

# Math 7-1 Curriculum Guide

This course utilizes the following texts:

Singapore Math, Discovering Mathematics Common Core Textbooks 7A and 7B

Singapore Math, Discovering Mathematics Common Core Workbooks 7A and 7B

## Unit 1: Integers

- Order of Operations (review of exponents may be needed)
- Real numbers (identifying real/non-real, rational, irrational, integers, whole, natural)
- Square roots (up to 225), cube roots (up to 125) and approximating rationals
- Integers and absolute value
- Adding, subtracting, multiplying & dividing integers

## Unit 2: Real Numbers

- Comparing and ordering
- Adding, subtracting, multiplying & dividing rational numbers

## Unit 3: Expressions, Equations & Inequalities

- Properties
- Algebraic expressions
- Adding & subtracting linear expressions
- Factoring expressions
- Solving one-step, two-step and multi-step equations including with variables on both sides
- Write equations (include word problems involving 2 step equations or equations with distribution)
- Writing & graphing inequalities
- Solving and graphing one-step and two-step inequalities

## Unit 4: Ratio, Proportion & Percent:

- Ratio, rate & unit rate (constant of proportionality)
- Writing and solving proportions
- Recognize and represent proportional relationships between quantities
- Graphing proportional relationships
- Similar figures and scale drawings
- Comparing & ordering fractions, decimals & percents
- Percent proportion & percent equation
- Percent change, percent error
- Discount, markup, sales tax, simple interest

## Unit 5: Probability & Statistics

- Outcomes & events
- Probability
- Experimental & theoretical probability

- Compound events
- Independent and dependent events
- Samples & populations
- Measures of central tendency
- Interpreting graphs including misleading graphs
- Stem and leaf plot
- Scatterplot

#### Unit 6: Plane Geometry

- Angles – adjacent, vertical, complementary, supplementary
- Parallel lines & transversals
- Triangles (include angle sum and exterior angle theorems)
- Quadrilaterals
- Polygons

#### Unit 7: Perimeter, Area, Surface Area & Volume

- Perimeter & circumference including composite figures
- Area including composite figures
- Surface area of prisms, pyramids and cylinders
- Volume of prisms, pyramids, cylinders

#### Optional Unit 8: Graphing Linear Equations

- The coordinate plane
- Graphing linear equations using a chart