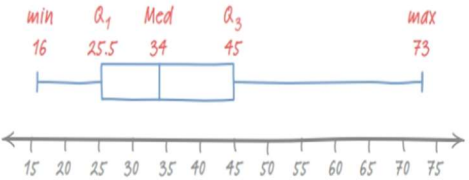# AP Statistics Parent Guide

Unit 1 Concepts:

Unit 1 focuses on unbiased methods of gathering data for analysis and proper graphical displays of both types of data. Methods of gathering data covered include random samples, experiments, and observational studies. Graphical displays covered include segmented bar graphs, mosaic plots, stem plots, boxplots, and histograms.

Learning Goals:

Students will be able to identify possible sources of bias resulting from poorly designed studies, design a study to gather representative data, identify misleading graphical displays, create appropriate graphical displays, and interpret graphical displays of data.

Why? – This unit will teach students to ask probing questions when presented with the results of a study.
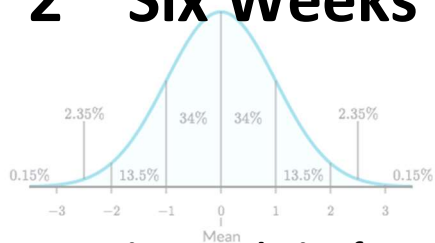
1st Six Weeks

Number of home runs hit in a season by Barry Bonds

Unit 1: Gathering & Initial Analysis of Data

2nd Six Weeks

Unit 2: Analysis of Univariant & Bivariant Quantitative Data

Unit 2 Concepts:

Unit 2 focuses on analysis of quantitative data for both one and two variables. One variable analysis includes percentiles, standardized scores, and the Normal model. Two variable analysis includes linear regression.

Learning Goals:

Students will be able to calculate and interpret in context percentiles, z-scores, mean, standard deviation, slope, y-intercept, correlation, coefficient of determination, residuals, and standard deviation of the residuals.

Why? – This unit will provide students with the necessary foundational understanding of the Normal model that will be used for all forms of inference. It also expands their knowledge of linear regression.
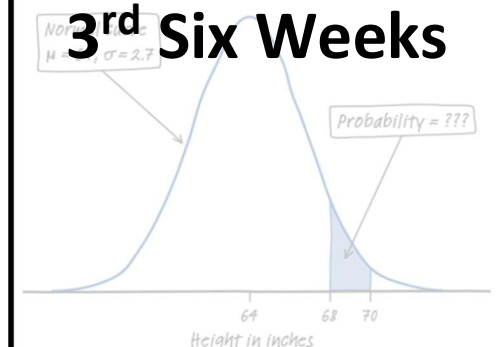
Unit 3 Concepts:

Unit 3 focuses on the rules of probability and finding probability using various models.

Learning Goals:

Students will be able to determine the appropriateness of probability, Geometric, Binomial, and Normal models and use those models to calculate the probability of an event occurring.

Why? – This unit will provide the students with a foundational understanding of risk assessment.

3rd Six Weeks

Height in inches

Unit 3: Probability

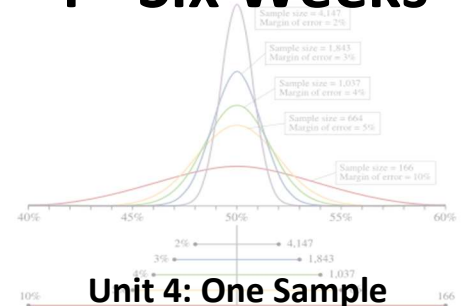## 4th Six Weeks

Unit 4 Concepts:

Unit 4 focuses on confidence intervals and hypothesis tests based on a single sample.

Learning Goals:

Using one variable from a sample, students will be able to create a confidence interval, perform a hypothesis test, and interpret the results of both of these types of inference.
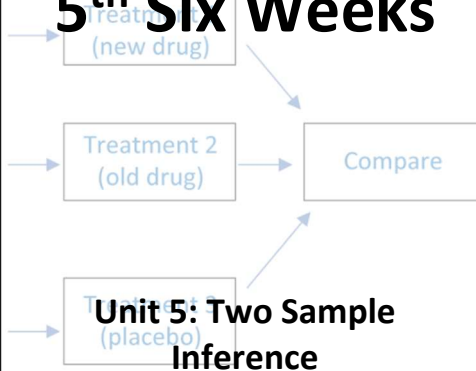
Why? – This unit will help students understand the mechanics involved with analyzing data gathered by pollsters.

Unit 4: One Sample Inference

5th Six Weeks

Unit 5: Two Sample Inference

Unit 5 Concepts:

Unit 5 focuses on confidence intervals and hypothesis tests based on a multiple samples or multiple variables from a single sample.

Learning Goals:

Using multiple variables or multiple samples, students will be able to create a confidence interval, perform a hypothesis test, and interpret the results of these types of inference.

Why? – This unit will help students understand the mechanics involved with analyzing the results of experimental research.
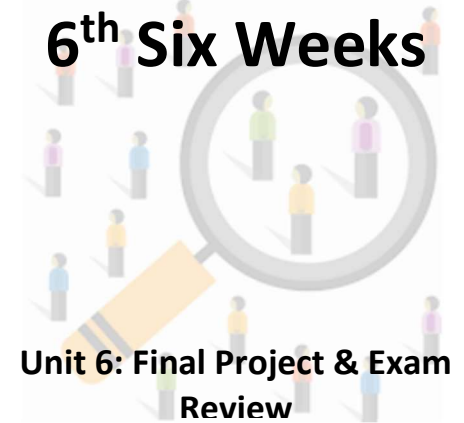
6th Six Weeks

Unit 6 Concepts:

Unit 6 focuses on a review of all five previous units.

Learning Goals:

Students will choose a research question, gather data pertaining to their question, perform a hypothesis test, and evaluate the results.

Why? – This unit will provide the students with their final opportunity to prepare for the College Board AP Statistics Exam with the intention of earning college credit.

Unit 6: Final Project & Exam Review

Questions? Please contact your AP Statistics math teacher. **Additional Support:** We recommend Khan Academy and Tutor.com and remember campus tutoring is also available.