

Mathematics 7 Pacing Guide

1st Semester Topics

1st Nine Weeks

2nd Nine Weeks

Unit 1: Operations with Rational Numbers

Unit 2: Operations of Expressions

Unit 3: Equations & Inequalities

Unit 4: Ratios & Proportions

- Absolute value, number line, and zero pairs
- Adding integers, fractions, and decimals
- Subtracting integers, fractions, and decimals
- Multiplying integers, fractions, and decimals
- Dividing integers, fractions, and decimals
- Applying rational number operations to real world situations
- Convert a rational number to a decimal; express if the value terminates and/or repeats

- Translating verbal expressions into algebraic expressions
- Combining like terms
- Simplifying variable expressions
- Distributive property
- Factor expressions

- Solve one-step (add/ subtract, multiply, and divide types)
- Solve two-step equations
- Applying equations to real world word problems
- Translating and solving equations
- Translating and solve inequalities
- Solve and graph inequalities

- Write and simplify ratios
- Calculate and apply unit rates
- Use ratios and rates to solve proportions
- Determine proportionality from a given set of data and a graph
- Proportionality applications
- Calculate scale from a word problem or picture

2nd Semester Topics

3rd Nine Weeks

4th Nine Weeks

Unit 5: Percent Applications

Unit 6: Statistics

Unit 7: Probability

Unit 8: 2D Figures

Unit 9: Angle & Triangle Relationships

Unit 10: 3D Applications

- Converting Fractions, Decimals, & Percents
- Use percent proportions
- Calculate simple interest, tax, gratuities, commissions, fees, markups and markdowns, percent increase and percent decrease.
- Applying Percents to Real World Situations

- Distinguish between a population and a sample
- Determine if a sample is biased or unbiased.
- Use the results of a survey to determine future events
- Determine the best measure of central tendency for a given data set and understand and apply the effects of an outlier on a data set
- Calculate measures of a variation (minimum, lower quartile, median, upper quartile, and maximum)
- Use the measures of variation to construct a box-and-whisker plot
- Read and analyze a given box-and-whisker plot, including interquartile range

- Find the probability of a simple event
- Rewrite a ratio as a decimal and a percentage
- Compare theoretical probability and experimental probability
- Use given data results to find the experimental probability of an event
- Use theoretical and/or experimental probability to predict future events
- Use the fundamental counting principle and tree diagrams to determine the number of outcomes for an event
- Find the compound probability of an event (with and without replacement)

- Calculate perimeter and area of 2D figures
- Calculate circumference and area of circles
- Calculate perimeter and area of composite and shaded figures

- Triangle Inequality Theorem
- Classify an angle pair as vertical, adjacent, complementary, and/or supplementary
- Use angle pair relationships to calculate missing values and/or angles
- Calculate missing value and/or angle measures in triangles
- Calculate missing value and/or angle measures in quadrilaterals

- Determine the cross-section after slicing a 3D figure
- Calculate the volume of prisms
- Calculate the surface area of prisms