Unit 8 Lesson 16: Box Plots

1 Notice and Wonder: Puppy Weights (Warm up)
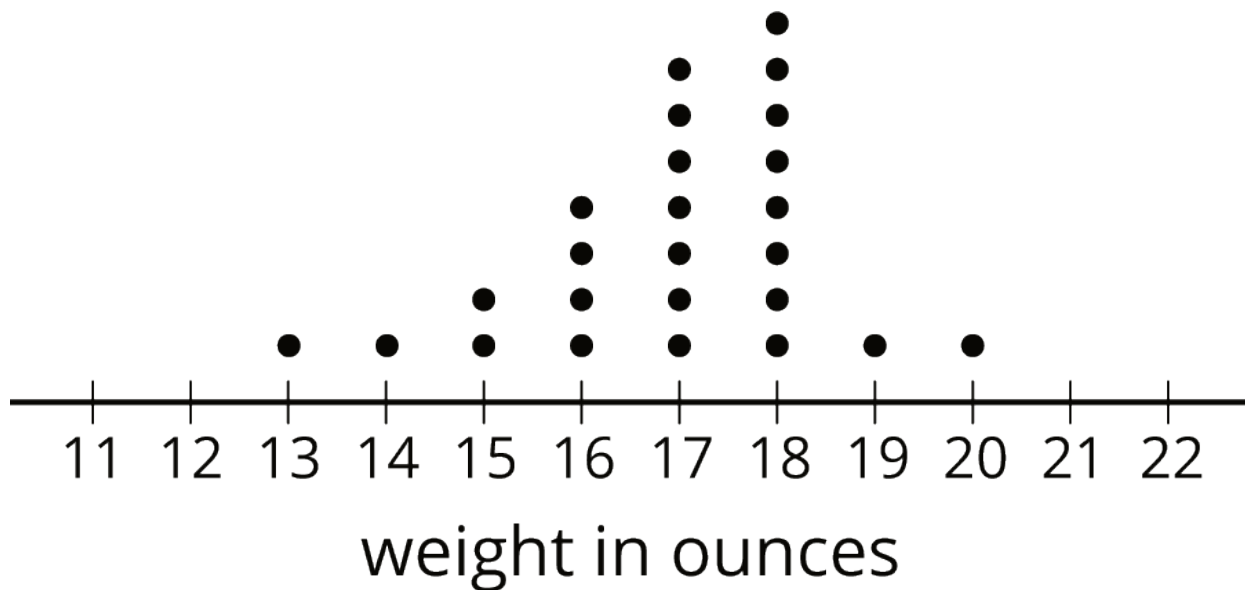
Student Task Statement

Here are the birth weights, in ounces, of all the puppies born at a kennel in the past month.

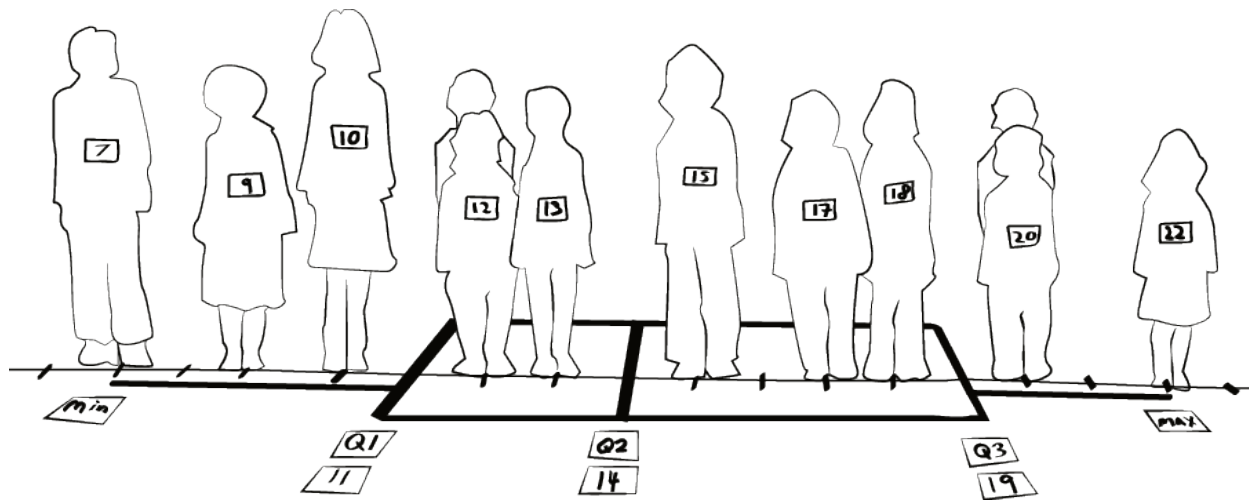| 13 | 14 | 15 | 15 | 16 | 16 | 16 | 16 | 17 |
| 17 | 17 | 17 | 17 | 17 | 17 | 18 | 18 | 18 |
| 18 | 18 | 18 | 18 | 18 | 19 | 20 | | |

What do you notice and wonder about the distribution of the puppy weights?

Activity Synthesis
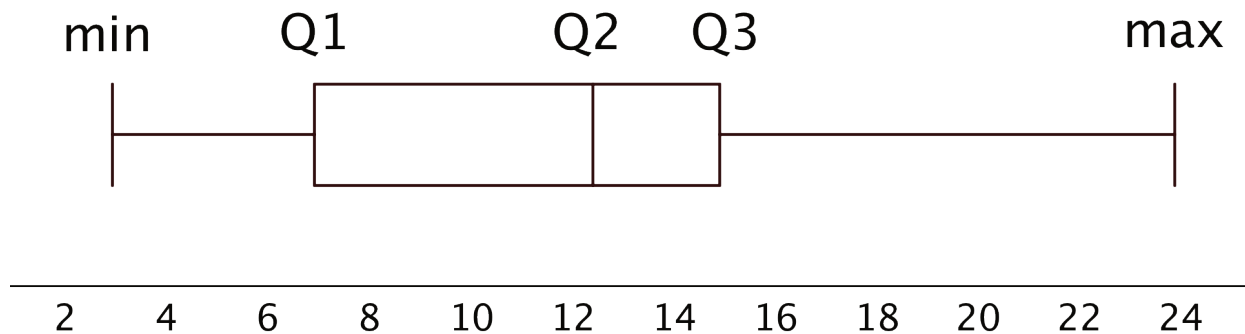
2 Human Box Plot

Images for Launch

Student Task Statement

Your teacher will give you the data on the lengths of names of students in your class. Write the five-number summary by finding the data set's minimum, Q1, Q2, Q3, and the maximum.

Pause for additional instructions from your teacher.

3 Studying Blinks

Images for Launch

Student Task Statement

Twenty people participated in a study about blinking. The number of times each person blinked while watching a video for one minute was recorded. The data values are shown here, in order from smallest to largest.

3	6	8	11	11	13	14	14	14
14	16	18	20	20	20	22	24	32
36	51							

1. a. Use the grid and axis to make a dot plot of this data set.

number of blinks
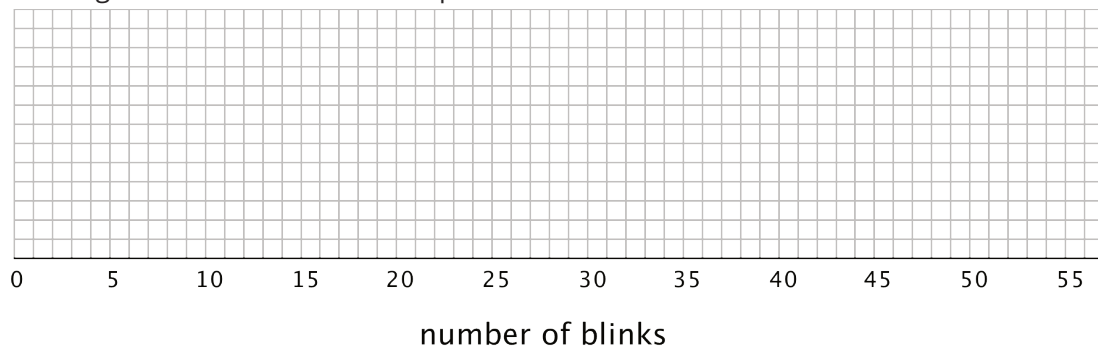
   b. Find the median (Q2) and mark its location on the dot plot.

   c. Find the first quartile (Q1) and the third quartile (Q3). Mark their locations on the dot plot.

   d. What are the minimum and maximum values?

2. A **box plot** can be used to represent the five-number summary graphically. Let's draw a box plot for the number-of-blinks data. On the grid, *above* the dot plot:

   a. Draw a box that extends from the first quartile (Q1) to the third quartile (Q3). Label the quartiles.

   b. At the median (Q2), draw a vertical line from the top of the box to the bottom of the box. Label the median.

   c. From the left side of the box (Q1), draw a horizontal line (a whisker) that extends to the minimum of the data set. On the right side of the box (Q3), draw a similar line that extends to the maximum of the data set.

3. You have now created a box plot to represent the number of blinks data. What fraction of the data values are represented by each of these elements of the box plot?

   a. The left whisker

   b. The box

   c. The right whisker

Activity Synthesis

number of blinks