Prepared by: Asim Khan - 9/22/2012

Timeline	Themes/Enduring Understandings/Essential Questions for the Unit	Common Core Standards	Standards Based Skills and Concepts Targeted	Assessments	Strategies/Practices Used to Teach Skills and Concepts	Resources/Texts Used
Unit I Exploring Data: describing patterns and departures from patterns						
1st Year - September (Weeks 1 through 3)	***How to construct and interpret graphical displays of distributions of univariate data?*** • Center and spread • Clusters and gaps • Outliers and other unusual features • Shape	HSS-ID.A.1 HSS-ID.A.3 HSS-IC.B.6	• CONSTRUCT and INTERPRET dotplots, stemplots, and histograms • DESCRIBE the shape of a distribution • USE histograms wisely	**To be assessed:** The students will be assessed on mathematical and statistical accuracy, the students' conceptual understanding and their ability to communicate using the terminology of statistics. **Collection of evidence:** • Quizzes will be given every other week • Homework, Classwork • Tests will be given every other week • Notebook-A notebook will be kept that includes lesson notes, examples, student work, and corrections. **Types of assessment:** • Selected response • Academic prompt • Questions and Answer • Constructed response • Observation • Work Sample **Assessment Values:** 15% Quizzes 50% Tests 20% Classwork and Homework 15% Project **Criteria by which the student responses will be evaluated:** • Homework will be graded in class each day by stating answers out loud, placing work on the board, or peer reviewing in cooperative learning groups • Homework quizzes will be graded on mathematical reasoning, accuracy, and presentation of work. • Unit test will be graded on mathematical reasoning, accuracy, and presentation of work. • Notes will be checked periodically for completion and accuracy.	**Performance Tasks:** Collected homework and class work Class Review Chapter Quiz Chapter Test **Other evidence:** Daily observations – class problems Daily homework checks AP Practice **Student Self-Assessment/Reflection:** Independent class problems Homework Final Exams and review sheets	• AP Statistics Text Book • College Board Resources • AP Practice • Standardized Test Preparation
1st Year - September (Week 4) and October (Weeks 1 through 2)	***How to summarize distributions of univariate data?*** • Measuring center: median, mean • Measuring spread: range, interquartile range, standard deviation • Measuring position: quartiles, percentiles, standardized scores (z-scores) • Using boxplots • The effect of changing units on summary measures	HSS-ID.A.1 HSS-ID.A.2 HSS-ID.A.3 HSS-IC.B.6	• MEASURE center with the mean and median • MEASURE spread with standard deviation and interquartile range • IDENTIFY outliers • CONSTRUCT a boxplot using the five-number summary • CALCULATE numerical summaries with technology • MEASURE position using percentiles • INTERPRET cumulative relative frequency graphs • MEASURE position using z-scores • TRANSFORM data • DEFINE and DESCRIBE density curves			
	How to compare distributions of univariate data? • Comparing center and spread: within group, between group variation	HSS-ID.A.1	• COMPARE distributions			

1st Year - October (Weeks 3 and 4) and November(Week 1)	• Comparing clusters and gaps	HSS-ID.A.2				
	• Comparing outliers and other unusual features	HSS-ID.A.3				
	• Comparing shape					
	How to explore bivariate data?					
	• Analyzing patterns in scatterplots	HSS-ID.B.6	• IDENTIFY explanatory and response variables			
	• Correlation and linearity	HSS-ID.B.6a	• CONSTRUCT scatterplots to display relationships			
	• Least-squares regression line	HSS-ID.B.6b	• INTERPRET scatterplots			
	• Residual plots, outliers, and influential points	HSS-ID.B.6c	• MEASURE linear association using correlation			
	• Transformations to achieve linearity: Logarithmic and Power Transformations	HSS-ID.C.7	• INTERPRET correlation			
		HSS-ID.C.8	• INTERPRET a regression line			
1st Year - November (Weeks 2 through 4) and December (Weeks 1 through 2)			• CALCULATE the equation of the least-squares regression line			
			• CALCULATE residuals			
			• CONSTRUCT and INTERPRET residual plots			
			• DETERMINE how well a line fits observed data			
			• INTERPRET computer regression output			
			• USE transformations involving powers and roots to achieve linearity for a relationship between two variables			
			• MAKE predictions from a least-squares regression line involving transformed data			
			• USE transformations involving logarithms to achieve linearity for a relationship between two variables			
			• DETERMINE which of several transformations does a better job of producing a linear relationship			
	How to explore categorical data?					
	• Frequency tables and bar charts	HSS-ID.B.5	• CONSTRUCT and INTERPRET bar graphs and pie charts			

1st Year - January (Weeks 1 through 4)	• Marginal and joint frequencies for two-way tables • Conditional relative frequencies and association • Comparing distributions using bar charts	HSS-CP.A.1 HSS-CP.A.2 HSS-CP.A.3 HSS-CP.A.4 HSS-CP.A.5 HSS-CP.B.6 HSS-CP.B.7 HSS-CP.B.8(+) HSS-MD.B.7(+)	• RECOGNIZE “good” and “bad” graphs • CONSTRUCT and INTERPRET two-way tables • DESCRIBE relationships between two categorical variables • ORGANIZE statistical problems			

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Unit II Sampling and Experimentation: planning and conducting a study						
1st Year - February (Weeks 1 and 2)	***What are the methods of data collection?*** • Census • Sample survey • Experiment • Observational study	HSS-ID.C.9 HSS-IC.B.3 HSS-IC.B.5	• DESCRIBE the language of experiments • IDENTIFY the population and sample in a sample survey • IDENTIFY voluntary response samples and convenience samples • DISTINGUISH observational studies from experiments	**To be assessed:** The students will be assessed on mathematical and statistical accuracy, the students' conceptual understanding and their ability to communicate using the terminology of statistics. **Collection of evidence:** • Quizzes will be given every other week • Homework, Classwork • Tests will be given every other week • Notebook-A notebook will be kept that includes lesson notes, examples, student work, and corrections. **Types of assessment:** • Selected response • Academic prompt • Questions and Answer • Constructed response • Observation • Work Sample **Assessment Values:** 15% Quizzes 50% Tests 20% Classwork and Homework 15% Project **Criteria by which the student responses will be evaluated:** • Homework will be graded in class each day by stating answers out loud, placing work on the board, or peer reviewing in cooperative learning groups • Homework quizzes will be graded on mathematical reasoning, accuracy, and presentation of work. • Unit test will be graded on mathematical reasoning, accuracy, and presentation of work. • Notes will be checked periodically for completion and accuracy.	**Performance Tasks:** Collected homework and class work Class Review Chapter Quiz Chapter Test **Other evidence:** Daily observations – class problems Daily homework checks AP Practice **Student Self-Assessment/Reflection:** Independent class problems Homework Final Exams and review sheets	• AP Statistics Text Book • College Board Resources • AP Practice • Standardized Test Preparation
1st Year - February (Weeks 3 and 4)	***How to plan and conduct surveys?*** • Characteristics of a well-designed and well-conducted survey • Populations, samples, and random selection • Sources of bias in sampling and surveys • Sampling methods, including simple random sampling, stratified random sampling, and cluster sampling	HSS-IC.B.3	• DESCRIBE how to use a table of random digits to select a simple random sample (SRS) • DESCRIBE simple random samples, stratified random samples, and cluster samples • EXPLAIN how undercoverage, nonresponse, and question wording can lead to bias in a sample survey			
1st Year - March (Weeks 1 and 2)	***How to plan and conduct experiments?*** • Characteristics of a well-designed and well-conducted experiment • Treatments, control groups, experimental units, random assignments, and replication • Sources of bias and confounding, including placebo effect and blinding • Completely randomized designs • Randomized block design, including matched pairs design	HSS-ID.C.9 HSS-IC.B.3 HSS-IC.B.5	• APPLY the three principles of experimental design • DESIGN comparative experiments utilizing completely randomized designs and randomized block designs, including matched pairs design			
1st Year - March (Week 3)	***What results and types of conclusions can be drawn from observational studies, experiments, and surveys?***	HSS-ID.C.9 HSS-IC.B.3	• DESCRIBE the challenges of establishing causation • DEFINE the scope of inference • DESCRIBE data ethics in designing studies			

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Unit III Anticipating Patterns: exploring random phenomena using probability and simulation						
1st Year - March (Week 4) and April (Weeks 1 through 3)	***What is probability and how is it used?*** • Interpreting probability, including long-run relative frequency interpretation • Addition rule, multiplication rule, conditional probability, and independence • Discrete random variables and their probability distributions, including binomial and geometric • Simulation of random behavior and probability distributions • Mean (expected value) and standard deviation of a random variable, and linear transformation of a random variable	HSS-ID.B.5 HSS-IC.A.2 HSS-CP.A.1 HSS-CP.A.2 HSS-CP.A.3 HSS-CP.A.4 HSS-CP.A.5 HSS-CP.B.6 HSS-CP.B.7 HSS-CP.B.8(+) HSS-MD.A.1(+) HSS-MD.A.2(+) HSS-MD.A.3(+) HSS-MD.A.4(+) HSS-MD.B.5(+) HSS-MD.B.6(+) HSS-MD.B.7(+)	• DESCRIBE the idea of probability • DESCRIBE myths about randomness • DESIGN and PERFORM simulations • DESCRIBE chance behavior with a probability model • DEFINE and APPLY basic rules of probability • DETERMINE probabilities from two-way tables • CONSTRUCT Venn diagrams and DETERMINE probabilities • DEFINE conditional probability • COMPUTE conditional probabilities • DESCRIBE chance behavior with a tree diagram • DEFINE independent events • DETERMINE whether two events are independent • APPLY the general multiplication rule to solve probability questions • APPLY the concept of discrete random variables to a variety of statistical settings • CALCULATE and INTERPRET the mean (expected value) of a discrete random variable • CALCULATE and INTERPRET the standard deviation (and variance) of a discrete random variable • DESCRIBE continuous random variables • DESCRIBE the effect of performing a linear transformation on a random variable	**To be assessed:** The students will be assessed on mathematical and statistical accuracy, the students' conceptual understanding and their ability to communicate using the terminology of statistics. **Collection of evidence:** • Quizzes will be given every other week • Homework, Classwork • Tests will be given every other week • Notebook-A notebook will be kept that includes lesson notes, examples, student work, and corrections. **Types of assessment:** • Selected response • Academic prompt • Questions and Answer • Constructed response • Observation • Work Sample **Assessment Values:** 15% Quizzes 50% Tests 20% Classwork and Homework 15% Project **Criteria by which the student responses will be evaluated:** • Homework will be graded in class each day by stating answers out loud, placing work on the board, or peer reviewing in cooperative learning groups • Homework quizzes will be graded on mathematical reasoning, accuracy, and presentation of work. • Unit test will be graded on mathematical reasoning, accuracy, and presentation of work. • Notes will be checked periodically for completion and accuracy.	**Performance Tasks:** Collected homework and class work Class Review Chapter Quiz Chapter Test **Other evidence:** Daily observations – class problems Daily homework checks AP Practice **Student Self-Assessment/Reflection:** Independent class problems Homework Final Exams and review sheets	• AP Statistics Text Book • College Board Resources • AP Practice • Standardized Test Preparation
1st Year - April (Week 4) and May (Weeks 1 through 3) and 2nd Year - September (Weeks 1 through4)	***How to combine independent random variables?*** • Notion of independence versus dependence • Mean and standard deviation for sums and differences of independent random variables	None	• COMBINE random variables and CALCULATE the resulting mean and standard deviation • CALCULATE and INTERPRET probabilities involving combinations of Normal random variables			
1st Year - September (Week 4) and October (Weeks 1 through 2)	***What is the Normal distribution and how is it used?*** • Properties of the Normal distribution • Using tables of the Normal distribution • The Normal distribution as a model for measurements	HSS-ID.A.4	• DESCRIBE and APPLY the 68-95-99.7 Rule • DESCRIBE the standard Normal Distribution • PERFORM Normal distribution calculations • ASSESS Normality			
2nd Year - October (Weeks 1 through 4) and November (Week 1 through 4)	***What are sampling distributions and how are they used?*** • Sampling distribution of a sample proportion • Sampling distribution of a sample mean • Central Limit Theorem • Sampling distribution of a difference between two independent sample proportions • Sampling distribution of a difference between two independent sample means • Simulation of sampling distributions • *t* distribution • Chi-square distribution	HSS-IC.A.2 HSS-IC.B.5	• FIND the mean and standard deviation of the sampling distribution of a sample proportion • DETERMINE whether or not it is appropriate to use the Normal approximation to calculate probabilities involving the sample proportion • CALCULATE probabilities involving the sample proportion • EVALUATE a claim about a population proportion using the sampling distribution of the sample proportion • FIND the mean and standard deviation of the sampling distribution of a sample mean • CALCULATE probabilities involving a sample mean when the population distribution is Normal • EXPLAIN how the shape of the sampling distribution of sample means is related to the shape of the population distribution • APPLY the central limit theorem to help find probabilities involving a sample mean • DISTINGUISH between a parameter and a statistic • DEFINE sampling distribution • DISTINGUISH between population distribution, sampling distribution, and the distribution of sample data • DETERMINE whether a statistic is an unbiased estimator of a population parameter • DESCRIBE the relationship between sample size and the variability of an estimator • DETERMINE whether the conditions for performing inference are met.			

			• INTERPRET the results of inference procedures in a randomized experiment. • DESCRIBE the characteristics of the sampling distribution of the difference between two sample means • CALCULATE probabilities using the sampling distribution of the difference between two sample means • DETERMINE whether the conditions for performing inference are met • USE two-sample t procedures to compare two means based on summary statistics or raw data • INTERPRET computer output for two-sample t procedures • PERFORM a significance test to compare two means • INTERPRET the results of inference procedures • COMPUTE expected counts, conditional distributions, and contributions to the chi-square statistic • CHECK the Random, Large sample size, and Independent conditions before performing a chi-square test			

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Unit IV Statistical Inference: estimating population parameters and testing hypothesis						
2nd Year - December (Weeks 1 and 2) and January (Weeks 1 through 4) and February (Weeks 1 and 2)	***What is estimation (point estimators and confidence intervals) and how is it found?*** • Estimating population parameters and margins of error • Properties of point estimators, including unbiasedness and variability • Logic of confidence intervals, meaning of confidence level and confidence intervals, and properties of confidence intervals • Large-sample confidence interval for a proportion • Large-sample confidence interval for a difference between two proportions • Confidence interval for a mean • Confidence interval for a difference between two means (unpaired and paired) • Confidence interval for the slope of a least-squares regression line	HSS-IC.A.1 HSS-IC.B.4 HSS-IC.B.5	• INTERPRET a confidence level • INTERPRET a confidence interval in context • DESCRIBE how a confidence interval gives a range of plausible values for the parameter • DESCRIBE the inference conditions necessary to construct confidence intervals • EXPLAIN practical issues that can affect the interpretation of a confidence interval • CONSTRUCT and INTERPRET a confidence interval for a population proportion • DETERMINE the sample size required to obtain a level C confidence interval for a population proportion with a specified margin of error • DESCRIBE how the margin of error of a confidence interval changes with the sample size and the level of confidence C • PERFORM a significance test to compare two proportions.	**To be assessed:** The students will be assessed on mathematical and statistical accuracy, the students' conceptual understanding and their ability to communicate using the terminology of statistics. **Collection of evidence:** • Quizzes will be given every other week • Homework, Classwork • Tests will be given every other week • Notebook-A notebook will be kept that includes lesson notes, examples, student work, and corrections. **Types of assessment:** • Selected response • Academic prompt • Questions and Answer • Constructed response • Observation • Work Sample **Assessment Values:** 15% Quizzes 50% Tests 20% Classwork and Homework 15% Project **Criteria by which the student responses will be evaluated:** • Homework will be graded in class each day by stating answers out loud, placing work on the board, or peer reviewing in cooperative learning groups • Homework quizzes will be graded on mathematical reasoning, accuracy, and presentation of work. • Unit test will be graded on mathematical reasoning, accuracy, and presentation of work. • Notes will be checked periodically for completion and accuracy.	**Performance Tasks:** Collected homework and class work Class Review Chapter Quiz Chapter Test **Other evidence:** Daily observations – class problems Daily homework checks AP Practice **Student Self-Assessment/Reflection:** Independent class problems Homework Final Exams and review sheets	• AP Statistics Text Book • College Board Resources • AP Practice • Standardized Test Preparation
2nd Year - February (Weeks 3 and 4) and March (Weeks 1 through 4) and April (Week 1)	***What are the types of tests of significance and how are they used?*** • Logic of significance testing, null and alternative hypotheses; P-values; one-and two-sided tests; concepts of Type I and Type II errors; concept of power • Large-sample test for a proportion • Large-sample test for a difference between two proportions • Test for a mean • Test for a diffence between two means (unpaired and paired) • Chi-square test for goodness of fit, homogeneity of proportions, and independence (one- and two-way tables) • Test for the slope of a least-squares regression line	HSS-IC.A.1 HSS-IC.A.2 HSS-IC.B.4 HSS-IC.B.5	• CONSTRUCT and INTERPRET a confidence interval to compare two proportions. • STATE correct hypotheses for a significance test about a population proportion or mean. • INTERPRET P-values in context. • INTERPRET a Type I error and a Type II error in context, and give the consequences of each. • DESCRIBE the relationship between the significance level of a test, P(Type II error), and power • CHECK conditions for carrying out a test about a population proportion. • CONDUCT a significance test about a population proportion. • CONSTRUCT a confidence interval to draw a conclusion about for a two-sided test about a population proportion. • CHECK conditions for carrying out a test about a population mean. • CONDUCT a one-sample t test about a population mean. • CONSTRUCT a confidence interval to draw a conclusion for a two-sided test about a population mean. • PERFORM significance tests for paired data. • PERFORM a chi-square goodness-of-fit test to determine whether sample data are consistent with a specified distribution of a categorical variable • EXAMINE individual components of the chi-square statistic as part of a follow-up analysis • CHECK conditions for performing inference about the slope β of the population regression line • CONSTRUCT and INTERPRET a confidence interval for the slope β of the population regression line • PERFORM a significance test about the slope β of a population regression line • INTERPRET computer output from a least-squares regression analysis			

Summarize, represent, and interpret data on a single count or measurement variable

CCSS.Math.Content.HSS-ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).
CCSS.Math.Content.HSS-ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
CCSS.Math.Content.HSS-ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
CCSS.Math.Content.HSS-ID.A.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
Summarize, represent, and interpret data on two categorical and quantitative variables

CCSS.Math.Content.HSS-ID.B.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
CCSS.Math.Content.HSS-ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
CCSS.Math.Content.HSS-ID.B.6a Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.
CCSS.Math.Content.HSS-ID.B.6b Informally assess the fit of a function by plotting and analyzing residuals.
CCSS.Math.Content.HSS-ID.B.6c Fit a linear function for a scatter plot that suggests a linear association.
Interpret linear models

CCSS.Math.Content.HSS-ID.C.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
CCSS.Math.Content.HSS-ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.
CCSS.Math.Content.HSS-ID.C.9 Distinguish between correlation and causation.

Understand and evaluate random processes underlying statistical experiments

CCSS.Math.Content.HSS-IC.A.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population.
CCSS.Math.Content.HSS-IC.A.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?
Make inferences and justify conclusions from sample surveys, experiments, and observational studies

CCSS.Math.Content.HSS-IC.B.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.
CCSS.Math.Content.HSS-IC.B.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
CCSS.Math.Content.HSS-IC.B.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.
CCSS.Math.Content.HSS-IC.B.6 Evaluate reports based on data.

Understand independence and conditional probability and use them to interpret data

CCSS.Math.Content.HSS-CP.A.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").
CCSS.Math.Content.HSS-CP.A.2 Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.
CCSS.Math.Content.HSS-CP.A.3 Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.
CCSS.Math.Content.HSS-CP.A.4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.
CCSS.Math.Content.HSS-CP.A.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.
Use the rules of probability to compute probabilities of compound events.

CCSS.Math.Content.HSS-CP.B.6 Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.
CCSS.Math.Content.HSS-CP.B.7 Apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answer in terms of the model.
CCSS.Math.Content.HSS-CP.B.8 (+) Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model.
CCSS.Math.Content.HSS-CP.B.9 (+) Use permutations and combinations to compute probabilities of compound events and solve problems.

Calculate expected values and use them to solve problems

CCSS.Math.Content.HSS-MD.A.1 (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.
CCSS.Math.Content.HSS-MD.A.2 (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.
CCSS.Math.Content.HSS-MD.A.3 (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.
CCSS.Math.Content.HSS-MD.A.4 (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?
Use probability to evaluate outcomes of decisions

CCSS.Math.Content.HSS-MD.B.5 (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.
CCSS.Math.Content.HSS-MD.B.5a Find the expected payoff for a game of chance. For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.
CCSS.Math.Content.HSS-MD.B.5b Evaluate and compare strategies on the basis of expected values. For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.
CCSS.Math.Content.HSS-MD.B.6 (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).
CCSS.Math.Content.HSS-MD.B.7 (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).