



Standard	Items
MCC6.SP.2	22, 24
MCC6.SP.3	14
MCC6.SP.4	7, 11, 13, 22–24
MCC6.SP.5a	15
MCC6.SP.5b	16
MCC6.SP.5c	1–6, 8–10, 12, 17–18, 20–21
MCC6.SP.5d	19

TEST PREP DOCTOR

Selected Response: Item 5

- Students who answered **A** may not have found the upper and lower quartiles correctly.
- Students who answered **C** may not have found the upper and lower quartiles correctly.
- Students who answered **D** may not have found the upper and lower quartiles correctly.

Selected Response: Item 13

- Students who answered **A** may not understand which values are included in the box plot.
- Students who answered **B** or **C** may not understand how to read a box plot.

Constructed Response: Item 19

- Students who answered **mean** may not have understood how the center of the data is affected by the outlying value of 14.

Constructed Response: Item 23

- Students who drew a **box plot** or **dot plot** may not know how to make a histogram.
- Students who drew a **bar graph** may not know that each bar of the histogram covers the interval.

Name _____ Class _____ Date _____

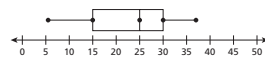
SELECTED RESPONSE

Members of the school science club collected canned food for a food drive. The numbers of cans collected by 8 club members are shown. Use the data for 1–7.

Cans Collected							
4	10	5	11	15	7	3	9

- What is the mean number of cans collected?
 - A. 8
 - B. 9
 - C. 10
 - D. 11
- What is the median number of cans collected?
 - F. 8
 - G. 9
 - H. 10
 - J. 11
- What is the upper quartile?
 - A. 5
 - B. 7
 - C. 10.5
 - D. 11
- What is the lower quartile?
 - F. 3
 - G. 4.5
 - H. 5
 - J. 6
- Which expression gives the interquartile range?
 - A. $5 - 4$
 - B. $10.5 - 4.5$
 - C. $13.5 - 5$
 - D. $15 - 3$
- What is the mean average deviation?
 - F. 3.25
 - G. 6.5
 - H. 8
 - J. 26
- What would be the leftmost and rightmost points on a box plot of these data?
 - A. 3 and 15
 - B. 4 and 9
 - C. 4.5 and 10.5
 - D. 6.5 and 8

Use the box plot for 8–13.



- What is the median of the data set?
 - F. 15
 - G. 25
 - H. 30
 - J. 37
- What is the least value of the data set?
 - A. 5
 - B. 7
 - C. 10
 - D. 15
- What is the lower quartile?
 - F. 15
 - G. 25
 - H. 30
 - J. 40
- Which is the best estimate of the difference of the greatest and least values?
 - A. 10
 - B. 20
 - C. 30
 - D. 40
- Which expression gives the interquartile range?
 - F. $30 - 15$
 - G. $30 - 10$
 - H. $30 - 5$
 - J. $40 - 15$
- Which question can be answered by reading the box plot?
 - A. What is the mean?
 - B. Which data value occurs most frequently?
 - C. How many data values are there?
 - D. The middle half of the data is between what two numbers?

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14. Which of the following statements is not true?

- F. The median is a measure of the center of a data set.
- G. The mean is a measure of the variability of a data set.
- H. A dot plot shows the least and greatest values of a data set.
- J. A box plot shows the interquartile range.

CONSTRUCTED RESPONSE

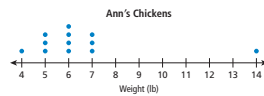
The weights of Ann's chickens are shown. Use the data for 15–24.

15. How many chickens does Ann have?

Chickens' Weights (lb)											
14	6	5	7	7	5	6	7	6	6	4	5

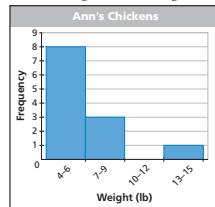
16. What unit is used to measure the chickens' weights?
pounds
17. What is the mean weight of the chickens?
6.5 pounds
18. What is the median weight of the chickens?
6 pounds
19. Does the mean or the median better describe the center of this data set? Explain.
Median; 8 of the 12 chickens weigh less than the mean, which is affected by the large data value of 14.
20. Which weight appears to be an outlier?
14 pounds
21. If you remove the outlier from the data set, how do the mean and median change?
the mean decreases to about 5.8 and the median remains unchanged at 6.

22. a. Make a dot plot for the weights.

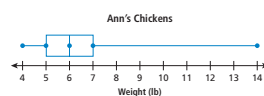


- b. Describe the shape of the data. Identify any gaps, clusters, or peaks. Are there any data values that do not fit the general shape? If so, which one(s)?
Cluster from 5–7; peaks at 5, 6, and 7; gap from 7–14; 14 does not fit the general shape.

23. Make a histogram for the weights.



24. a. Make a box plot for the weights.



- b. How does the box plot describe the data set?
The box is shifted left because most of the chickens weigh 7 lb or less, but 1 chicken weighs significantly more at 14 lb.

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