

2008/2009 Pacing Guides Revisions

Probability & Statistics

- In order to more closely fit the pacing order used in the district-adopted textbook, we made a few changes to the 2007/2008 statistics pacing guide.
- Most textbooks, including the one that was recently adopted, begin with a study of descriptive statistics. Probability is covered next with about half of the course devoted to the study of inferential statistics, a much more abstract and unfamiliar concept for our students.
- Although the MS Mathematics Framework is silent on teaching concepts such as the standard normal curve and confidence intervals, these ideas are critical to the development of objective 2c, *“Select and use appropriate statistical methods in decision-making and hypothesis testing.”* We therefore propose spending a fairly large portion of the 3rd Nine Weeks allowing students to learn and master these important concepts.

Statistics Pacing Guides Revision Committee

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Probability & Statistics

2008/2009 Revised Pacing Guide

First Nine Weeks

Competency	DOK	Mississippi Mathematics Framework Objectives	Date Taught
1a	2	Describe the comparison of center and spread within groups and between or across group variation.	
2b	2	**Calculate mean, median, mode, standard deviation, z-scores, t-scores, quartiles, and ranges, and explain their applications.**	
3a	2	Organize data using graphs that are appropriate to the data set, including frequency distributions, stacked line and bar graphs, stem-and-leaf plots, scatter plots, frequency polygons, and histograms.	
3b	2	Determine and justify the graph type that best represents a given set of data.	
3c	2	Create graphs with scales that fairly display the data.	
4a	3	Make inferences and predictions from charts, tables, and graphs that summarize data.	
4b	2	Determine the most appropriate measure to describe a data set, including mean, median, mode, standard deviation, and	
5c	3	Analyze source of bias and sampling error(s) in studies.	
5d	2	Compare and contrast sampling methods, including simple random sampling, stratified random sampling, and cluster sampling with regard to benefits and trade-offs.	

Second Nine Weeks

Competency	DOK	Mississippi Mathematics Framework Objectives	Date Taught
1b	2	Interpret and apply the concept of the Law of Large Numbers.	
1c	1	Apply the counting principles, including permutations and combinations.	
1d	2	Construct and interpret sample spaces, events, and tree diagrams.	
1e	1	Identify types of events, including mutually exclusive, independent, and complements.	
1f	2	Calculate geometric probability using two-dimensional models and explain the processes used.	
1g	2	Create simulations and experiments that correlate to theoretical probability.	
1h	2	Use Markov Chains to calculate probability by constructing matrix models.	

****Objective 2b** will be covered during the second and third 9-week periods because of its broad application; however, **mastery will only be assessed on the second semester common assessment.****

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Third Nine Weeks

Competency	DOK	Mississippi Mathematics Framework Objectives	Date Taught
1i	2	Apply the concept of a random variable to generate and interpret probability distributions.	
2b	2	Calculate mean, median, mode, standard deviation, z-scores, t-scores, quartiles, and ranges, and explain their applications.	
2c	2	Select and use appropriate statistical methods in decision-making and hypothesis testing.	

Fourth Nine Weeks

Competency	DOK	Mississippi Mathematics Framework Objectives	Date Taught
2a	2	Analyze and describe outliers and shape of the data including linearity and correlation across graphs & data sets.	
2d	2	Use algebraic concepts and methods to determine mathematical models of best fit.	
4c	2	Use curve-fitting to make predictions from collected data.	
4d	2	Explain and defend regression models using correlation coefficients and residuals.	
5a	4	Design and execute a statistical experiment, including the preparation of a report that communicates the statement of the problems, methodology, results, and conclusions.	
5b	2	Explain the generalizability of results and types of conclusions that can be drawn from observational studies, empirical experiments, and surveys.	