Algebra / Geometry Summer 2006

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School: Grenada Middle School Grenada, MS
Grade Level: 6
Probability

1. Teaching Objective: 5. e and 5. f
The student will use probability to predict the outcome of a single event and express the result as a fraction or a decimal.
The student will estimate and compare data to include the mode, mean, and the median.

2. Instructional Activities:

Tell the students that the bag contains 4 blue marbles, 3 yellow marbles, 6 purple marbles and 5 green marbles.

Ask the question, "What is the probability that you will get a yellow marble when I pull from the bag?"
Draw one marble from the bag ask, what is the probability of getting a purple marble?
As you continue to draw marbles from the bag ask the questions.
What is the probability of getting a green?
What is the probability of getting a red?
What is the probability that I will get an orange marble?
What is the probability of getting a black marble?
What is the probability of getting a white marble?
Write the responses on the board. Explain to the students that they just made a prediction, they just found the probability of an event.

Explain to the students that today they will complete an activity where they will predict the number of drops of water that the head of a penny will hold.

Have the students form groups of two. Ask the students to discuss with each other how many drops of water they think the head of a penny will hold.

After students decide write their responses on the board.

Ask the students what factors could determine the amount of drops of water the head of the penny will hold.

Point out to the students that they just made several predictions.

Tell the students to keep a record of the number of drops each student will drop.

After the students have completed the activity, record student's responses on the board next to their prediction. Ask the students to compare their predictions to the actual drops.

Ask the students if any of the factors mentioned affect the amount of drops?

Explain to the students that now we will find the mode, mean, and median of the predictions and our actual drops.

Ask the students to define the term mode (number that occurs most often), mean (the average of all numbers), and the median (number that is in the middle when numbers are arranged from smallest to largest).

Teacher will write the students responses on the board for a comparison of the prediction and the activity. How many of your predictions were correct? Did the position that you placed the dropper above the penny change your results? What do you think would happen if you used a different coin? Would your results change? Did the penny hold more or less than what you predicted? Why do you think this happened?

3. Materials and Resources:

medicine dropper for each group
cup of water for each group
penny for each group
paper towel for each group
bag of marbles with various colors
activity adapted from math workshop MS Valley State 1996
Glencoe Mathematics Course 1 Glencoe McGraw-Hill 2004 ed.

4. Assessment:

Teacher will walk around the room to check that students are on the right tract. Students will complete the activity by finding the mode, mean, and median of their predictions and actual results. Responses will be written on the board