Math Topics by Grade, 1-5+

First grade

Read and write numbers
Use a number line, ruler, tape measure
Compare less than, more than, most, least, largest, smallest
Put numbers in order; know first, second, third, fourth, fifth, etc.
Understand how zeros work, and place value: 1, 10, 100; 1, 11, 111, etc
Skip count by twos, fives, tens
Know even and odd numbers
Fractions: halves (equal parts), thirds, fourths, 2 halves make a whole, 4 fourths make a whole, 3 thirds make a whole, 2/4 = ½
Add and subtract single and simple 2-digit numbers
Learn math facts (adding and subtracting numbers 0-10)
Perform simple word problems with 1-digit addition and subtraction
Estimate how much or how many in a container,
estimate which containers hold the same amount
Recognize and know the value of coins, $1, $5, $10
Count money, simple money addition and subtraction
Sorting, recognizing patterns
Shapes---flat and solids
Simple symmetry (such as cutting out hearts, drawing faces, etc)
Calendar and time to the half hour, am and pm
Volume—measuring cups, recognize cups/pints/quarts/gallons
Weight—recognize the difference between an ounce, a pound, 5 pounds, 10 pounds, etc
Temperature—freezer temperature, room temperature, boiling (don't touch), and oven/fire (don't touch), hot day/summer temperature compared to a cold day/winter
Read and make simple charts and graphs
Experiment with dice/probability

Second grade

What does 10 (objects) look like? 100? Compare and estimate how many.
Count by 100s to 1000, by 1000s to 10,000 and beyond
Skip count by 3 and 4
Round numbers up or down to the whole number or tens
Multiply using groups of objects, such as 3 groups of 4 and 4 groups of 3 (both equal 12)
Divide a whole object or figure in equal parts, divide a group into equal parts
Such as, how many ways can you divide a dozen eggs? Can you share a pizza with 6 people?
Continue practice with money, both with real money and on paper
Venn diagrams and other ways to organize things
Be able to fill in the blank in a number sentence (equation) using known math facts
Parallel and perpendicular, horizontal and vertical

Experiment with flipping and turning shaped items (2-D such as paper triangles and 3-D boxes)
Find the perimeter by measuring and by adding, find the area by adding squares within a shape
Time to the quarter hour, Calendar by weeks
Compare inches to centimeters, yards to meters, quarts to liters, etc.
Measure the temperatures of different things
Continue with making charts and graphs (such as bar graphs)
Predict what might occur next in a pattern

Third grade
Continue and build on 2nd grade skills
Expand a number, such as 326 = 3 hundreds + 20 (or, two tens) + 6 (or, 6 ones)
Round a number to the nearest 10, and 100
Addition and subtraction with regrouping, or borrow & carry
Multiplication
Division
Multiplication table/facts to 12 x 12
Word problems for simple multiplication and division, time and money
Learn the strategies and how to decode the words of a word problem, algorithms
Using fractions on a number line, measuring tape, measuring cups and spoons
Recognize and show with a pie chart, group of objects, or number of boxes on a grid: one fifth, one sixth, one seventh, one eighth, one ninth, one tenth; be able to put them in order
Show how many tenths are in a fifth, eighths in a quarter, sixths in a third
Use money to understand decimals to the hundredths
Put decimal numbers in order, greater than/less than, greatest/least
Properties of addition and multiplication (3+2=2+3; 3x2=2x3)
Fill in the blank for an equation using known math facts
Angles and polygons
Using a grid
Practice using a bus or other schedule
Find area with multiplication and division
Estimation and deciding what is probable, possible, reasonable

Fourth grade
Continue and build on 3rd grade skills
Rounding numbers up and down for real world purposes
Estimation for addition, subtraction, multiplication, division, especially in the real world
Common multiples (4 and 5 have the common multiples of 20, 40, 60, etc),
least common multiple
Common factors (20 and 25 have common factors of 1 and 5), greatest common factors
Addition, subtraction, multiplication with large numbers (including long division)
Division with remainders and fractions (16 divided by 5 equals 3r1, or, 3 and one fifth)
Dividing with 2-digit divisors, 10, and 100
Improper fractions, simplifying fractions, equivalent fractions
Add and subtract fractions with the same denominator, and mixed numbers

Multiply fractions by whole numbers, and by fractions
Compare decimals and fractions
Count money and make change, add, subtract, multiply, and divide money
Continue geometric studies
Practice with metric measures, and compare them to standard measures
Perimeter, area, and volume algorithms
Continue graphing and charting; find the mean, median, mode, and range
Given a set of possible combinations, what are the possible outcomes?

Fifth grade
Continue and build on 4th grade skills
Use formulas and equations
Roman, Greek, and other numerals and number systems
Practice check writing (writing numbers with words and digits)
Numbers to the billions
Place value, estimation, and computational proficiency
Exponents, powers of 10
Divisibility rules
Order of operations
Prime and composite numbers, prime factors
Decimals to the thousandths
Multiplication and division of decimals
Percents, ratios
Simplifying fractions, equivalent fractions, comparing fractions, etc
Working with fractions of unlike denominators (add, subtract, multiply, divide)
Working with mixed numbers
Change fractions to decimals
Working with integers (both positive and negative numbers)
Perimeter and area of polygons
Volume of solid figures
Measure angles with a protractor, working with angles
Circles and their parts
Recognize and draw or build a 3-D figure from a set of views, scale drawings
Probability
All kinds of graphs and charts

Following 5th Grade:
Pre-Algebra
Algebra I , Geometry
Algebra II & Trigonometry
Pre-Calculus, Calculus
Business Math, Construction Math, Statistics, Accounting, Personal Finance (including check writing, reconciling bank accounts, understanding and managing debt, negotiation, recognizing scams/unfair business practices/tricks, budgeting, saving for big purchases/vacations/Holidays/emergencies/the future/retirement etc.), etc.