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.

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Level B

Examine several packages of individual raisin boxes. Make a table or graph to show the number of raisins in each box. Then find the mean (average) number of raisins per box for your class data.

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

Suppose, on average, each student in your class each ate one individual box of raisins each week throughout the school year. Approximately how many raisins would you expect to 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 you expect to find in a single cookie from that recipe? Explain your solution.

Explain why it is important to know the mean (average) number of raisins in a box.

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Level C

Examine several packages of individual raisin boxes. Make a table or graph to show the number of raisins in each box.

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

What was the mode of your raisin box data?

What is the range of your raisin box data?

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 contain $\frac{1}{2}$ ounce. Regular-size boxes contain $1\frac{1}{2}$ ounces. Family-size boxes contain 15 ounces.

How many raisins would you estimate are in a regular-size box? Explain.

How many raisins would you estimate are in a family-size box? Explain.

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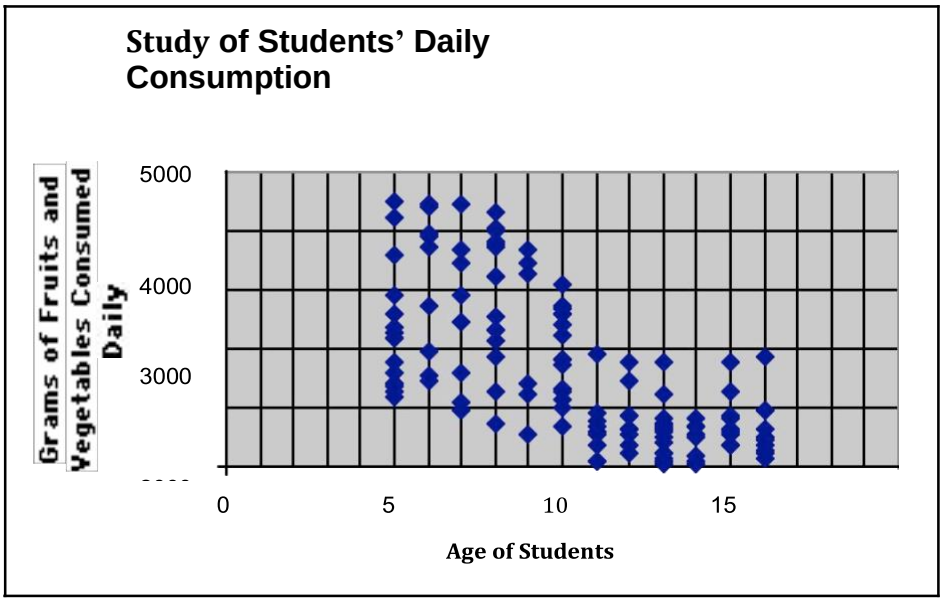
Level D

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 (2,000 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 from the study, describe how many grams of fruits and vegetables a typical 14-year-old eats each day.

What is the median number 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 number of grams of fruits and vegetables they eat?

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Level E

Design and conduct a survey of your own to determine how many servings of fruits and vegetables people eat each day. Select a sample 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 that conducted similar analyses.