

Name \_\_\_\_\_

Sect \_\_\_\_\_

## SCATTER PLOTS

A scatter plot is a graph that shows the relationship between two data sets. The two sets of data are graphed as ordered pairs in a coordinate plane.

1) Using the data on p 372 (attached) create a scatter plot to represent the data

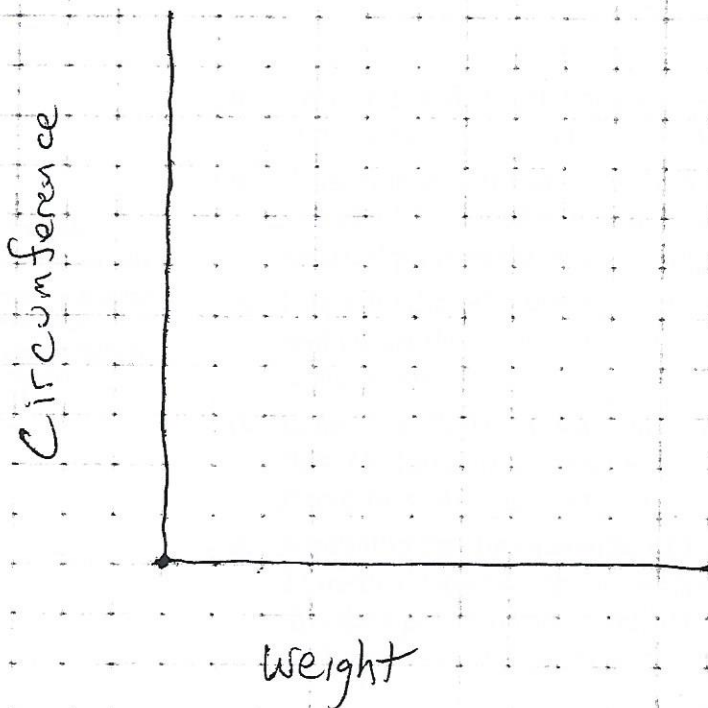
A) What is the range of values to represent the weights of the sports balls. Set your X axis to include the values

Low weight \_\_\_\_\_ High weight \_\_\_\_\_

B) What is the range of values to represent the circumference of all the sports balls. Set your Y axis to include these values.

Low circum \_\_\_\_\_ High circum \_\_\_\_\_

C) Graph the data for each individual ball



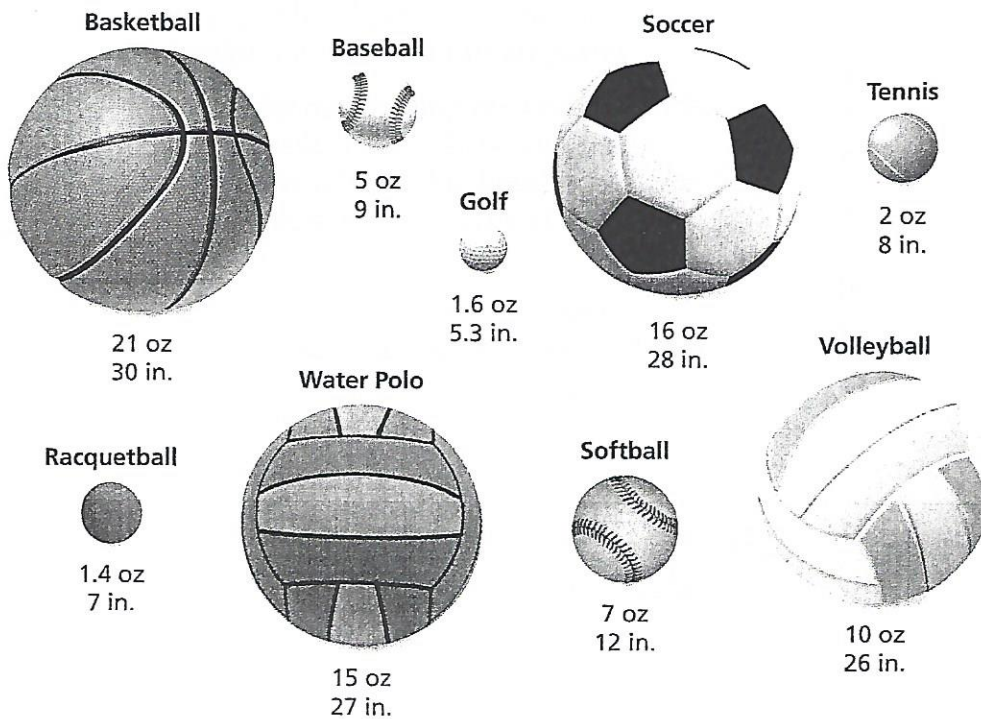
D) Do you see a pattern or relationship between any of the data you graphed? Explain

# 9.1 Scatter Plots

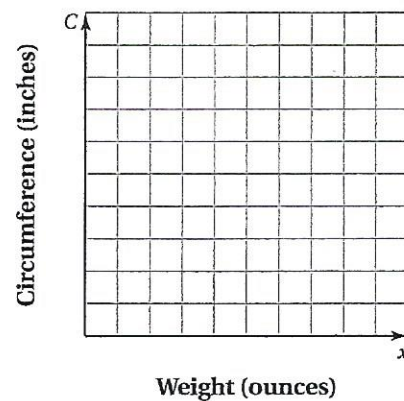
**Essential Question** How can you construct and interpret a scatter plot?

## 1 ACTIVITY: Constructing a Scatter Plot

Work with a partner. The weights  $x$  (in ounces) and circumferences  $C$  (in inches) of several sports balls are shown.



- Choose a scale for the horizontal axis and the vertical axis of the coordinate plane shown.
- Write the weight  $x$  and circumference  $C$  of each ball as an ordered pair. Then plot the ordered pairs in the coordinate plane.
- Describe the relationship between weight and circumference. Are any of the points close together?
- In general, do you think you can describe this relationship as *positive* or *negative*? *linear* or *nonlinear*? Explain.
- A bowling ball has a weight of 225 ounces and a circumference of 27 inches. Describe the location of the ordered pair that represents this data point in the coordinate plane. How does this point compare to the others? Explain your reasoning.



### Data Analysis

In this lesson, you will

- construct and interpret scatter plots.
- describe patterns in scatter plots.

Similar to the scatter plot you created with sports balls, now create a scatter plot comparing absences and grades.

## 2 ACTIVITY: Constructing a Scatter Plot

### Math Practice

#### Recognize Usefulness of Tools

How do you know when a scatter plot is a useful tool for making a prediction?

Work with a partner. The table shows the number of absences and the final grade for each student in a sample.

Absences	Final Grade
0	95
3	88
2	90
5	83
7	79
9	70
4	85
1	94
10	65
8	75

- Write the ordered pairs from the table. Then plot them in a coordinate plane.
- Describe the relationship between absences and final grade. How is this relationship similar to the relationship between weight and circumference in Activity 1? How is it different?
- MODELING** A student has been absent 6 days. Use the data to predict the student's final grade. Explain how you found your answer.

- A) Set your x axis to show absences  
B) Set your y axis to show grades

