



## **Kutztown Area School District Curriculum (Unit Map)**

### *AP Statistics*

*Written by Susan Neumann*

**Course Description:** This course is for students who have demonstrated exceptional achievement in prior mathematics courses and have met the established criteria for Honors/AP selection as stated in this course selection guide. The AP course is designed to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data through four broad conceptual themes: exploring data, planning a study, anticipating patterns, and statistical inference.

*Note: Due to changes in personnel and AP requirements,  
this course is still under construction.*

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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

- Teacher created notetaking outline
- The normal distribution curve worksheet and link [http://www.analyzemath.com/statistics/graph\\_normal.htm](http://www.analyzemath.com/statistics/graph_normal.htm)

### Suggested Learning Activities/Strategies

- Investigative activity on the properties of the normal curve
- Assessing normality: Are the weights of small bags of m&m's approximately normally distributed

### Differentiation

<i>Anticipated Difficulties/Misconceptions</i>	<i>Assessment to be Used to Determine</i>	<i>Strategies for Differentiation</i>

<b>Unit #/Title</b>	3/Examining Relationships	<b>Time Frame</b>	
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**Stage 1 - Identify Desired Results**

**Standards**

Exploring bivariate data

1. Analyzing patterns in scatterplots
2. Correlation and linearity
3. Least-squares regression line
4. Residual plots, outliers and influential points
5. Transformations to achieve linearity: logarithmic and power transformations
6. Exploring categorical data
7. Conditional relative frequencies and association

<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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**Stage 2 – Assessment Evidence**

<b>Formative Assessment</b>	<b>Summative Assessments</b>
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<b>Stage 3 – Suggested Learning Plan</b>
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<b>Suggested Materials/Technology/Resources</b>
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<b>Suggested Learning Activities/Strategies</b>
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| <ul style="list-style-type: none"> <li>•</li> </ul> |
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<b>Differentiation</b>
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<i>Anticipated Difficulties/Misconceptions</i>	<i>Assessment to be Used to Determine</i>	<i>Strategies for Differentiation</i>

<b>Unit #/Title</b>	4/More on Two Variable Data	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	5/Producing Data: Samples & Experiments	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	6/Probability and Randomness	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	7/Random Variables	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	8/Binomial & Geometric Distributions	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	9/Sampling Distributions	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	10/Introduction to Inference	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>	
<b>Standards</b>	
<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>	
<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	11/Inference for Distributions (Means)	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>	
<b>Standards</b>	
<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>	
<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	12/Inference for Proportions	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	13/Inference for Tables: Chi-Square Procedures	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*

<b>Unit #/Title</b>	14/Inference for Regression	<b>Time Frame</b>	
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<b>Stage 1 - Identify Desired Results</b>
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<b>Standards</b>
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<b>Big Ideas</b>	<b>Essential Questions</b>
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<b>Content</b>	<b>Skills</b>
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<b>Stage 2 – Assessment Evidence</b>
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<b>Formative Assessment</b>	<b>Summative Assessments</b>
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## Stage 3 – Suggested Learning Plan

### Suggested Materials/Technology/Resources

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### Suggested Learning Activities/Strategies

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### Differentiation

*Anticipated Difficulties/Misconceptions*

*Assessment to be Used to Determine*

*Strategies for Differentiation*