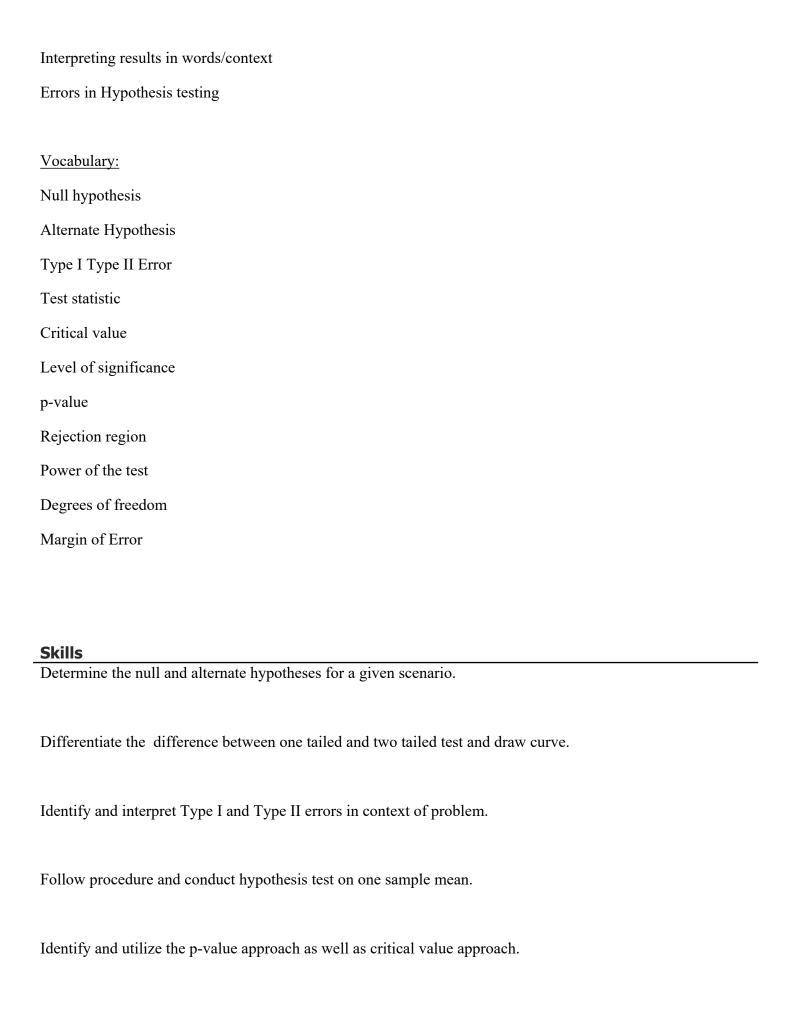
## **Unit 5 Intro to Hypothesis Testing**

**Mathematics** Content Area: Course(s): **AP Statistics** Time Period: **February** Length: 6 weeks **Published** Status:

<b>Enduring Understandings</b> Hypothesis testing uses sample data to decide between two competing claims about a population characteristic
Trypothesis testing uses sample data to decide between two competing claims about a population characteristic
There is a possibility of making a Type I or Type II error when conducting a hypothesis test
Tests can be performed using the critical value approach or the p- value approach
The level of significance is the total area in the rejection region
Essential Questions
Which hypothesis test is appropriate for a particular data set?
What makes results "statistically significant" and how are they determined so?
When is interpreting results inconclusive and potentially dangerous?
The state of the s
How can one data set be used to draw opposing conclusions?
Content
Red Hot Topics
Null and alternate hypotheses

Null and alternate hypotheses

Step procedure



Analyze results of test in context of the problem.

Perform hypothesis tests on one sample proportion.

Establish and interpret the power of the test

## Resources

## Standards

CCSS.Math.Content.HSS-ID	Interpreting Categorical and Quantitative Data
CCSS.Math.Content.HSS-ID.A	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.
CCSS.Math.Content.HSS-ID.B	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.6.a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data.
CCSS.Math.Content.HSS-ID.B.6.b	Informally assess the fit of a function by plotting and analyzing residuals.
CCSS.Math.Content.HSS-ID.B.6.c	Fit a linear function for a scatter plot that suggests a linear association.
CCSS.Math.Content.HSS-ID.C	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.