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Probability

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Lesson Plan

Instructor: Burney
Concept: Probability

Subject: Math I.
Time Allotted: 45 minutes

Standard 3

Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying Mathematics in real world settings, and by solving problems via the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry.

Objective

Upon Instructor demonstrating how to perform probability problems and graph findings. Students will be able to solve probability problems and graph (histogram) findings with 90% accuracy.

Materials

-Over head projector	- LCD screen	- Markers
-Activity Sheets (Probability)	- Skittles	-TI-83+
-Paper towels	-MS excel	-Skittles sheet

Anticipatory Set

Step 1: Instructor runs the excel program for coin toss (both coins are set .5 probability). Runs for 5 coin tosses initially. 2nd Run is for 10 coin tosses. 3rd run is for 20 tosses. Discuss the implications for the number of tosses with class.

Step 2. Instructor shows the 3rd run data in histogram form by employing the chart feature in MS excel.

Step 3. Students are asked to toss the penny on their desk over ten times. Write data on activity sheet on desk.

Step 4. Instructor asks students a series of questions. What is the probability that this coin will land on head? What is the probability the coin will land on tail? If the probability is 50% that it will land on tails if it landed on heads 4 times in a row would it be incorrect? And why?

Step 3: Students discuss in groups of two their guesses.

Procedures

Step 4: Instructor states purpose: Today we are reviewing probability. Probability measures how likely something, usually called an event, is to happen. For experimental probability you gather data through events. For experimental probability you gather data through observations or experiments. Use this ratio to find experimental probability.

$P(\text{event}) = \frac{\text{\# of times an event happens}}{\text{\# of times experiment is done}}$

Step 5: Skittles, activity sheet 2, and paper towel are passed out to each student. Students are asked to Place all of their skittles on the paper towel and count the # of different colors. Then count how many of each color you see. Record the data on their skittle activity sheet and answer the questions.

Step 6. Complete Skittles activity sheet.

Closing

Step 7. After the students finish the activity sheet certain students are selected to present their findings and explain how they found their answers.

Evaluation of Objective

Students will be able to create a graph (histogram) using their graphing calculators to demonstrate the different colors skittles they had in their bag.

SKITTLES ACTIVITY

Name _____

Activity: Place all of your Skittles on a paper towel and count the number of different colors. Then count how many of each color you see. Record the data below:

Color	Your Numbers	Class Totals

2. Using your graphing calculator, prepare a histogram representing your data. Copy your histogram below being sure to label the scales. *Use Xscl=1*

Put Your Histogram Here

Color	Your % Numbers	Class % Totals

3. Count your number of skittles _____

4. Determine what percent of the total is represented by each color. Fill in the second table.

Obtain the class totals for each color and Record the data on the second table
On this worksheet, prepare a histogram to represent the class data. Copy the class data in the table and draw the class histogram below.

Use Xscl=1

5. Which of your colors had the highest percentage? _____

6. Which of your colors had the lowest percentage? _____