Using Display Information to Predict and Calculate Measures of Center

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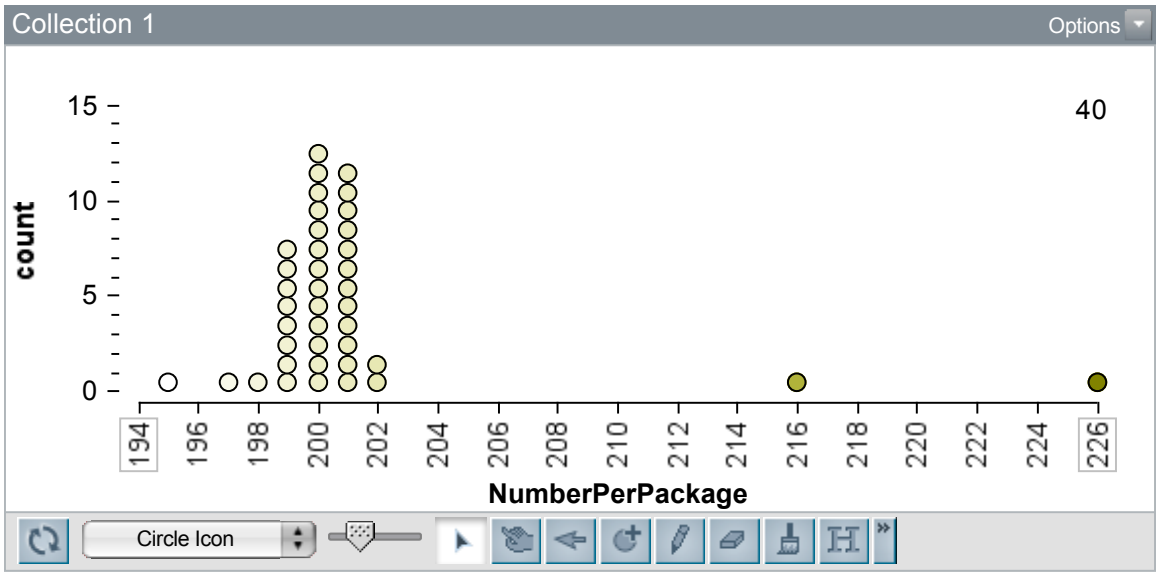
Some students have trouble reading displays when the case values are not each labeled. Some struggle to interpret a dot plot to make predictions about the relation between the mean and the median for a collection of data.

After we use the M&M's activity in Unit 2 to establish the mean as a fair share, the problem I pose is:

Jupiter Candies makes a jumbo package of chocolates. An inspector counted the number of candies in each package. The inspector wants to know how many candies per package a customer can expect. The results are shown below.



1. Which statement is true?

   (a) The median is greater than the mean.
   (b) The mean is greater than the median.
   (c) The mean and the median must have the same value.
   (d) There is not enough information to make a good prediction.

2. Find the mean. Find the median. Show your work.

This problem asks students to make a prediction about the relation between the mean and median of the number of candies in each package just by looking at a display. Then, students find the values of the mean and the median. For the mean, I look for use of efficient strategies that use multiplication to find the sum of the case

values. I also discuss what the median and mean might tell us—the target number of candies in each package. Here I hope that students know that the outliers will affect the mean but not the median. A problem worksheet is on the next page. I made it to look like the problems that we administer when we prepare students for our benchmark tests. The unlabeled values in the display are 195 and 197 if students insist that they can't be sure of the values of these two cases.

NAME_____

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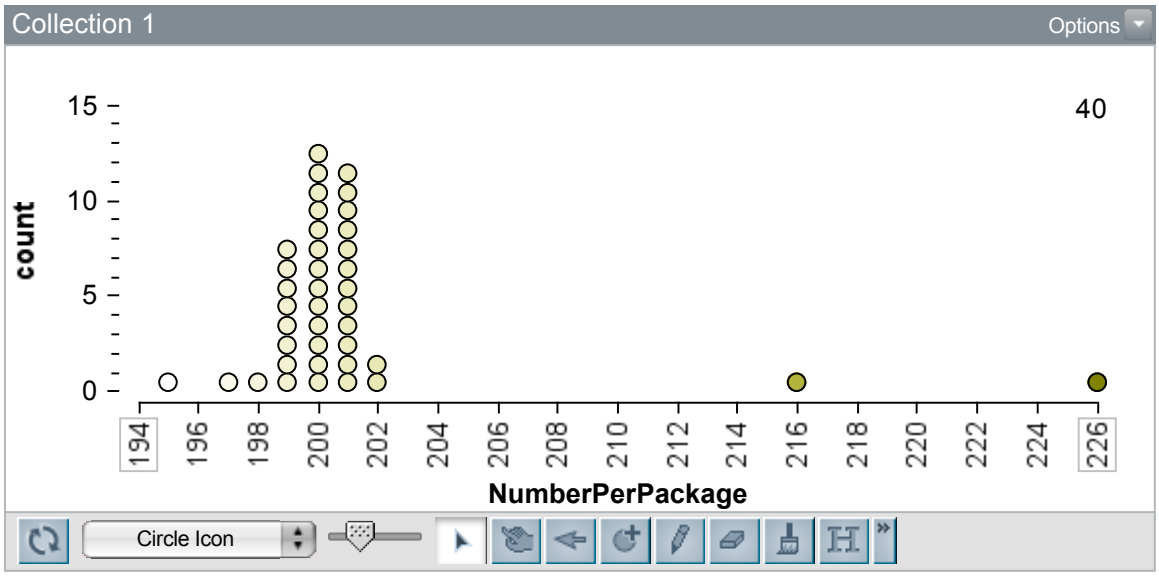

2. Which statement is true?

(e) The median is greater than the mean.
(f) The mean is greater than the median.
(g) The mean and the median must have the same value.
(h) There is not enough information to make a good prediction.

2. Find the mean. Find the median. Show your work.