

Name \_\_\_\_\_

## FIVE-NUMBER SUMMARIES

In “Counting on Lemurs” on page 8, you analyzed box-and-whisker plots to draw conclusions about different lemur species. Box-and-whisker plots use the five-number summary of a data set. The five-number summary includes the *lower extreme*, *upper extreme*, *lower quartile*, *upper quartile*, and *median*. These values help you draw conclusions about the spread and variability of a data set.

**EXAMPLE:** Find the five-number summary of the following data set: **23, 14, 37, 9, 4, 32, 29**

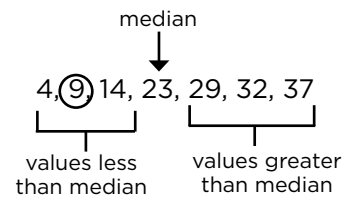
**Step 1:** Order the values from least to greatest:  
4, 9, 14, 23, 29, 32, 37

**Step 2:** Identify the lower extreme (the least value) and upper extreme (the greatest value):  
Lower extreme: 4  
Upper extreme: 37

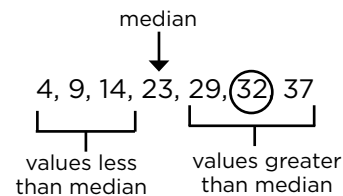
**Step 3:** Find the median, or middle value:  
4, 9, 14, **(23)**, 29, 32, 37

Note: In a data set with an even number of values, the median will be the average of the two middle values.

**Step 4:** Find the lower quartile—the median of the values less than the middle value:



**Step 5:** Find the upper quartile—the median of the values greater than the middle value:



Find the five-number summaries of the following data sets.

**1** Calvin received the following math exam grades this term: 94, 88, 57, 78, 94, 78, 86, 90, 92.

- What is the lower extreme of the data set?
- What is the upper extreme?
- What is the median?
- What is the lower quartile?
- What is the upper quartile?

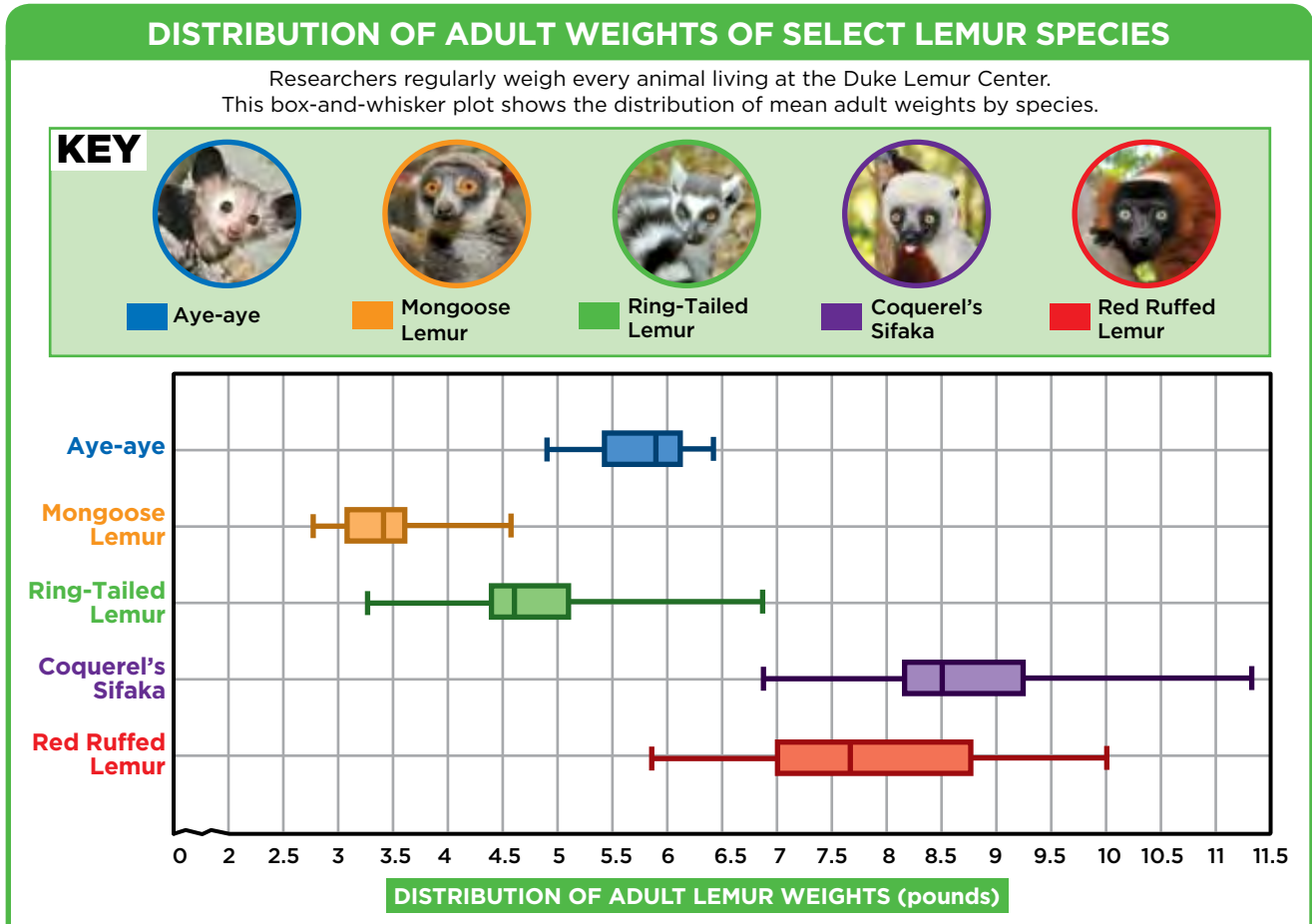
**2** On a recent trip to the beach, Jaya collected seashells. The lengths of the seashells, in inches, were 2, 4, 2, 3, 2, 4, 1, and 3.

- What is the lower extreme of the data set?
- What is the upper extreme?
- What is the median?
- What is the lower quartile?
- What is the upper quartile?

Name \_\_\_\_\_

## LEMURS WEIGH IN

In “Counting on Lemurs” on page 8, you practiced reading box-and-whisker plots. This type of graph displays the spread of a data set so that you can easily spot the high, low, and median values. Use what you learned to answer five more questions about the weights of different lemur species shown in the box-and-whisker plots below.



**1** Which lemur species has the highest median weight?

**4** Which species has a larger overall weight range: the ring-tailed lemur or the red ruffed lemur?

**2** Which species has the smallest difference between its median weight and its lower extreme weight?

**5** How would you describe the weight distribution of the mongoose lemur?

**3** Which species has the largest difference between its median weight and its upper extreme weight?