Grade 4 Math topics

A. Place value and number sense

1. Place value models
2. Value of a digit
3. Convert between standard and expanded form
4. Place value word problems
5. Order numbers
7. Understanding integers
9. Roman numerals

B. Comparing and ordering

1. Compare numbers
2. Put numbers in order
3. Ordering puzzles

C. Rounding

1. Rounding
2. Rounding: largest/smallest number
3. Rounding puzzles

D. Addition and subtraction fluency

1. Addition facts up to 10
2. Addition facts up to 10: true or false?
3. Complete the addition sentence: facts up to 10
4. Subtraction facts up to 10
5. Subtraction facts up to 10: word problems
6. Complete the subtraction sentence: up to 10

E. Addition

1. Estimate sums
2. Add two multi-digit numbers
3. Add numbers up to three digits: word problems
4. Add three or more numbers
5. Complete the addition sentence: up to three digits
6. Add numbers up to four digits
7. Addition: fill in the missing digits

F. Subtraction

1. Estimate differences
2. Subtract numbers up to two digits
3. Complete the subtraction sentence: up to two digits
4. Complete the subtraction sentence: up to three digits
5. Subtraction patterns over increasing place values
6. Subtraction: fill in the missing digits

G. Understand multiplication

1. Count equal groups
2. Write multiplication sentences for equal groups
3. Relate addition and multiplication for equal groups
4. Write multiplication sentences for arrays
5. Write multiplication sentences for number lines

H. Multiplication fluency

1. Multiplication facts up to 10
2. Multiplication facts up to 10: find the missing factor
3. Multiplication facts up to 10: true or false?
4. Multiplication facts up to 12
5. Multiplication facts up to 12: find the missing factor

I. Factors and multiples

1. Divisibility rules
2. Divisibility rules: word problems
3. Identify factors
4. Find all the factor pairs of a number
5. Choose the multiples of a given number up to 12

J. Multiplication

1. Multiply by 10 or 100
2. Multiplication patterns over increasing place values
3. Multiply 1-digit numbers by 2-digit numbers
4. Estimate products: multiply by 1-digit numbers
5. Estimate products: word problems
6. Use grid multiplication for 2-digit numbers

K. Multiplicative relationships

1. Compare numbers using multiplication
2. Compare numbers using multiplication: word problems
3. Unit rates and equivalent rates

L. Understand division

1. Divide by counting equal groups
2. Write division sentences for groups
3. Relate multiplication and division for groups
4. Write division sentences for arrays
5. Divide using repeated subtraction
6. Divide using the distributive property

M. Division fluency

1. Division facts up to 10

2. Division facts up to 10: find the missing number
3. Division facts up to 12: find the missing number
4. Division facts up to 12: select the missing numbers
5. Division sentences up to 12: true or false?
6. Division facts up to 12: word problems
7. Choose numbers with a particular quotient

N. Division

1. Division patterns over increasing place values
2. Divide numbers ending in zeroes
3. Estimate quotients using compatible numbers
4. Divide 2-digit numbers with remainders
5. Divide 2-digit numbers with remainders: word problems

O. Mixed operations

1. Add, subtract, multiply, and divide
2. Add and subtract numbers up to 100
3. Multiplication and division facts up to 12: true or false?
4. Write numerical expressions: one operation
5. Write numerical expressions: two operations
6. Identify even and odd numbers making an operation
7. Inequalities involving addition, subtraction, multiplication, and division

P. Mixed operations: word problems

1. Add, subtract, multiply, and divide word problems
2. Estimate sums, differences, products, and quotients: word problems
3. Multi-step word problems: addition and subtraction
4. Multi-step word problems with strip diagrams
5. Use strip diagrams to represent and solve multi-step word problems
6. Multi-step word problems: missing information
7. Multi-step word problems: identify reasonable answers

Q. Variable expressions

1. Write variable expressions
2. Write variable expressions: word problems
3. Evaluate variable expressions with word problems
4. Solve variable equations: addition and subtraction

5. Solve variable equations: multiplication and division

6. Solve variable equations

R. Patterns and sequences

1. Find the next shape in a repeating pattern

2. Complete a repeating pattern

3. Make a repeating pattern

4. Complete a geometric number pattern

5. Number patterns: word problems

7. Input/output tables with addition, subtraction, multiplication, and division

S. Coordinate plane

1. Objects on a coordinate plane

2. Graph points on a coordinate plane

3. Coordinate planes as maps

4. Follow directions on a coordinate plane

T. Data and graphs

1. Read a table

2. Interpret line plots

3. Create double bar graphs

4. Interpret line graphs

5. Create line graphs

6. Interpret stem-and-leaf plots

7. Create stem-and-leaf plots

8. Use Venn diagrams to solve problems

U. Money

1. Count coins and bills up to $20

2. Compare money amounts

3. Round money amounts

4. Make change

5. Unit prices

V. Units of measurement

1. Read a thermometer

2. Reasonable temperature

3. Convert metric units of length
4. Which metric unit of mass is appropriate?
5. Compare metric units of mass
6. Convert metric units of volume

W. Time

1. Read clocks and write times
2. Match analog and digital clocks
3. Elapsed time word problems
4. A.M. or P.M.
5. Find start and end times: word problems
6. Time units
7. Convert time units
8. Read a timeline
9. Time patterns

X. Lines and angles

1. Points, lines, line segments, rays, and angles
2. Parallel, perpendicular, and intersecting lines
3. Identify acute, right, obtuse, and straight angles
4. Angles as fractions of a circle
5. Measure angles with a protractor

Y. Two-dimensional figures

1. Which 2D figure is being described?
2. Is it a polygon?
3. Number of sides in polygons
4. Regular and irregular polygons

Z. Triangles and quadrilaterals

1. Classify triangles
2. Parallel sides in quadrilaterals
3. Identify parallelograms
4. Identify trapezoids
5. Classify quadrilaterals

AA. Symmetry and transformations

1. Identify lines of symmetry
2. Count lines of symmetry
3. Rotational symmetry
4. Reflection, rotation, and translation

BB. Three-dimensional figures

1. Identify three-dimensional figures
2. Count vertices, edges, and faces
3. Which 3D figure is being described?
4. Identify three-dimensional figures from nets

CC. Area, perimeter, and volume

1. Perimeter of figures on grids
2. Perimeter of rectangles
3. Area of figures on grids
4. Area of rectangles
5. Area and perimeter word problems
6. Volume of rectangular prisms

DD. Understand fractions

1. Halves, thirds, and fourths
2. Make halves, thirds, and fourths
3. Equal parts and wholes
4. Fifth, sixths, eighths, tenths, and twelfths
5. Understand fractions: fraction bars
6. Understand fractions: area models
7. Show fractions: fraction bars
8. Show fractions: area models
9. Match fractions to models: halves, thirds, and fourths
10. Match unit fractions to models
11. Match fractions to models
12. Decompose fractions into unit fractions

EE. Fractions on number lines

1. Fractions of number lines: unit fractions
2. Fractions of number lines: halves, fourths, and eighths
3. Identify fractions on number lines

4. Graph fractions on number lines
5. Graph unit fractions on number lines
6. Graph fractions on number lines
7. Graph smaller or larger fractions on number lines

FF. Fraction word problems

1. Unit fractions: modeling word problems
2. Unit fractions: word problems
3. Fractions of a whole: modeling word problems
4. Fractions of a whole: word problems
5. Fractions of a group: word problems

GG. Equivalent fractions

1. Find equivalent fractions using area models
2. Graph equivalent fractions on number lines
3. Find equivalent fractions using number lines
4. Graph equivalent fractions on number lines
5. Equivalent fractions
6. Patterns of equivalent fractions
7. Fractions with denominators of 10 and 100
8. Write fractions in lowest terms

HH. Compare fractions with like denominators

1. Compare fractions with like denominators using models
2. Compare fractions with like denominators
3. Graph and compare fractions with like denominators on number lines
4. Compare fractions with like denominators
5. Compare fractions with like denominators in recipes

II. Compare fractions

1. Compare fractions with like numerators or denominators using models
2. Compare fractions using benchmark
3. Compare fractions using 1/2 as a benchmark
4. Compare fractions using 1 as a benchmark: find the missing numerator
5. Compare fractions
6. Compare fractions
7. Find smaller or larger fractions

JJ. Order fractions

1. Order fractions with like denominators
2. Order fractions with like numerators or denominators
3. Order fractions

KK. Decimal place value: up to tenths

1. Understanding tenths: model
2. Place value in decimal numbers: up to tenths
3. Convert fractions and decimals: up to tenths

LL. 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. Round decimals: up to hundredths
5. Convert decimals to fractions and mixed numbers using hundredths

MM. Compare decimals

1. Equivalent decimals: up to hundredths
2. Compare decimals using models: up to hundredths
3. Compare decimals on number lines: up to tenths
4. Compare decimals on number lines: up to hundredths
5. Compare decimals: up to hundredths

NN. Order decimals

1. Put decimal numbers in order: up to tenths
2. Put decimal numbers in order: up to hundredths
3. Put decimal numbers in order

OO. Relate fractions and decimals

1. Model decimals and fractions: up to tenths
2. Read and write decimals and fractions: up to hundredths
3. Graph fractions as decimals on number lines: up to tenths
4. Graph fractions as decimals on number lines: up to hundredths
5. Convert decimals to fractions: up to tenths
6. Convert decimals to fractions: up to hundredths
7. Convert fractions to decimals: denominators of 10 and 100

PP. Compare decimals and fractions

1. Compare decimals and fractions on number lines: up to tenths
2. Compare decimals and fractions on number lines: up to hundredths
3. Compare decimals and fractions: up to tenths
4. Compare decimals and fractions: up to hundredths

QQ. Add and subtract decimals up to tenths

1. Add decimal numbers up to tenths
2. Subtract decimal numbers up to tenths
3. Add and subtract decimal numbers up to tenths: word problems
4. Choose decimals with a particular sum or difference: up to tenths
5. Add three or more decimals: up to tenths
6. Complete the addition or subtraction sentence: up to tenths
7. Number sequences involving decimals: up to tenths
8. Inequalities with addition and subtraction of decimals: up to tenths
9. Solve equations involving decimals: up to tenths

RR. Add and subtract decimals up to hundredths

1. One tenth or one hundredth more or less
2. Add decimal numbers up to hundredths
3. Subtract decimal numbers up to hundredths
4. Add and subtract decimal numbers up to hundredths: word problems
5. Choose decimals with a particular sum or difference: up to hundredths
6. Add three or more decimals: up to hundredths
7. Complete the addition or subtraction sentence: up to hundredths
8. Number sequences involving decimals: up to hundredths
9. Inequalities with addition and subtraction of decimals: up to hundredths
10. Solve equations involving decimals: up to hundredths

SS. Probability

1. Certain, probable, unlikely, and impossible
2. Understanding probability
3. Find the probability
4. More, less, or equally likely

TT. Statistics

1. Find the mode

2. Find the mean

3. Find the median

4. Find the range