Grade 5 Math topics

A. Place value and number sense

1. Expanded form up to 100,000
2. Convert between place values
3. Word names for numbers up to 100,000
4. Word names for numbers up to 1,000,000
5. Spell word names for numbers up to 100,000
6. Order numbers up to 100,000
7. Order numbers up to 1,000,000
8. Even or odd: arithmetic rules
9. Skip-counting sequences

B. Addition and subtraction

1. Estimate sums and differences of whole numbers
2. Estimate sums and differences: word problems
3. Add and subtract whole numbers up to 1,000,000
4. Add and subtract whole numbers up to 1,000,000: word problems
5. Complete addition and subtraction sentences
6. Addition and subtraction: fill in the missing digits
7. Inequalities with addition and subtraction

C. Multiplication

1. Multiplication facts to 10

2. Multiplication facts to 12
3. Multiplication patterns over increasing place values
4. Multiply by 1-digit numbers
5. Multiply by 1-digit numbers: word problems
6. Multiply 2-digit numbers by 2-digit numbers: choose the area model
7. Multiply 2-digit numbers by 2-digit numbers using area models
8. Lattice multiplication
9. Properties of multiplication
10. Multiply using properties
11. Choose numbers with a particular product
12. Inequalities with multiplication

D. Division

1. Division facts to 10
2. Division facts to 10: find the missing number
3. Divide numbers ending in zeroes: word problems
4. Estimate quotients
5. Estimate quotients: word problems
6. Divide by 1-digit numbers
7. Divide by 1-digit numbers: word patterns
8. Divide by 1-digit numbers: interpret remainders
9. Divide 4-digit numbers by 2-digit numbers: word problems
10. Divide 4-digit numbers by 2-digit numbers: remainder as a fraction
11. Choose numbers with a particular quotient

E. Exponents

1. Understanding exponents
2. Write multiplication expressions using exponents
3. Evaluate powers
4. Write powers of ten with exponents
5. Multiply a whole number by a power of ten: with exponents
6. Divide by a power of ten: with exponents
7. Multiply and divide by a power of ten: with exponents

F. Number theory

1. Prime and composite numbers
2. Prime factorization
3. Divisibility rules
4. Divisibility rules: word problems
5. Greatest common factor
6. Least common multiple

G. Mixed operations: whole numbers

1. Add, subtract, multiply, and divide whole numbers
2. Add, subtract, multiply, and divide whole numbers: word problems

H. Numerical expressions

1. Write numerical expressions
2. Evaluate numerical expressions
3. Evaluate numerical expressions with parentheses or different signs
4. Identify mistakes involving the order of operations
5. Numerical sentences: find the missing sign
6. Make the largest possible product

I. Multi-step word problems

1. Write numerical expressions for word problems
2. Multi-step word problems
3. Multi-step word problems: identify reasonable answers
4. Multi-step word problems: mathematical comparison
5. Word problems with extra or missing information
6. Guess-and-check word problems

J. Fractions and mixed numbers

1. Show fractions: fraction bars
2. Show fractions: area models
3. Identify fractions
3. Mixed numbers
4. Round mixed numbers

5. Relate division and fractions

K. Equivalent fractions

1. Find equivalent fractions using area models
2. Graph equivalent fractions on number lines
3. Equivalent fractions
4. Patterns of equivalent fractions
5. Least common denominator

L. Compare and order fractions

1. Graph and compare fractions on number lines
2. Benchmark fractions
3. Compare fractions using benchmarks
4. Order fractions with like denominators
5. Order fractions review

M. Understand fraction addition and subtraction

1. Decompose fractions multiple ways
2. Add fractions with like denominators using area models
3. Add fractions with like denominators using strip models
4. Add fractions with like denominators using number lines
5. Subtract fractions with like denominators using area models
6. Subtract fractions with like denominators using strip models
7. Subtract fractions with like denominators using number lines
8. Add and subtract fractions with like denominators using number lines

N. Add and subtract fractions with like denominators

1. Add fractions with like denominators
2. Subtract fractions with like denominators
3. Add and subtract fractions with like denominators
4. Add and subtract fractions with like denominators: word problems
5. Add three or more fractions with like denominators
6. Add three or more fractions with like denominators: word problems
7. Complete addition and subtraction sentences with fractions with like denominators

8. Inequalities with addition and subtraction of fractions with like denominators
9. Estimate sums and differences of mixed numbers
10. Add and subtract mixed numbers with like denominators
11. Add and subtract mixed numbers with like denominators: word problems

O. Add and subtract fractions with unlike denominators

1. Add fractions with unlike denominators using models
2. Subtract fractions with unlike denominators using models
3. Identify fraction expressions with a particular sum: denominators of 10 and 100
4. Add and subtract fractions: denominators of 10 and 100
5. Add and subtract fractions with unlike denominators: word problems
6. Complete addition and subtraction sentences with fractions with unlike denominators
7. Add and subtract mixed numbers with unlike denominators: word problems

P. Multiply unit fractions and whole numbers

1. Multiply unit fractions by whole numbers using number lines
2. Multiply unit fractions by whole numbers: choose the model
3. Multiples of unit fractions: find the missing numbers
4. Multiply unit fractions and whole numbers: sorting
5. Multiply unit fractions by whole numbers
6. Multiply unit fractions by whole numbers: word problems

Q. Multiply fractions and whole numbers

1. Multiply fractions by whole numbers: choose the model
2. Multiply fractions by whole numbers using models
3. Complete the equation
4. Multiply fractions by whole numbers using number lines
5. Multiply fractions by whole numbers: word problems
6. Multiply fractions and whole numbers: sorting
7. Multiply fractions and whole numbers: input/output tables
8. Scaling whole numbers by fractions

R. Divide fractions

1. Divide whole numbers by unit fractions using models

2. Divide whole numbers by unit fractions using area models
3. Divide whole numbers by unit fractions

S. Mixed operations: fractions

1. Add, subtract, multiply, and divide fractions
2. Add, subtract, multiply, and divide fractions: word problems

T. Decimal place value: up to hundredths

1. What decimal number is illustrated?
2. Understanding decimals expressed in words: up to hundredths
3. Place value in decimal numbers: up to hundredths
4. Expanded form of decimals: up to hundredths
5. Round decimals to the nearest whole number or tenth

U. Decimal place value: up to thousandths

1. Understanding decimals expressed in words: up to thousandths
2. Place value in decimal numbers: up to thousandths
3. Relationship between decimal place values
4. Expanded form of decimals: up to thousandths
5. Round decimals to the nearest whole number, tenth, or hundredth
6. Compare and decompose decimals in multiple ways

V. Compare decimals

1. Equivalent decimals
2. Compare decimals up to hundredths
3. Compare decimals up to thousandths
4. Compare decimals using grids
5. Compare decimals on number lines
6. Compare decimal numbers up to hundredths
7. Compare decimal numbers up to thousandths
8. Put decimals in order: up to hundredths
9. Put decimals in order: up to thousandths
10. Compare, order, and round decimals: word problems

W. Convert between decimals and fractions

1. Model decimal fractions
2. Model decimals and fractions
3. Convert fractions to decimals: up to hundredths
4. Convert fractions to decimals: up to thousandths
5. Convert decimals to fractions: up to hundredths
6. Convert decimals to fractions: up to thousandths
7. Convert decimals between standard and expanded form using fractions: up to hundredths
8. Convert decimals between standard and expanded form using fractions: up to thousandths

X. Compare decimals and fractions

1. Compare decimals and fractions on number lines
2. Compare decimals and fractions: up to hundredths
3. Compare decimals and fractions: up to thousandths
4. Put mixed decimals and fractions in order: up to hundredths
5. Put mixed decimals and fractions in order: up to thousandths

Y. Add and subtract decimals up to hundredths

1. Add decimal numbers up to hundredths using blocks
2. Add decimal numbers up to hundredths
3. Use properties to add three decimals up to hundredths
4. Inequalities with decimal addition or subtraction sentences: up to hundredths
5. Inequalities with decimal addition and subtraction: up to hundredths
6. Estimate sums and differences of decimals: 1st/2nd standby, up to hundredths
7. Estimate sums and differences of decimals using benchmarks

Z. Add and subtract decimals up to thousandths

1. Add decimal numbers up to thousandths
2. Subtract decimal numbers up to thousandths
3. Add and subtract decimal numbers up to thousandths
4. Add and subtract decimals up to thousandths: word problems
5. Complete decimals with a particular sum or difference: up to thousandths

6. Complete the decimal addition or subtraction sentence: up to thousandths
7. Inequalities with decimal addition and subtraction: up to thousandths
8. Estimate sums and differences of decimals: rounding, up to thousandths

AA. Multiply decimals by powers of ten

1. Multiply a decimal by a power of ten
2. Multiply a decimal by a power of ten: with exponents
3. Multiply a whole number by 0.1 or 0.01
4. Multiply by a power of ten with decimals: find the missing number

BB. Multiply decimals by whole numbers

1. Multiply a decimal by a 1-digit whole number using blocks
2. Multiply a decimal by a 1-digit whole number using the distributive property
3. Multiply a decimal by a 1-digit whole number
4. Multiply a decimal by a 1-digit whole number using area models
5. Multiply a decimal by a 2-digit whole number
6. Multiply decimals and whole numbers: word problems

CC. Multiply decimals

1. Estimate products of decimals
2. Multiply decimals less than one using grids
3. Multiply decimals using grids
4. Multiply two decimals: where does the decimal point go?
5. Multiply two decimals
6. Inequalities with decimal multiplication

DD. Divide decimals by powers of ten

1. Divide by powers of ten
2. Decimal division patterns with increasing place values
3. Divide by a power of ten with decimals: find the missing number

EE. Divide decimals

1. Estimate decimal quotients
2. Divide decimals using blocks: complete the equation

3. Divide decimals using area models: complete the equation
4. Divide decimals by whole numbers
5. Divide decimals by whole numbers: word problems
6. Division with decimal quotients and rounding

FF. Mixed operations: decimals

1. Add, subtract, multiply, and divide decimals
2. Add, subtract, multiply, and divide decimals: word problems

GG. Money

1. Add and subtract money amounts
2. Add and subtract money: word problems
3. Price lists with addition and subtraction
4. Multiply and divide money amounts: word problems
5. Multiply money amounts with decimals
6. Multiply money amounts with decimals: word problems
7. Divide money amounts with decimals
8. Divide money amounts with decimals: word problems

HH. Time

1. Convert time units
2. Add and subtract mixed time units
3. Elapsed time
4. Find start and end times: word problems
5. Find the start time, end time, or the elapsed time: word problems
6. Convert between 12-hour and 24-hour time
7. Time zone conversion
8. Schedules: 12-hour time
9. Schedules: 24-hour time
10. Timetables: 12-hour time
11. Timetables: 24-hour time
12. Time patterns

II. Ratios and rates

1. Write a ratio using a colon
2. Write a ratio using a fraction
3. Write a ratio: word problems
4. Which model represents the ratio?
5. Identify equivalent ratios
6. Write an equivalent ratio
7. Ratio tables
8. Unit rates
9. Equivalent rates

JJ. Percents

1. What percentage is illustrated?
2. Understanding percents: strip models
3. Convert fractions to percents using grid models
4. Represent percents with grid models, decimals, and fractions
5. Convert between percents and fractions
6. Convert between percents and decimals
7. Convert between percents, fractions, and decimals
8. Compare percents to each other and to fractions and decimals
9. Compare percents and fractions: word problems

KK. Patterns and sequences

1. Find the next shape in a repeating pattern
2. Complete a repeating pattern
3. Make a repeating pattern
4. Find the next shape in a growing pattern of shapes
5. Use a rule to complete a number sequence
6. Compare number patterns
7. Identify mistakes in number patterns
8. Complete an increasing number sequence
9. Complete a geometric number sequence
10. Number sequences: word problems
11. Number sequences: mixed review
12. Arithmetic sequences with fractions

13. Geometric sequences with fractions

LL. Integers

1. Understanding integers
2. Integers on number lines
3. Graph integers on horizontal and vertical number lines
4. Understanding opposite integers
5. Compare integers
6. Put integers in order

MM. Coordinate plane

1. Describe the coordinate plane
2. Objects on a coordinate plane
3. Graph points on a coordinate plane
4. Graph points from a table
5. Use a rule to complete a table and a graph
6. Analyze graph relationships
7. Coordinate planes as maps
8. Follow directions on a coordinate plane
9. Objects on a coordinate plane: all four quadrants
10. Graph points on a coordinate plane: all four quadrants
11. Quadrants

NN. Variable expressions

1. Write variable expressions
2. Write variable expressions: word problems
3. Evaluate variable expressions

OO. One-variable equations

1. Which value satisfies an equation?
2. Which value makes the equation true?
3. Write an equation from words
4. Model and solve equations using algebra tiles
5. Write and solve equations that represent diagrams

6. Solve addition and subtraction equations with whole numbers
7. Solve multiplication and division equations with whole numbers
8. Solve equations with whole numbers
9. Write a one-step equation: word problems
10. Which word problem matches the one-step equation?

PP. One-variable inequalities

1. Solutions to inequalities
2. Graph inequalities on number lines
3. Write inequalities from number lines
4. Solve one-step inequalities
5. Graph solutions to one-step inequalities

QQ. Data and graphs

1. Read a table
2. Interpret pictographs
3. Create pictographs
4. Interpret line plots
5. Create line plots
6. Interpret line graphs
7. Create line graphs
8. Interpret bar graphs
9. Create bar graphs
10. Interpret double bar graphs
11. Complete double bar graphs
12. Interpret line plots: 1st-step problems
13. Interpret line plots: multi-step problems
14. Interpret frequency tables: one-step problems
15. Interpret frequency tables: multi-step problems
16. Create frequency tables
17. Create relative frequency tables
18. Interpret stem-and-leaf plots
19. Create stem-and-leaf plots
20. Circle graphs

21. Choose the best type of graph
22. Use Venn diagrams to solve problems

RR. Probability

1. Understanding probability
2. Find sample space of simple events
3. Find the probability
4. Make predictions
5. Experimental probability

SS. Statistics

1. Find the mean
2. Mean: find the missing number
3. Interpret charts and graphs to find the mean
4. Calculate mean, median, and mode
5. Mean, median, and mode: find the missing number
6. Interpret charts to find mean, median, and mode
7. Identify biased samples

TT. Units of measurement

1. Which metric unit of length is appropriate?
2. Compare and convert metric units of length
3. Which metric unit of mass is appropriate?
4. Compare and convert metric units of mass
5. Which metric unit of capacity is appropriate?
6. Compare and convert metric units of capacity
7. Compare and convert metric units of volume, mass, or capacity
8. Read a thermometer
9. Choose the more reasonable temperature

UU. Lines and angles

1. Points, lines, line segments, rays, and angles
2. Parallel, perpendicular, and intersecting lines
3. Types of angles

4. Angles of 90, 180, 270, and 360 degrees
5. Measure angles with protractor
6. Draw angles with protractor

VV. Two-dimensional figures

1. Is it a polygon?
2. Number of sides in polygons
3. Regular and irregular polygons
4. Sort polygons into Venn diagrams
5. Properties of polygons
6. Parts of a circle

WW. Triangles and quadrilaterals

1. Acute, obtuse, and right triangles
2. Scalene, isosceles, and equilateral triangles
3. Classify triangles
4. Parallel sides in quadrilaterals
5. Identify parallelograms
6. Classify trapezoids
7. Classify rectangles
8. Classify rhombuses
9. Classify quadrilaterals
10. Pick all the names for a quadrilateral
11. Draw quadrilaterals
12. Identify the relationships between quadrilaterals
13. Describe the relationships among quadrilaterals

XX. Symmetry and transformations

1. Lines of symmetry
2. Rotational symmetry
3. Reflection, rotation, and translation
4. Combinations of reflections, rotations, and translations
5. Transformations on the coordinate plane
6. Identify congruent figures

YY. Three-dimensional figures

1. Identify three-dimensional figures
2. Count vertices, edges, and faces
3. Identify nets of three-dimensional figures
4. Nets of three-dimensional figures
5. Three-dimensional figures viewed from different perspectives

ZZ. Perimeter and area

1. Perimeter with whole number side lengths
2. Perimeter with decimal side lengths
3. Perimeter of figures on grids
4. Area of squares and rectangles
5. Understanding area of a parallelogram
6. Area of parallelograms
7. Understanding area of a triangle
8. Area of triangles
9. Area of figures on grids
10. Area and perimeter: word problems
11. Use area and perimeter to determine cost
12. Rectangles: relationship between perimeter and area

AAA. Volume and surface area

1. Volume of rectangular prisms made of unit cubes
2. Volume of irregular figures made of unit cubes
3. Volume of cubes and rectangular prisms
4. Surface area of cubes and rectangular prisms

BBB. Financial literacy

1. Identify advantages and disadvantages of payment methods
2. Evaluate payment methods
3. Debit cards and credit cards
4. Reading financial records
5. Keeping financial records