	
	Divisibility tests for 10	
	Determining factors using divisibility tests	

Students multiply and divide natural numbers within 100 000, including with standard algorithms.		
5.N.Multiply and divide within 100 000		
Activities		Skills & Procedures
Multiplication & division	Multiply: 1-Digit Number	Multiply up to 3-digit by 2-digit natural numbers, using standard algorithms.
	Multiply: 1-Digit Number, Regroup	
	Long Multiplication	
	Multiply: 2-Digit Number, Regroup	
	Divide: 1-Digit Divisor 2	Divide 3-digit by 1-digit natural numbers, using standard algorithms.
	Divide: 1-Digit Divisor, Remainder	
	Estimate Quotients	Assess the reasonableness of a product or quotient, using estimation.
Skill Quests		Skills & Procedures
Multiplication & division within 100 000	Multiplying by 2-digit numbers, area model	- Multiply up to 3-digit by 2-digit natural numbers, using standard algorithms. - Divide 3-digit by 1-digit natural numbers, using standard algorithms. - Express a quotient with or without a remainder according to context.
	Multiplying by 1-digit numbers, algorithms	

	Multiplying by 2-digit numbers, algorithms	- Assess the reasonableness of a product or quotient, using estimation. - Solve problems, using multiplication and division of natural numbers.
	Dividing using the standard algorithm	
	Dividing using short division	
	Estimating products	
	Multiplication & division word problems	

Students interpret improper fractions.

5.N.Improper fractions

Activities		Skills & Procedures
Fractions, decimals & percentages	Identifying Fractions on a Number Line	Relate fractions, improper fractions, and mixed numbers to their positions on the number line.
	Identifying Fractions Beyond 1	
	Mixed and Improper Fractions on a Number Line	
	What Fraction is Shaded?	- Model fractions, including improper fractions and mixed numbers, using quantities, lengths, and areas. - Express improper fractions and mixed numbers symbolically.
	Mixed to Improper	Express an improper fraction as a mixed number and vice versa.
	Improper to Mixed	
	Converting Mixed and Improper	
Skill Quests		Skills & Procedures
Fractions greater than 1	Counting with fractions	- Relate fractions, improper fractions, and mixed numbers to their positions on the number line. - Count beyond 1, using fractions with the same denominator. - Model fractions, including improper fractions and mixed numbers, using quantities, lengths, and areas. - Express improper fractions and mixed numbers symbolically. - Express an improper fraction as a mixed number and vice versa. - Compare fractions, including improper fractions and mixed numbers, to benchmarks of 0, $\frac{1}{2}$, and 1.
	Introducing mixed numbers	
	Introducing improper fractions	
	Converting improper fractions & mixed numbers	
	Comparing fractions	

Students add and subtract fractions with common denominators.

5.N.Add and subtract fractions

Activities		Skills & Procedures
Fractions, decimals & percentages	Add Subtract Fractions 1	Add and subtract fractions with common denominators within 100, including improper fractions and mixed numbers.
	Add: Common Denominator	
	Subtract: Common Denominator	
	Subtract Like Mixed Numbers	
Skill Quests		Skills & Procedures
Add & subtract fractions	Decomposing fractions	- Investigate the composition and decomposition of a quantity within 1, using unit fractions. - Express the composition or decomposition of fractions with common denominators as a sum or difference. - Add and subtract fractions with common denominators within 100, including improper fractions and mixed numbers. - Solve problems requiring addition and subtraction of fractions with common denominators, including improper fractions and mixed numbers.
	Adding unit fractions using models	
	Adding fractions using models	
	Adding proper fractions	
	Adding fractions & whole numbers	
	Adding mixed numbers	
	Adding improper fractions	
	Subtracting fractions using models	

	Subtracting proper fractions	
	Subtracting mixed numbers	
	Subtracting improper fractions	

Students employ ratios to represent relationships between quantities.

5.N.Ratios

Activities		Skills & Procedures
Fractions, decimals & percentages	Mixed decimal, percentage and fraction conversions	Express, symbolically, the same part-whole relationship as a ratio, fraction, decimal, and percentage.
	Match Decimals and Percentages	
Skill Quests		Skills & Procedures
Ratios	Understanding ratios	- Express part-part ratios and part-whole ratios of the same whole to describe various situations. - Express, symbolically, the same part-whole relationship as a ratio, fraction, decimal, and percentage.
	Expressing ratios as fractions & percentages	

Algebra

Students interpret numerical and algebraic expressions.

5.A.Numerical and algebraic expressions

Activities		Skills & Procedures
Expressions & equations	Writing Algebraic Expressions	Write an algebraic expression involving one or two terms to describe an unknown value.
	Simple Substitution 2	Evaluate an algebraic expression by substituting a given number for the variable.
	Simple Substitution 1	
	Write an Equation: Word Problems	- Write equations involving one or two operations to represent a situation. - Solve problems, using equations, limited to equations with one or two operations.
	Missing Numbers: Variables	Apply inverse operations to solve an equation, limited to equations with one or two operations.
	Solve Equations: Multiply, Divide 1	
Skill Quests		Skills & Procedures
Algebraic expressions	Equivalent algebraic expressions	- Relate repeated addition of a variable to the product of a number and a variable. - Express the product of a number and a variable, using a coefficient. - Write an algebraic expression involving one or two terms to describe an unknown value. - Evaluate an algebraic expression by substituting a given number for the variable.
	Evaluating algebraic expressions	
	Writing algebraic expressions	
Equations	Writing 1-step equations	- Write equations involving one or two operations to represent a situation. - Apply inverse operations to solve an equation, limited to equations with one or two operations. - Solve problems, using equations, limited to equations with one or two operations.
	Writing & solving equations	
	Solving 1-step equations	
	Solving 2-step equations	

Geometry

Students investigate symmetry as a geometric property.

5.G.Symmetry

Activities	Skills & Procedures
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Geometry	Symmetry	Investigate symmetry in familiar 2-D and 3-D shapes, using hands-on materials or digital applications.
	Symmetry or Not?	
	Rotational Symmetry	Describe the order of rotation symmetry of a 2-D shape.
Skill Quests		Skills & Procedures
Symmetry	Line symmetry	- Investigate symmetry in familiar 2-D and 3-D shapes, using hands-on materials or digital applications. - Show the line of symmetry of a 2-D shape. - Describe the order of rotation symmetry of a 2-D shape.
	Rotational symmetry	

Coordinate Geometry

Students relate location to position on a grid. 5.CG.Location and position		
Activities		Skills & Procedures
Geometry	Following Directions	Describe the location of a point on a coordinate grid in relation to the location of another point, using positional language.
	Coordinate Meeting Place	Locate a point on a coordinate grid, given the coordinates of the point.
	Map Coordinates	Describe the location of a point on a coordinate grid, using coordinates.
	Coordinate Graphs: 1st Quadrant	
Skill Quests		Skills & Procedures
Coordinate grids	Locating & plotting points	- Locate a point on a coordinate grid, given the coordinates of the point. - Describe the location of a point on a coordinate grid, using coordinates. - Model a polygon on a coordinate grid, using coordinates to indicate the vertices. - Describe the location of the vertices of a polygon on a coordinate grid, using coordinates.
	Modelling polygons	

Measurement

Students estimate and calculate area using standard units. 5.M.Area		
Activities		Skills & Procedures
Perimeter & area	Area: Squares and Rectangles	Express the area of a rectangle, using standard units, given the lengths of its sides.
	Perimeter Detectives 1	Solve problems involving perimeter and area of rectangles.
Skill Quests		Skills & Procedures
Area & perimeter	Area of a rectangle	- Express the area of a rectangle, using standard units, given the lengths of its sides. - Compare the perimeters of various rectangles with the same area. - Solve problems involving perimeter and area of rectangles.
	Area & perimeter	

Patterns

Students relate terms to position within an arithmetic sequence. 5.P.Sequences	
Activities	Skills & Procedures

Sequences	Table of Values	- Represent one-to-one correspondence between positions and terms of an arithmetic sequence in a table of values and on a coordinate grid. - Determine the missing term in an arithmetic sequence that corresponds to a given position.
👑 Skill Quests		Skills & Procedures
Arithmetic sequences	Identifying the rule of an arithmetic sequence	- Represent one-to-one correspondence between positions and terms of an arithmetic sequence in a table of values and on a coordinate grid. - Write an algebraic expression, limited to one operation, that represents correspondence between positions and terms of an arithmetic sequence.

Statistics

Students analyze frequency in categorical data. 5.S.Data		
📋 Activities		Skills & Procedures
Data	Tally Charts	- Examine categorized data in tables and graphs. - Determine frequency for each category of a set of data by counting individual data points. - Organize counts of categorized data in a frequency table.
	Mode	Identify the mode in various representations of data.
	Mode from Frequency Table	
	Mode from Stem and Leaf Plot	
	Bar Graphs 1	Create various representations of data, including with technology, to interpret frequency.
	Dot Plots	
	Stem and Leaf Plots: Concept	
👑 Skill Quests		Skills & Procedures
Data & graphs	Recording category data in a table	- Determine frequency for each category of a set of data by counting individual data points. - Identify the mode in various representations of data. - Recognize data sets with no mode, one mode, or multiple modes. - Organize counts of categorized data in a frequency table. - Create various representations of data, including with technology, to interpret frequency.
	Identifying the mode	
	Bar graphs	
	Dot plots	
	Stem-and-leaf plots	

Grade 6

Number

Students investigate magnitude with positive and negative numbers.

6.N.Positive and negative numbers

Activities		Skills & Procedures
Integers	Integers on a Number Line	Relate magnitude to the distance from zero on the number line.
	Ordering Integers (Number Line)	
	Comparing Integers	- Compare and order positive and negative numbers. - Express the relationship between two numbers, including positive and negative numbers, using $<$, $>$, or $=$.
	Negative or Positive?	- Model the sum of two positive integers. - Model the sum of two negative integers. - Model the sum of a positive and negative integer as the sum of zero and another integer.
Skill Quests		Skills & Procedures
Positive & negative numbers	Positive & negative numbers in context	- Identify negative numbers in familiar contexts, including contexts that use vertical or horizontal models of the number line. - Express positive and negative numbers symbolically, in context. - Relate positive and negative numbers, including additive inverses, to their positions on horizontal and vertical models of the number line. - Compare and order positive and negative numbers. - Express the relationship between two numbers, including positive and negative numbers, using $<$, $>$, or $=$.
	Positive & negative numbers on the number line	
	Comparing & ordering positive & negative numbers	
Add integers	Investigating additive inverse	- Investigate addition of an integer and its additive inverse. - Express zero as the sum of integers in multiple ways. - Model the sum of a positive and negative integer as the sum of zero and another integer.
	Adding integers using models	

Students solve problems using standard algorithms for addition and subtraction.

6.N.Addition and subtraction algorithms

Activities		Skills & Procedures
Addition & subtraction	Add Multi-Digit Numbers 2	Solve problems in various contexts, using standard algorithms for addition and subtraction.
	Subtracting Colossal Columns	
	Adding Decimals	
	Subtracting Decimals	
	Adding and Subtracting Decimals	
Skill Quests		Skills & Procedures
Addition & subtraction problems	Addition & subtraction problems	Solve problems in various contexts, using standard algorithms for addition and subtraction.

Students analyze numbers using prime factorization and exponentiation.

6.N.Prime factors and exponents

Activities		Skills & Procedures
Prime factors & exponents	Product of Prime Factors	Express the prime factorization of a composite number.
	Prime Factoring	
	Prime Factorization with Exponent	Express the prime factorization of a composite number.

		Express the product of identical factors as a power, including within a prime factorization.
	Greatest Common Factor	Determine common factors for two natural numbers, using prime factorization.
	Tests of Divisibility 1	- Determine divisibility of a natural number from its prime factorization. - Describe the divisibility of numbers represented in various forms.
	Exponents	Express the product of identical factors as a power, including within a prime factorization.
	Exponent Notation	
👑 Skill Quests		Skills & Procedures
Prime factorization	Prime factorization	- Express the prime factorization of a composite number. - Determine common factors for two natural numbers, using prime factorization. - Express the product of identical factors as a power, including within a prime factorization.
Exponential form	Understanding exponential form	- Identify the base and exponent in a power. - Express the product of identical factors as a power, including within a prime factorization.

Students apply standard algorithms to multiplication and division of decimal and natural numbers.

6.N.Multiplication and division algorithms

📋 Activities		Skills & Procedures
Multiplication & division	Long Multiplication	Multiply and divide up to 3-digit natural or decimal numbers by 2-digit natural numbers, using standard algorithms.
	Multiply: 2-Digit Number, Regroup	
	Divide: 2-Digit Divisor, Remainder	
	Multiply Decimal by Whole Number	
	Divide Decimal by Whole Number	
👑 Skill Quests		Skills & Procedures
Multiply & divide natural numbers	Multiplying natural numbers by 2-digit numbers	Multiply and divide up to 3-digit natural or decimal numbers by 2-digit natural numbers, using standard algorithms.
	Dividing natural numbers by 2-digit numbers	
Multiply & divide decimals	Multiplying decimals by 1-digit numbers	- Multiply and divide up to 3-digit natural or decimal numbers by 2-digit natural numbers, using standard algorithms. - Assess the reasonableness of a product or quotient, using estimation. - Solve problems, using multiplication and division, including problems involving money.
	Dividing decimals by 1-digit numbers	
	Multiplying decimals word problems	

Students relate fractions to quotients.

6.N.Fractions to quotients

📋 Activities		Skills & Procedures
Fractions	Partition into Equal Parts	Describe an equal-sharing situation, using a fraction.
	Fraction to Terminating Decimal	Convert a quotient from fraction to decimal form, using division.
	Fractions to Decimals 2	
👑 Skill Quests		Skills & Procedures
Relate fractions to quotients	Expressing a fraction as division	Express a fraction as a division statement and vice versa.
	Converting fractions to decimals	Convert a quotient from fraction to decimal form, using division.

Students add and subtract fractions with denominators within 100.

6.N.Add and subtract fractions

Activities		Skills & Procedures
Fractions	Add: No Common Denominator	- Determine the factor that relates one denominator to another. - Express two fractions with common denominators. - Add and subtract fractions.
	Subtract: No Common Denominator	
	Add Unlike Mixed Numbers	
Skill Quests		Skills & Procedures
Add & subtract fractions	Finding a common denominator	- Determine the factor that relates one denominator to another. - Express two fractions with common denominators. - Add and subtract fractions. - Solve problems involving addition and subtraction of fractions.
	Adding fractions	
	Subtracting fractions	
	Adding mixed numbers	
	Subtracting mixed numbers	
	Adding & subtracting fractions word problems	

Students interpret the multiplication of natural numbers by fractions.

6.N.Multiply by fractions

Activities		Skills & Procedures
Fractions	Multiply Fraction by Whole Number	Multiply a natural number by a fraction.
	Model Fractions to Multiply	
	Multiply: Whole Number and Fraction	
	Fraction Fruit Sets 1	- Model a fraction of a natural number. - Solve problems, using multiplication of a fraction and a natural number.
	Unit Fractions	- Multiply a fraction by a natural number. - Solve problems, using multiplication of a fraction and a natural number.
	Fraction of an Amount	
Skill Quests		Skills & Procedures
Multiply fractions & natural numbers	Multiplying unit fractions & natural numbers	- Relate multiplication of a natural number by a fraction to repeated addition of the fraction. - Multiply a natural number by a fraction. - Relate multiplication by a unit fraction to division. - Multiply a natural number by a unit fraction. - Model a fraction of a natural number. - Multiply a fraction by a natural number. - Solve problems, using multiplication of a fraction and a natural number.
	Multiplying fractions & natural numbers	
	Modelling a fraction of a number	

Students apply equivalence to the interpretation of ratios and rates.

6.N.Ratios and rates

Activities		Skills & Procedures
Ratios & rates	Ratios	Determine an equivalent ratio, using a proportion.
	Solve Proportions	
	Rates	Express a unit rate to represent a given rate, including unit price and speed.
	Average Speed	
	Calculating Percentages (Mental)	Determine a percent of a number, limited to percentages within 100%.

	Percentage of an amount using Fractions (<100%)	Solve problems involving ratios, rates, and proportions.
	Solve Percent Equations	
	Word Problems: Ratio	
	Rates Word Problems	
	Best Buy	
👑 Skill Quests		Skills & Procedures
Ratios & rates	Equivalent ratios	- Determine whether two ratios are equivalent. - Determine an equivalent ratio, using a proportion. - Express a unit rate to represent a given rate, including unit price and speed. - Solve problems involving ratios, rates, and proportions.
	Unit rate	
	Unit price & best buy	
	Solving problems using bar models	
Percent of a number	Calculating a percent of a number	Determine a percent of a number, limited to percentages within 100%.

Algebra

Students analyze expressions and solve algebraic equations. 6.A.Algebraic equations		
📋 Activities		Skills & Procedures
Expressions & equations	Order of Operations 1 (BEDMAS)	Evaluate numerical expressions involving operations in parentheses and powers according to the order of operations.
	Missing Numbers: Variables	Solve equations, limited to equations with one or two operations.
	Solve Equations: Multiply, Divide 1	
	Write an Equation: Word Problems	Solve problems, using equations, limited to equations with one or two operations.
👑 Skill Quests		Skills & Procedures
Order of operations	Order of operations	Evaluate numerical expressions involving operations in parentheses and powers according to the order of operations.
Algebraic expressions	Combining like terms	- Investigate like terms by modelling an algebraic expression. - Simplify algebraic expressions by combining like terms.
Solve equations	Solving 1-step equations	- Solve equations, limited to equations with one or two operations. - Verify the solution to an equation by evaluating expressions on each side of the equation.
	Solving 2-step equations	
	Verifying solutions	

Geometry

Students analyze shapes through symmetry and congruence 6.G.Symmetry and congruence		
📋 Activities		Skills & Procedures
Geometry	Congruent Figures (Grid)	Describe symmetrical shapes as congruent.
👑 Skill Quests		Skills & Procedures
Tessellations	Tessellations	- Describe the symmetry modelled in a tessellation. - Investigate tessellations found in objects, art, or architecture.
Congruence	Congruence	- Demonstrate congruence between two shapes in any orientation by superimposing, using hands-on materials or digital applications. - Describe symmetrical shapes as congruent. - Visualize and describe a combination of two transformations that relate symmetrical shapes.

Coordinate Geometry

Students explain location and movement in relation to position in the Cartesian plane. 6.CG.Cartesian plane		
Activities		Skills & Procedures
Geometry	Ordered Pairs	Describe the location of a point in the Cartesian plane, using coordinates.
	Transformations: Coordinate Plane	- Create an image of a polygon in the Cartesian plane by translating the polygon. - Create an image of a polygon in the Cartesian plane by reflecting the polygon over the x-axis or y-axis. - Relate the coordinates of a polygon and its image after translation, reflection, or rotation in the Cartesian plane.
	Rotations: Coordinate Plane	Describe the angle and direction of a given rotation, limited to rotations of 90°, 180°, or 270° about a vertex.
	Horizontal and Vertical Change	Relate the coordinates of a polygon and its image after translation, reflection, or rotation in the Cartesian plane.
Skill Quests		Skills & Procedures
The Cartesian plane	Understanding the Cartesian plane	- Relate the axes of the Cartesian plane to intersecting horizontal and vertical representations of the number line. - Locate a point in the Cartesian plane, given the coordinates of the point. - Describe the location of a point in the Cartesian plane, using coordinates. - Model a polygon in the Cartesian plane, using coordinates to indicate the vertices. - Create an image of a polygon in the Cartesian plane by translating the polygon. - Describe the horizontal and vertical components of a given translation. - Create an image of a polygon in the Cartesian plane by reflecting the polygon over the x-axis or y-axis. - Describe the line of reflection of a given reflection, limited to reflection over the x-axis or y-axis. - Create an image of a polygon in the Cartesian plane by rotating the polygon 90°, 180°, or 270° about one of its vertices, clockwise or counter-clockwise. - Describe the angle and direction of a given rotation, limited to rotations of 90°, 180°, or 270° about a vertex.
	Locating & describing points	
	Transformations	

Measurement

Students analyze areas of parallelograms and triangles. 6.M.Area		
Activities		Skills & Procedures
Area	Area: Triangles	Determine the area of a triangle, including various triangles with the same base and height.
	Area: Parallelograms (Metric)	Determine the area of a parallelogram, using multiplication.
	Area: Composite Shapes	Determine the area of composite shapes, using the areas of triangles and parallelograms.
Skill Quests		Skills & Procedures
Area	Area of a parallelogram	- Rearrange the area of a parallelogram to form a rectangular area, using hands-on materials or digital applications. - Determine the area of a parallelogram, using multiplication. - Determine the base or height of a parallelogram, using division. - Model the area of a parallelogram as two congruent triangles. - Describe the relationship between the area of a triangle and the area of a parallelogram with the same base and height. - Determine the area of a triangle, including various triangles with the same base and height. - Solve problems involving the areas of parallelograms and triangles.
	Area of a triangle	
	Area of composite shapes	

		Determine the area of composite shapes, using the areas of triangles and parallelograms.
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Students interpret and express volume. 6.M.Volume		
Activities		Skills & Procedures
Volume	How many Blocks?	Express volume in non-standard units or cubic centimetres.
	Volume of Solids and Prisms - 1cm ³ blocks	
	Volume: Rectangular Prisms 1	Determine the volume of a right rectangular prism, using multiplication.
Skill Quests		Skills & Procedures
Volume	Using cubes to measure volume	- Express volume in non-standard units or cubic centimetres. - Visualize and model the volume of various right rectangular prisms as three-dimensional arrays of cube-shaped units. - Determine the volume of a right rectangular prism, using multiplication.
	Determining volume using multiplication	

Patterns

Students investigate functions to enhance understanding of change. 6.P.Functions		
Activities		Skills & Procedures
Functions	Table of Values	- Represent corresponding values of the independent and dependent variables of a function in a table of values and as points in the Cartesian plane. - Determine a value of the dependent variable of a function, given the corresponding value of the independent variable.
	Graphing from a Table of Values	
	Reading Values from a Line	Represent corresponding values of the independent and dependent variables of a function in a table of values and as points in the Cartesian plane.
Skill Quests		Skills & Procedures
Understand functions	Representing functions	- Describe the rule that determines the values of the dependent variable from values of the independent variable. - Represent corresponding values of the independent and dependent variables of a function in a table of values and as points in the Cartesian plane. - Determine a value of the dependent variable of a function, given the corresponding value of the independent variable. - Investigate strategies for determining a value of the independent variable of a function, given the corresponding value of the dependent variable. - Solve problems involving a function.
	Solving problems involving functions	

Statistics

Students investigate relative frequency using experimental data. 6.S.Data		
Activities		Skills & Procedures
Probability	What are the Chances?	Predict the likelihood of an event based on the possible outcomes of an experiment.
	Fair Games	
	Introductory probability	Describe the likelihood of an outcome in an experiment, using relative frequency.
	Find the Probability	

	Relative Frequency	- Determine relative frequency for categories of a sample of data. - Analyze relative frequency statistics from experiments with different sample sizes.
 Skill Quests		Skills & Procedures
Relative frequency	Understanding relative frequency	- Interpret frequency of categorized data as relative frequency. - Express relative frequencies as decimals, fractions, or percentages. - Determine relative frequency for categories of a sample of data.
Chance experiments	Identifying possible outcomes	- Identify the possible outcomes of an experiment involving equally likely outcomes. - Predict the likelihood of an event based on the possible outcomes of an experiment. - Describe the likelihood of an outcome in an experiment, using relative frequency.
	Describing & predicting likelihood	



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