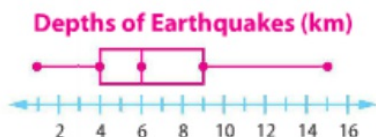


Guided Practice



1. Use the table. (Examples 1–3)

a. Make a box plot of the data.



5	15	1	11	2	7	3
9	5	4	9	10	5	7

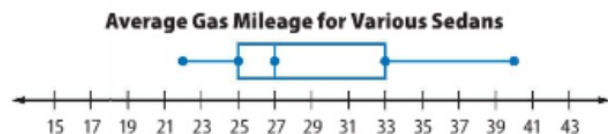
b. What percent of the earthquakes were between 4 and

9 kilometers deep? 50%

c. Write a sentence explaining what the length of the

box plot means. Sample answer: The length of the box plot shows that the depths of the earthquakes are not concentrated around a certain depth.

2. Find the median and the measures of variability for the box plot shown. Then describe the data. (Example 4)



median: 27; Q_1 : 25; Q_3 : 33; range: 18; IQR: 8; Sample answer: The right half of the data is more spread out and the left half is more concentrated. The median is close to the first quartile. There are no outliers.

3. **Building on the Essential Question** How is the information you can learn from a box plot different from what you can learn from the same set of data shown in a line plot?

Sample answer: A box plot summarizes the data and shows how the data are spread out. A line plot lists all the data.

Rate Yourself

How confident are you in making and interpreting box plots? Check all that apply.



←

For more help, access a Personal Tutor.

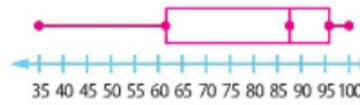
FOLDABLES Time to

Independent Practice

Go online for Step-by-Step Solution

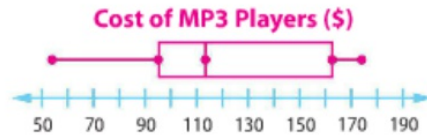
Draw a box plot for each set of data. (Example 1)

1 {65, 92, 74, 61, 55, 35, 88, 99, 97, 100, 96}



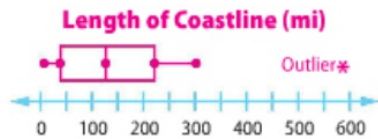
2.

Cost of MP3 Players (\$)	
95	55
105	100
85	158
122	174
165	162



3 The table shows the length of coastline for the 13 states along the Atlantic Coast. (Examples 1–3)

a. Make a box plot of the data.



Length of Coastline (mi)	
28	130
580	127
100	301
228	40
31	187
192	112
13	

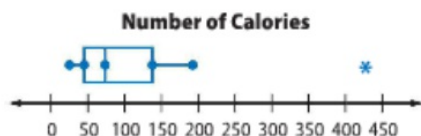
b. Half of the states have a coastline less than how many miles?

127 mi

c. Write a sentence describing what the length of the box plot tells about the number of miles of coastline for states along the Atlantic coast.

Sample answer: The length of the box plot shows that the number of miles of coastline for the top 25% of states varies greatly. The number of miles of coastline for the bottom 25% of states is concentrated.

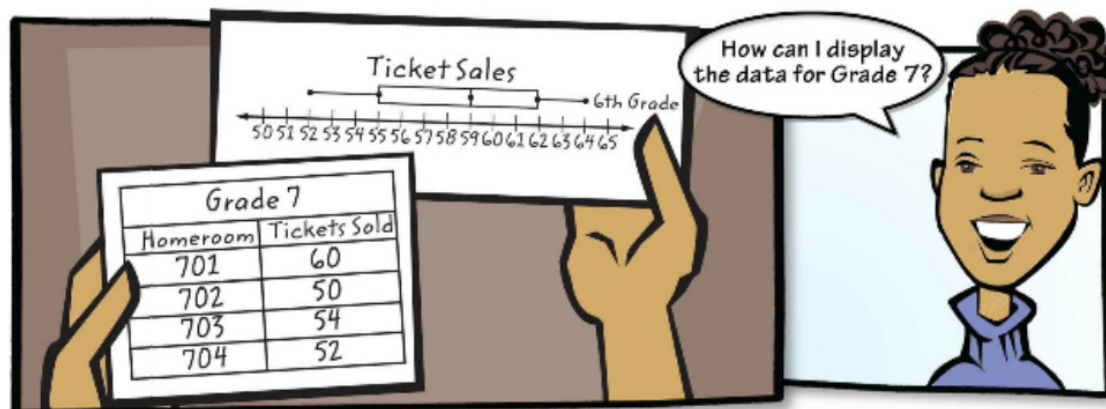
4. The amount of Calories for a serving of certain fruits is displayed. Find the median and the measures of variability. Then describe the data. (Example 4)



median: 75; Q_1 : 50; Q_3 : 140; range: 400; IQR: 90; There is an outlier at 425.

Sample answer: The right half of the data is more spread out and the left half of the data is more concentrated. The median is closer to the first quartile.

5. **CCSS Model with Mathematics** Refer to the graphic novel frame below for Exercises a–b.



- a. Draw a box plot using the data for Grade 7.
- b. Compare the box plots. Which grade sold more tickets? Explain.



Grade 6; Sample answer: The median, upper extreme, and first and third quartiles are higher for the grade 6 data.



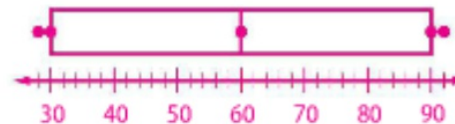
H.O.T. Problems Higher Order Thinking

6. **CCSS Persevere with Problems** Write a set of data that contains 12 values for which the box plot has no whiskers. State the median, first and third quartiles, and lower and upper extremes.

Sample answer: {60, 60, 60, 60, 60, 70, 75, 80, 85, 85, 85, 85};

median = 72.5; Q_1 = lower extreme = 60; Q_3 = upper extreme = 85

7. **CCSS Reason Abstractly** Write a set of data that, when displayed in a box plot, will result in a long box and short whiskers. Draw the box plot.



Sample answer: {28, 30, 52, 68, 90, 92}

8. **CCSS Reason Inductively** What can you conclude from a box plot where the length of the left box and whisker is the same as the length of the right box and whisker?

Sample answer: Both halves of the data have an equal spread.