

UNIT OF STUDY

Title: Real World Probability and ways to display probability Subject/Course: Algebraic Connections Length: 10 days		
Topic: CS1 unit 3	Grade: 12th	Designer: Prado
UNIT GOALS AND EXPECTATIONS		
IMPORTANT CONCEPTS/UNDERSTANDINGS: <ul style="list-style-type: none"> ◆ Probability is in many of our daily routines and lives ◆ Probability data can be displayed in many forms ◆ Understanding and interpreting a table of data is very important to everyone ◆ Tables of data can be very misleading if used wrong or not labeled correctly ◆ Relative frequency (determined from a table of observations) can be used to make decisions 	ESSENTIAL QUESTIONS: <ul style="list-style-type: none"> ◆ In what ways is probability used and seen in everyday life? ◆ How can data be displayed? ◆ Does my table actually reflect the data collected? ◆ Which table or graph is the right one to use for which kinds of data? ◆ What is the appropriate scale to use for the data collected? ◆ What does my table or graph tell me about what is going on with the information collected? ◆ What is relative frequency? ◆ Why may experimental probability (relative frequency) differ from the theoretical probability of an event? 	
STUDENT LEARNING EXPECTATIONS: PS.1.AC.4 Apply probability to real-world situations such as weather prediction, game theory, fair division, insurance tables, and election theory. PS.1.AC.5 Interpret and evaluate, with and without appropriate technology, graphical and tabular data displays for 1)consistency with the data 2)appropriateness of type of graph or data display 3) scale 4) overall message		
SPECIFIC DECLARATIVE KNOWLEDGE – What I know <ul style="list-style-type: none"> ◆ Explain vocabulary words: data, scale, circle graph, histogram, line graph, frequency table, and frequency polygon ◆ Know how to read and understand data collected in real-world situations in the areas of food, medical, games and business information. ◆ Identify what data is appropriate to graph and which graph to use to graph the data ◆ Identify the scale needed on the graph to accurately present the data ◆ Know how to read and interpret the data displays so the overall message is understood 	SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do <ul style="list-style-type: none"> ◆ Apply probability to real-world situations such as food statistics, medical tables, game theory, and business information ◆ Interpret and evaluate, with and without appropriate technology, graphical and tabular data displays ◆ Consistently display data ◆ Use appropriate graphs or data displays ◆ Use appropriate scale on graphs or data displays ◆ Make sure overall message in graphs or data displays is easy to understand and interpret 	

UNIT ASSESSMENTS (Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)	
Traditional Assessments: Unit 3 Exam Vocabulary Quiz Quizzes	Other Evidence of Learning: Homework Class work Getting Started Exercises

ACTIVITIES AND LEARNING EXPERIENCES	Resources
<p>Applying probability to real-world situations involving food company statistics</p> <ul style="list-style-type: none"> ◆ S will learn vocabulary using the 4-step process (data) ◆ S will do Getting Started activity sheet ◆ T will model how to apply probability to situations involving food company statistics ◆ S will do in-class worksheet on probability and using data from food company statistics that have been collected and reported in the news and such ◆ T will go over worksheets and review the process the students used to solve the problems and make sure the student understands the information worked with and assign homework 	<ul style="list-style-type: none"> ◆ 4-step vocabulary sheets ◆ Getting Started problems ◆ Worksheets on food company statistics ◆ News papers ◆ Smart board
<p>Applying probability to real-world situations involving medical statistics</p> <ul style="list-style-type: none"> ◆ S will do Getting started activity sheet ◆ T will model how to apply probability to situations involving medical company statistics ◆ S will do in-class worksheet on probability and using data from medical companies that have been collected and reported in the news and such ◆ T will go over worksheets and review the process the students used to solve the problems and make sure the student understands the information worked with and assign homework 	<ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on medical company statistics ◆ Newspapers ◆ Smart board
<p>Applying probability to real-world situations involving game theory</p> <ul style="list-style-type: none"> ◆ S will do Getting started activity sheet ◆ T will model how to apply probability to situations involving business company information ◆ S will do in-class worksheet on probability and using data from business companies that have been collected and reported in the news and such ◆ T will go over worksheets and review the process the students used to solve the problems and make sure the students understands the information worked with by using Who has, I have activity over the information learned in the last 4 lessons and assign homework 	<ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on game theory ◆ Newspapers and magazines ◆ Smart board ◆ Who has, I have activity
<p>Interpret and evaluate, with and without technology, circle graphs</p> <ul style="list-style-type: none"> ◆ S will learn vocabulary: scale, circle graph 	

<ul style="list-style-type: none"> ◆ S will do Getting started activity sheet ◆ T will model the components and construction of a circle graph with and without using technology. T will then work examples of problems that are/are not solved appropriately by circle graphs ◆ S will do in-class worksheets on circle graphs (components, construction, and appropriateness) ◆ T will go over worksheets and review the process used to solve the problems and assign homework 	<ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on circle graphs ◆ Calculators ◆ Smart board
<p>Interpret and evaluate, with and without technology, histograms</p> <ul style="list-style-type: none"> ◆ S will learn vocabulary: histogram ◆ S will do Getting started activity sheet ◆ T will model the components, scale, and construction of a histogram with and without using technology. ◆ S will do in-class worksheets on histograms (components, scale, and construction) ◆ T will go over worksheets and review the process used to complete the worksheets and assign homework 	<ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on histograms ◆ Calculators ◆ Smart board
<p>Appropriateness and solving problems using histograms and interpret and introducing line graphs</p> <ul style="list-style-type: none"> ◆ S will learn vocabulary: line graphs ◆ S will do Getting Started activity sheet ◆ T will model how and when to use histograms to interpret information with and without using technology ◆ S will do in-class worksheet on interpreting information found in a histogram with and without using technology ◆ T will explain the definition of a line graph and model the components of a line graph ◆ S will do in-class worksheet on line graphs ◆ T will go over worksheets and assign homework 	<ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheet on histogram ◆ Worksheet on line graphs ◆ Calculators ◆ Smart board
<p>Interpret and evaluate, with and without technology, line graphs</p> <ul style="list-style-type: none"> ◆ S will do Getting started activity sheet ◆ T will model the scale and construction of a line graphs with and without technology ◆ S will do in-class worksheet on constructing line graphs with and without technology ◆ T will model how and when to use line graphs to interpret information with and without using technology ◆ S will do in-class worksheet on using line graphs ◆ T will go over worksheets and assign homework 	<ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheet on line graphs ◆ Calculators ◆ Smart board
<p>Interpret and evaluate, with and without technology, frequency tables</p> <ul style="list-style-type: none"> ◆ S will learn vocabulary: frequency table ◆ S will do Getting started activity sheet ◆ T will explain the definition, components, scale, and construction of frequency tables ◆ S will do in-class worksheets on constructing frequency tables with and without technology ◆ T will go over worksheets and assign homework 	<ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheet on frequency tables ◆ Calculators ◆ Smart board
<p>Appropriateness and solving problems using frequency tables and interpret and introducing frequency polygons</p> <ul style="list-style-type: none"> ◆ S will learn vocabulary: frequency polygon 	<ul style="list-style-type: none"> ◆ Getting Started problems

<ul style="list-style-type: none"> ◆ S will do Getting started activity sheet ◆ T will model how and when to use frequency tables to interpret information with and without using technology ◆ S will do in-class worksheet on frequency tables ◆ T will explain the definition of a frequency polygons and model the components of a frequency polygon ◆ S will do in-class worksheet on frequency polygons ◆ T will go over worksheets and assign homework <p>Interpret and evaluate, with and without technology, frequency polygons</p> <ul style="list-style-type: none"> ◆ S will do Getting started activity sheet ◆ T will explain the scale and construction of frequency polygons ◆ S will do in-class worksheets on constructing frequency polygons with and without technology ◆ T will model how and when to use frequency polygons to interpret information with and without using technology ◆ S will do in-class worksheet on frequency polygons ◆ T will go over worksheets and assign homework <p>Interpreting and understanding the overall messages of circle graphs, histograms, line graphs, frequency tables, and frequency polygons</p> <ul style="list-style-type: none"> ◆ S will do Getting started activity sheet ◆ T will model how and what to interpret and understand from circle graphs, histograms, line graphs, frequency tables, and frequency polygons ◆ S will do in-class worksheets on interpreting and understanding data from graphs ◆ T and S will do a Who has, I have activity to review vocabulary, components and scales used in probability graphs ◆ T will go over worksheets and assign homework 	<ul style="list-style-type: none"> ◆ Worksheet on frequency tables ◆ Worksheet on frequency polygon ◆ Calculators ◆ Smart board <ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheet on frequency polygons ◆ Calculators ◆ Smart board <ul style="list-style-type: none"> ◆ Getting Started problems ◆ Worksheets on interpreting and understanding the information from all types of graphs ◆ Calculators ◆ Smart board ◆ Who has, I have activity
Career Connections	
Commercial companies, newspapers, sports analyst, weather men, food companies, hospitals, and consumers	