

Math 7

State Standard Number	State Standard Area/Description	Unit Name	Course Topic Description
N	Number Sense, Properties, and Operations		
N.1	In the real number system, rational numbers have a unique location on the number line		
N.1.a	Read, write, locate on number line, compare and order integers and positive rational numbers	Integers	Integers and Absolute Value
N.1.b	Apply the definition of absolute value with integers, quantifying the distance from zero	Integers	Integers and Absolute Value
N.1.c	Express large and small numbers using scientific notation	Exponents, Squares, and Square Roots	Scientific Notation
N.2	Formulate, represent, and use algorithms with integers and positive rational numbers flexibly, accurately, and efficiently		
N.2.a	Simplify numeric expressions using the order of operations	Order of Operations	Throughout Unit
N.2.b	Add, subtract, multiply, and divide integers	Integers	Throughout Unit
N.2.c	Use mental math and estimation strategies to solve problems involving percents	Percent of Change	Throughout Unit
N.2.d	Solve problems involving percent of a number, discounts, taxes, simple interest, percent increase, and percent decrease	Percent of a Number Percent of Change Simple Interest	Throughout Units
N.3	Proportional reasoning involves comparisons and multiplicative relationships among ratios	Ratios and Proportions	Throughout Unit
N.3.a	Use ratio relationships to solve for a missing value in a proportion	Ratios and Proportions	Throughout Unit

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N.3.b	Model proportional relationships with bar models, ratio tables, and similar figures	Ratios and Proportions	Throughout unit
N.3.c	Explain the difference between a ratio, rate, and unit rate	Ratios and Proportions	Throughout unit
N.3.d	Estimate and compute unit cost of consumables (to include unit conversions if necessary) sold in quantity to make purchase decisions based on cost and practicality		
P	Patterns, Functions, and Algebraic Structures		
P.1	Relationships involving the constant rate of change are modeled and solved using linear functions		
P.1.a	Given a linear situation (including direct variation), identify variables and write an equation in slope-intercept form		
P.1.b	Given a linear equation (including direct variation), substitute input values to create a table and graph coordinate points in all four quadrants		

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D	Data Analysis, Statistics, and Probability		
D.1	Visual displays and summary statistics with one-variable data condense the information in data sets into usable knowledge	Graphs and Data Analysis	Throughout Unit
D.1.a	Distinguish between median as middle number and mean as balance point for an ordered set of data	Mean, Median, Mode	Throughout Unit
D.1.b	Use Mean Absolute Deviation (MAD) to analyze the spread of a set of data		
D.1.c	Construct and interpret dot plots, histograms, stem-and-leaf plots, and circle graphs	Graphs and Data Analysis	Throughout Unit
D.1.d	Construct and interpret a box plot using the five-number summary and identify the interquartile range (IQR) for a set of data		
D.1.e	Compare sets of data using shape (skewed, normal, uniform), with appropriate measures of central tendency (mean, median, mode), and appropriate measures of spread (range, IQR, MAD)		
D.1.f	Given a frequency table, calculate relative frequencies	Graphs and Data Analysis	Frequency Tables

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S	Shape, Dimension, and Geometric Relationships		
S.1	Objects in space and their parts and attributes can be measured and analyzed	Quadrilaterals and Other Polygons	Throughout Unit
S.1.a	Develop and apply formulas and procedures for the surface area and volume of right cylinders and right prism	Volumes and Surface Areas	Volume of Cylinders Volume of Prisms
S.1.b	Develop and apply formulas and procedures for area of regular polygons, circumference and area of circles, and area of composite figures	Perimeter and Area Circles	Throughout Unit Circumference of a Circle Area of Circles
S.1.c	Identify and construct two-dimensional nets of prisms and cylinders		
S.2	Proportional reasoning is used to make indirect measurements		
S.2.a	Describe the relationship between the circumference and diameter of a circle	Circles	Parts of a Circle
S.2.b	Read and interpret scales on maps		



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S.2.c	Use proportions to convert from one set of units to another within customary and metric systems using standard units of measure for length, weight, capacity and time		
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