



Prep for Statistics

This course covers the topics outlined below. You can customize the scope and sequence of this course to meet your curricular needs.

Curriculum Show All (128 topics + 61 additional topics)

- Arithmetic Review (22 topics)
 - ◆ Integers (7 topics)
 - ◇ Integer addition: Problem type 1
 - ◇ Integer subtraction: Problem type 1
 - ◇ Integer multiplication and division
 - ◇ Exponents and integers: Problem type 1
 - ◇ Order of operations with whole numbers
 - ◇ Order of operations with whole numbers and grouping symbols
 - ◇ Order of operations with whole numbers and exponents: Basic
 - ◆ Decimals (5 topics)
 - ◇ Decimal place value: Tenths and hundredths
 - ◇ Rounding decimals
 - ◇ Multiplication of a decimal by a power of ten
 - ◇ Division of a decimal by a power of ten
 - ◇ Using a calculator to convert a fraction to a rounded decimal
 - ◆ Percentages (10 topics)
 - ◇ Introduction to converting a decimal to a percentage
 - ◇ Converting between percentages and decimals
 - ◇ Converting between percentages and decimals in a real-world situation
 - ◇ Converting a fraction to a percentage: Denominator of 20, 25, or 50
 - ◇ Using a calculator to convert a fraction to a rounded percentage
 - ◇ Converting a fraction to a percentage in a real-world situation
 - ◇ Finding a percentage of a whole number
 - ◇ Finding a percentage of a total amount: Real-world situations
 - ◇ Writing a ratio as a percentage
 - ◇ Computing a percentage from a table of values
- Algebra Review (15 topics)
 - ◆ Algebraic Expressions (5 topics)
 - ◇ Evaluating an algebraic expression: Whole numbers with two operations
 - ◇ Evaluating a formula
 - ◇ Evaluating a linear expression: Integer multiplication with addition or subtraction
 - ◇ Distributive property: Whole number coefficients
 - ◇ Combining like terms: Integer coefficients
 - ◆ Equations and Inequalities (10 topics)
 - ◇ Solving a two-step equation with integers
 - ◇ Solving a linear equation with several occurrences of the variable: Variables on the same side and distribution
 - ◇ Solving a linear equation with several occurrences of the variable: Variables on both sides and distribution
 - ◇ Solving for a variable in terms of other variables using addition or subtraction: Basic

- ◇ Solving for a variable in terms of other variables using multiplication or division: Advanced
- ◇ Translating a sentence into a one-step equation
- ◇ Translating a sentence by using an inequality symbol
- ◇ Writing an inequality for a real-world situation
- ◇ Graphing a linear inequality on the number line
- ◇ Writing and graphing inequalities given in context
- Slope and Lines (24 topics)
 - ◆ Graphing and Intercepts (11 topics)
 - ◇ Reading a point in the coordinate plane
 - ◇ Plotting a point in the coordinate plane
 - ◇ Finding a solution to a linear equation in two variables
 - ◇ Graphing a line given two of its points
 - ◇ Graphing a line given its equation in slope-intercept form: Integer slope
 - ◇ Graphing a line given its equation in slope-intercept form: Fractional slope
 - ◇ Finding x- and y-intercepts given the graph of a line on a grid
 - ◇ Y-intercept of a line
 - ◇ Finding x- and y-intercepts of a line given the equation: Basic
 - ◇ Graphing a line given its x- and y-intercepts
 - ◇ Interpreting a line graph
 - ◆ Slope (7 topics)
 - ◇ Finding slope given the graph of a line in quadrant 1 that models a real-world situation
 - ◇ Classifying slopes given graphs of lines
 - ◇ Finding slope given the graph of a line on a grid
 - ◇ Finding slope given two points on a line
 - ◇ Graphing a line given its slope and y-intercept
 - ◇ Finding a coordinate pair given the slope and a point on a line
 - ◇ Graphing a line through a given point with a given slope
 - ◆ Equations of Lines (3 topics)
 - ◇ Finding the slope and y-intercept of a line given its equation in the form $y = mx + b$
 - ◇ Writing an equation of a line given its slope and y-intercept
 - ◇ Writing the equation of a line given the y-intercept and another point
 - ◆ Applications (3 topics)
 - ◇ Finding outputs of a two-step function with decimals that models a real-world situation: Two variable equation
 - ◇ Finding the intercepts and rate of change given a graph of a linear function
 - ◇ Interpreting the parameters of a linear function that models a real-world situation
- Collecting and Displaying Data (23 topics)
 - ◆ Collecting Data (7 topics)
 - ◇ Differentiating between parameters and statistics
 - ◇ Classification of variables
 - ◇ Discrete versus continuous variables
 - ◇ Choosing units of measurement and an appropriate method to gather data
 - ◇ Understanding the differences between designed experiments and observational studies
 - ◇ Identifying confounders and ways to eliminate them in an observational study
 - ◇ Identifying and reducing statistical bias
 - ◆ Displaying Data (15 topics)
 - ◇ Interpreting a tally table
 - ◇ Constructing a frequency distribution for non-grouped data
 - ◇ Constructing a dot plot (line plot)
 - ◇ Constructing a bar graph for non-numerical data
 - ◇ Interpreting a bar graph
 - ◇ Interpreting a double bar graph
 - ◇ Understanding how adjusting the vertical scale can make a graph misleading

- ◇ Understanding how two dimensional graphs can be misleading
- ◇ Constructing a frequency distribution for grouped data
- ◇ Constructing a frequency distribution and a histogram
- ◇ Constructing a frequency distribution and a frequency polygon
- ◇ Cumulative distributions and ogives
- ◇ Interpreting a stem–and–leaf display
- ◇ Interpreting a pie chart
- ◇ Finding a percentage of a total amount in a circle graph
- ◆ Venn Diagrams (1 topics)
 - ◇ Interpreting Venn diagram cardinalities with 2 sets for a real–world situation
- Describing Data (23 topics)
 - ◆ Measures of Center (11 topics)
 - ◇ Introduction to summation notation
 - ◇ Mean of a data set
 - ◇ Computations involving the mean, sample size, and sum of a data set
 - ◇ Rejecting unreasonable claims based on average statistics
 - ◇ Weighted mean: Tabular data
 - ◇ Median of a data set
 - ◇ Mode of a data set
 - ◇ Mean, median, and mode: Computations
 - ◇ How changing a value affects the mean and median
 - ◇ Choosing the best measure to describe data
 - ◇ Comparing the mean, median, and mode of a data set
 - ◆ Measures of Variation (3 topics)
 - ◇ Range of a data set
 - ◇ Using back–to–back stem–and–leaf displays to compare data sets
 - ◇ Sample standard deviation
 - ◆ Measures of Position (9 topics)
 - ◇ Percentage of data below a specified value
 - ◇ Percentiles
 - ◇ Interpreting percentile ranks
 - ◇ Finding quartiles
 - ◇ Five–number summary and interquartile range
 - ◇ Introduction to finding outliers in a data set
 - ◇ Using the IQR to find outliers in a data set
 - ◇ Interpreting a box–and–whisker plot
 - ◇ Constructing a box–and–whisker plot involving outliers
- Counting and Basic Probability (13 topics)
 - ◆ Fundamental Counting Principle (3 topics)
 - ◇ Interpreting a tree diagram
 - ◇ Introduction to the counting principle
 - ◇ Counting principle
 - ◆ Permutations and Combinations (1 topics)
 - ◇ Factorial expressions
 - ◆ Probability of Simple Events (9 topics)
 - ◇ Determining a sample space and outcomes for an event: Experiment involving a single selection
 - ◇ Determining a sample space and outcomes for an event: Experiment involving multiple selections
 - ◇ Introduction to the probability of an event
 - ◇ Probability involving one die or choosing from n distinct objects
 - ◇ Probability involving choosing from objects that are not distinct
 - ◇ Probabilities of an event and its complement
 - ◇ Finding probabilities of events and complements
 - ◇ Experimental and theoretical probability

- ◇ Outcomes and event probability
- Rules for Probability (8 topics)
 - ◆ Addition and Multiplication Rules for Probability (6 topics)
 - ◇ Determining outcomes for unions, intersections, and complements of events
 - ◇ Calculating relative frequencies in a contingency table
 - ◇ Calculating relative frequencies in a contingency table: Advanced
 - ◇ Probabilities involving two rolls of a die: Decimal answers
 - ◇ Word problem involving the probability of a union
 - ◇ Computing probability involving the addition rule using a two-way frequency table
 - ◆ Conditional Probability (2 topics)
 - ◇ Computing conditional probability using a sample space
 - ◇ Computing conditional probability using a two-way frequency table
- Other Topics Available(*) (61 additional topics)
 - ◆ Arithmetic Review (7 topics)
 - ◇ Order of operations with integers
 - ◇ Simplifying a fraction
 - ◇ Addition or subtraction of fractions with different denominators
 - ◇ Fraction multiplication
 - ◇ Fraction division
 - ◇ Using a calculator to approximate a square root
 - ◇ Converting a percentage to a fraction in simplest form
 - ◆ Algebra Review (3 topics)
 - ◇ Solving for a variable in terms of other variables using addition or subtraction with division
 - ◇ Solving for a variable inside parentheses in terms of other variables
 - ◇ Graphing a compound inequality on the number line
 - ◆ Slope and Lines (9 topics)
 - ◇ X- and y-intercepts of a line given the equation in standard form
 - ◇ Graphing a line by first finding its x- and y-intercepts
 - ◇ Finding the slopes of horizontal and vertical lines
 - ◇ Finding the slope and y-intercept of a line given its equation in the form $Ax + By = C$
 - ◇ Writing an equation in slope-intercept form given the slope and a point
 - ◇ Writing the equation of a line through two given points
 - ◇ Writing and evaluating a function that models a real-world situation: Advanced
 - ◇ Application problem with a linear function: Finding a coordinate given the slope and a point
 - ◇ Application problem with a linear function: Finding a coordinate given two points
 - ◆ Collecting and Displaying Data (11 topics)
 - ◇ Classification of variables and levels of measurement
 - ◇ Choosing an appropriate method to conduct a survey and making an estimation
 - ◇ Classifying samples
 - ◇ Histograms for grouped data
 - ◇ Constructing a relative frequency distribution for grouped data
 - ◇ Interpreting relative frequency histograms
 - ◇ Shapes of discrete distributions
 - ◇ Computations from pie charts
 - ◇ Constructing a scatter plot
 - ◇ Introduction to shading a Venn diagram with 2 events
 - ◇ Shading a Venn diagram with 2 events: Unions, intersections, and complements
 - ◆ Describing Data (10 topics)
 - ◇ Summation of indexed data
 - ◇ Finding the mean of a symmetric distribution
 - ◇ Finding the value for a new score that will yield a given mean

- ◇ Finding the value for a new score to yield a mean that satisfies a given criterion
- ◇ Making reasonable inferences based on proportion statistics
- ◇ Comparing measures of center and variation
- ◇ Identifying the center, spread, and shape of a data set
- ◇ Population standard deviation
- ◇ Constructing a box-and-whisker plot
- ◇ Using box-and-whisker plots to compare data sets
- ◆ Counting and Basic Probability (8 topics)
 - ◇ Counting principle with repetition allowed
 - ◇ Computing permutations and combinations
 - ◇ Introduction to permutations and combinations
 - ◇ Permutations and combinations: Problem type 1
 - ◇ Permutations and combinations: Problem type 2
 - ◇ Probability of selecting one card from a standard deck
 - ◇ Understanding likelihood
 - ◇ Probabilities of a permutation and a combination
- ◆ Rules for Probability (13 topics)
 - ◇ Identifying independent events given descriptions of experiments
 - ◇ Probability of independent events: Decimal answers
 - ◇ Probability of dependent events: Decimal answers
 - ◇ Probabilities of draws with replacement
 - ◇ Outcomes and event probability: Addition rule
 - ◇ Using a Venn diagram to understand the addition rule for probability
 - ◇ Word problem involving the probability of a union or an intersection
 - ◇ Using a Venn diagram to understand the multiplication rule for probability
 - ◇ Outcomes and event probability: Conditional probability
 - ◇ Identifying independent events given values of probabilities
 - ◇ Computing conditional probability using a large two-way frequency table
 - ◇ Conditional probability: Basic
 - ◇ Intersection and conditional probability

***Other Topics Available** *By default, these topics are NOT included in the course, but can be added using the content editor in the Teacher Module.*