

Measurement and Data	The Number System
<ul style="list-style-type: none"> • Unit Length • G, N, C - Representing Data <ul style="list-style-type: none"> ○ Picture Graph ○ Bar Graph ○ Line Plot • N - Comparing Standard and Non-Standard Units of Measure • G, N - Addition and Subtraction (i.e. integers or time) on a Number Line • Operations Involving Time, Volume, and Masses • Estimation • G - Area and Square Units • G - Area Model for Distributive Property <ul style="list-style-type: none"> ○ $a(b+c) = a(b) + a(c)$ • Area of Rectilinear Composite Shapes • Perimeter • G - Same Area, Different Perimeter • G - Same Perimeter, Different Area • Two- and Three-Dimensional Composite Shapes • N - Conversion between quantities within the same measurement system • G - Angle Measure (definition of one degree = $1/360$) • Volume and Cubic Units • Volume and Associative Property • Volume relating to multiplication • Volume as additive 	<ul style="list-style-type: none"> • Factors and multiples • G, A - Greatest Common Factor and the Distributive Property • N, C - Integers – real world context • G, N, C - Meaning of zero – real world context • Rational Numbers – points on a number line; quotient of integers with non-zero divisors; decimal form (terminating or repeating) • Operations on rational numbers (word problems) • G - Extend number lines to coordinate axes – points on a plane (ordered pairs) • G - Quadrants of a Coordinate Plane • Additive Inverse • G – Reflections of ordered pairs on coordinate grid • G, N - Plotting points on a number line/coordinate plane • N - Absolute Value – distance from zero and real world applications • N - Ordering rational numbers (real-world context) • G, 2N - Distance formula – same first coordinate or same second coordinate • N - Additive Inverse – definition • N - Distance on a number line – absolute value of difference (real-world) • Irrational numbers • N - Rational approximation of irrational numbers • G - Estimation of irrational expressions (π^2)
Ratios and Proportional Relationships	Statistics and Probability
<ul style="list-style-type: none"> • G, N, C, A - Ratio – relationship between two quantities • G, N - Unit rates • G, N - Equivalent ratio tables • G, C - Proportions – equivalent ratios • N - Double Number Line Diagrams (Tape Diagrams) in solving equivalent ratio problems • Ratio comparison tables • G, N - Unit rate problems – unit price and constant speed • N - Percent – rate per 100 • Whole, rate (percent) and percentage (part) 	<ul style="list-style-type: none"> • Variability • Center, Spread and Shape • Center vs Spread (Variability) • G - Dot plots, histograms, and box plots • Describing distributions (i.e. number of observations, units of measure, Mean and Median) • N - Interquartile Range and Mean Absolute Deviation • Outliers (striking deviations from overall pattern) • Choosing the appropriate measure of center with respect to the shape of the data

<ul style="list-style-type: none"> • N - Using ratios to convert measurement • Using appropriate manipulations and transformations when performing operations between quantities. • G - Testing for equivalent ratios – i.e. graphing technique, cross-multiplication • G, C - Constant of proportionality (slope) – Direct and Inverse Variations (tables, graphs, equations, diagrams and verbal descriptions) • A - Equations to represent proportions • G - Representations of the origin and unit rate (slope) on a graph of a proportional relationship • G, N -Solving for simple interest, tax and gratuities using proportional relationships 	<p>distribution and context</p> <ul style="list-style-type: none"> • Random Sampling • Sampling from a group representative of a population and using sampling trends to draw inferences • Drawing inferences • Drawing comparative inferences – degree of visual overlap • Measuring the difference between the centers by expressing it as a multiple of a measure of variability • G, N - Using median, mode, interquartile range and mean absolute deviation to draw comparative inferences • Comparing probabilities • Experimental Probability and prediction • Probability Models • G - Compound Probabilities and Fractions • Representing sample spaces using organized lists, tables and tree diagrams • G - Scatter Plots and investigating patterns of association (clustering, outlier, non-linear, positive and negative) • G - Line of Best Fit • G - Linear Models (slope and intercept) • Forming associations with bivariate categorical data using two-way tables and relative frequencies
Functions	
<ul style="list-style-type: none"> • Function Rule • Function Notation • G, 2N, A - Linear and Non-Linear Functions • Constructing functions to model linear relationships (line of best fit) • G, 2N, A - Rate of change (slope) and initial value (x/y intercept) in graphs and table of values representing real-world situations • G, 2N, A - Describing functional relationships from a graph (linear, non-linear, increasing and/or decreasing). 	