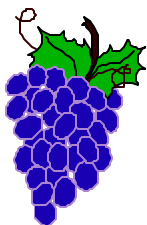


Problem of the Month



Through the Grapevine



Level A:

Examine several packages of individual raisin boxes.

Count how many raisins are in each box.

Make a table of the number of raisins in each box.

Draw a graph of the number of raisins in the boxes from your table.

Which box had the most raisins?

Which box had the least raisins?

Why do you think there is a different number of raisins in each box?

How many raisins would probably be in the next box you open? Explain why you think it would be that number.

Level B:

Find the mean average number of raisins in your sample.

Suppose each student in your class ate one individual box of raisins for lunch. How many raisins would be eaten? Explain how you figure it out.

Suppose, on average, the students in your class ate one individual box of raisins each week throughout the school year. Approximately how many raisins would be eaten? Explain how you found your estimate.

A recipe for oatmeal cookies calls for two individual boxes of raisins to be used. The recipe makes one dozen cookies. Approximately, how many raisins would be in a single cookie from that recipe? Explain your solution.

Explain why knowing the mean average of raisins in a box is important to know.

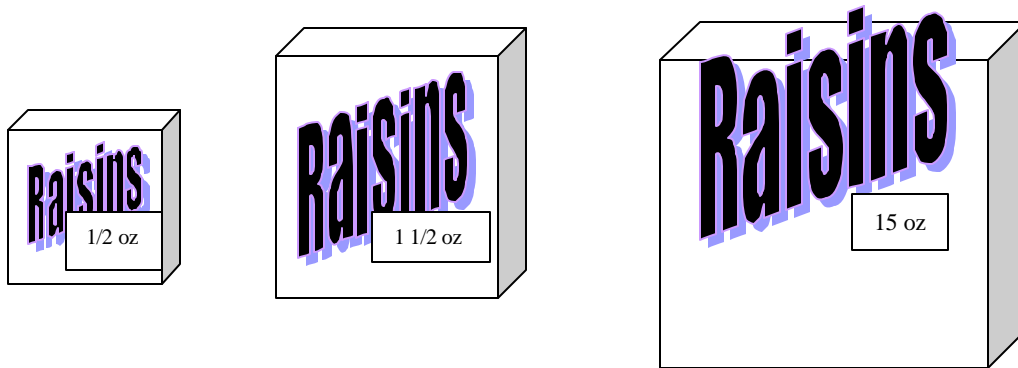
Level C:

What is the median value of raisins in a box from your sample?

What was the mode of your raisin box sample?

What is the range of your raisin box sample?

Describe a reason why someone might want to use the median rather than the mean as the “average” number of raisins in a box.



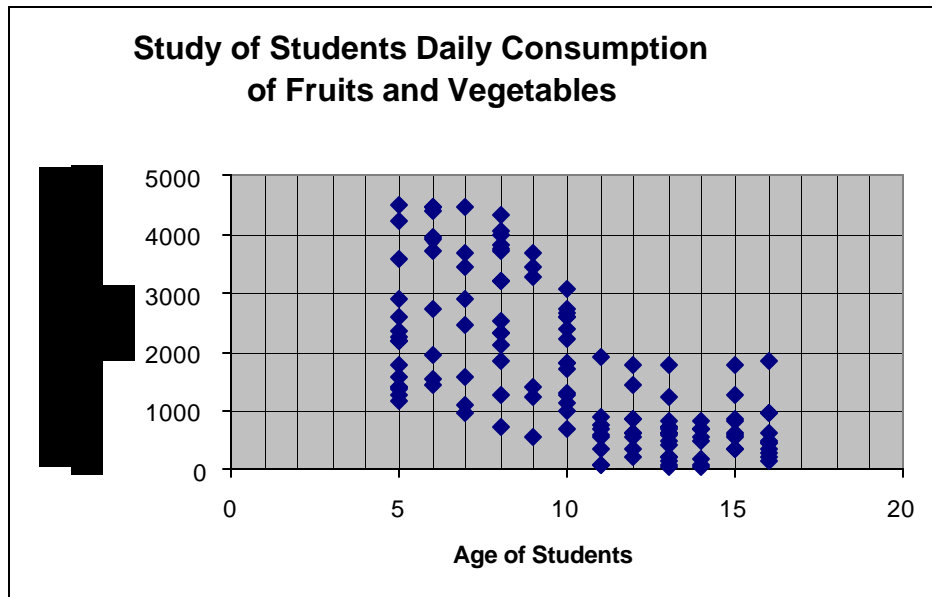
Individual size boxes are 1/2 ounce. Regular boxes are 1 1/2 ounces. Family size boxes are 15 ounces.

How many raisins would you estimate was in a Regular size box? Explain.

How many raisins would you estimate was in a Family size box? Explain.

Level D:

A study conducted by the American College of Nutrition concluded that a minimum of two servings of raisins a day may prevent some forms of cancer. Other studies claim that eating five servings of fruits and vegetables (2000 grams) per day will reduce the chance of getting certain cancers by 35%. Unfortunately, several studies show that many teens do not eat enough fruits and vegetables.



The graph shown above is a study of students and how many fruits and vegetables they eat each day.

Using the data study, describe how many grams of fruits and vegetables a typical 14-year-old eats each day.

What is the median amount of grams of fruits and vegetables the 6-year-olds eat each day, according to the study?

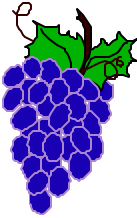
Draw a straight line that best fits the data in the graph.

Write a description of what the graph shows. What does the graph tell you about the relationship between the age of the students and the amount of grams of fruits and vegetables they eat?

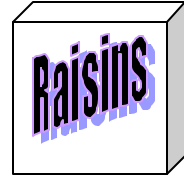
Level E:

Design and conduct a survey of your own to determine how many servings of fruits and vegetables the people in your sample eat each day. Select a sample population of at least 15 individuals. Track the sample's eating habits for about a week. Collect the data from your study. Analyze your data using statistical tools. Report your findings using statistical measures and graphs. State the conclusions of your study and whether they are consistent with other studies.

Problem of the Month



Through the Grapevine



Primary Version Level A

Materials: Two packages of the individual raisin boxes (1/2 ounces), enough for one box per student.

Discussion on the rug: (Teacher holds up an individual box of raisins) "How many raisins do you think this box holds? Why did you make that guess?" (Teacher solicits answers from students) "Do you think each box holds exactly the same number of raisins? Why or why not?" (Teacher solicits answers from students and then states that the class will investigate this question).

In small groups: (Each student has an individual box of raisins, each student counts the number of raisins in their box. The might count twice to double check. The teacher solicits the counts from each student. The teacher lists the counts and maybe creates a chart like a line plot to illustrate them. The teacher asks the following questions.)

Which box had the most raisins?

Which box had the least raisins?

Why do you think there are different numbers of raisins in each box?

How many raisins would probably be in the next box you open?

Explain why you think it would be that number.

(At the end of the investigation have students either discuss or dictate a response to these summary questions)