Math topics for students by approximate grade level

(This is just a general guide. Homeschoolers are not required to go by grade level)

Kindergarten

- Count to 100; compare numbers
- Add/subtract within 10
- Understand place value to 20
- Measure and compare lengths
- Identify and model basic shapes

1st Grade

- Add/subtract within 20; understand properties
- Place value to 120; add/subtract tens
- Measure lengths; tell time; organize data
- Reason with shapes and their attributes

2nd Grade

- Fluency in addition/subtraction within 20
- Place value to 1,000; add/subtract within 1,000
- Measure lengths; work with time and money
- Partition shapes into equal shares

3rd Grade

- Multiply/divide within 100; solve problems
- Round numbers; add/subtract within 1,000
- Understand and compare fractions
- Area, perimeter, time, volume, and data
- Classify shapes by properties

4th Grade

- Multi-digit multiplication; solve word problems
- Place value to 1 million; divide
- Add/subtract/multiply fractions
- Convert units; interpret data
- Angles, lines, and shape classification

5th Grade

- Write and interpret expressions
- Place value to billions; decimals
- Add/subtract/multiply/divide fractions
- Volume; convert units; data interpretation
- Coordinate plane and shape classification

6th Grade

- Understand and use ratios
- Divide fractions; compute with decimals
- Write and solve expressions and equations
- Area, surface area, and volume
- Analyze data distributions

7th Grade

- Solve multi-step ratio problems
- Operate with rational numbers
- Solve linear equations and inequalities
- Scale drawings; area and volume
- Use probability models; draw inferences

8th Grade

- Solve systems of equations; understand exponents
- Define and compare functions

- Transformations; Pythagorean Theorem; volume
- Analyze bivariate data

High School (Grades 9–12)

Organized by Conceptual Category:

Number & Quantity

- Real and complex numbers
- Vectors and quantities

Algebra

- Expressions, equations, inequalities
- Systems and polynomial modeling

Functions

- Linear, quadratic, exponential, trigonometric, inverse

Geometry

- Congruence, similarity, right triangles, circles
- Geometric modeling

Statistics & Probability

- Data interpretation, probability models, statistical inference

Modeling

- Apply math to real-world problems across all domains