

Content Area **Data Analysis & Probability**

Grade Level/Course: **Intro to Statistics (Gr.9-11)**

District

Author **Kristen Ratz**

Date

Unit #	Content	Essential questions	Objectives Skills Processes	Vocabulary	Assessment	Resources Chapters / Sections	Mn Standard & Benchmarks	Estimate # of days on Unit
Unit 1	Collection and Organization of Data	Can a student pick up a newspaper and use real statistics to make logical decisions?	Distinguish between Vocab Terms	Population, Sample, Quantitative vs Qualitative Data, Descriptive Stats. Vs Inferential Stats., <b>Simulation</b> vs. Experiment vs Sampling	Unit Test	Section 1.1 - 1.3, 2.1	9.4.2.3	7
Unit 2	Graphs and Application	Can a student pick up a newspaper and use real graphs to make logical decisions?	Use technology etc. to display data and calculate summary statistics	Stem-n-Leaf Plot, Histogram, Dot Plots, <b>Box-n-Whisker Plot</b> , Mean, Median, Mode, Range, <b>Interquartile Range, Percentile</b> , Outliers, <b>Standard Deviation</b> , Scatterplots, <b>Causation, Correlation Coefficients, Regression Lines</b>	Race to Solution Project, BIG Graph Project, Fathom Software Activity, Unit Test	Section 2.2 - 2.5	9.4.1.1 9.4.1.2 9.4.1.3 9.4.2.1 9.4.2.2	16
Unit 3	Probability	Rather than using intuition, can a student better figure the probability of an event occurring using the probability techniques provided?	Use all terminology to assist in finding probabilities and different strategies for counting possibilities.	Tree Diagrams, Mutually Exclusive, Equally Likely, Sample Space, Independent vs Dependent, <b>Unions &amp; Intersections, Complements, Theoretical vs. Experimental Probability</b> , Permutation vs Combination	Rolling 2 Dice Experiment, Combination vs. Permutation Project, Unit Test	Section 3.1 - 3.4	9.4.3.1 9.4.3.2 9.4.3.3 9.4.3.5 9.4.3.6 9.4.3.7 9.4.3.9	14
Unit 4	Population Means & Discrete Distributions w/ Probability	Are students able to connect probability to real world situations to make decisions?	Find probabilities using Binomial and Geometric Distributions. Figuring out averages using the expected value formula.	Population Mean ( $\mu$ ), Expected Value, Binomial & Geometric Distributions	African American Coaches in College Football Activity, Mike-n-Ikes Experiment, Cereal Box Problem, Unit Test	Section 4.1 - 4.3	9.4.3.4 9.4.3.8	10

Unit 5	Continuous Distributions - Normal Distribution	Does a students that leaves this class recognize that the normal curve and its properties have uses in professions in the real world? For example, how would this information be relevant to a lab technician?	Acquiring a basic understanding of the normal curve and its applications.	Mean, Standard Deviation (Sigma), <b>Standard Normal Curve</b> , Empirical Rule, Z-Scores, <b>Normal Distributions</b>	Unit Test	Section 5.1 - 5.3	9.4.1.4 9.4.3.8	10
--------	--	--	---	--	-----------	-------------------	--------------------	----