

11.4 Select and Draw Conclusions from Samples

TEKS a.1, a.5,
a.6, 2A.2.A

Before

You used statistics to describe sets of data.

Now

You will study different sampling methods for collecting data.

Why?

So you can interpret the results of a survey, as in Ex. 27.



Key Vocabulary

- population
- sample
- unbiased sample
- biased sample
- margin of error

A **population** is a group of people or objects that you want information about. When it is too difficult, time-consuming, or expensive to survey everyone in a population, information is gathered from a **sample**, or subset, of the population. Some methods for selecting a sample are described below.



In a *self-selected sample*, members of a population can volunteer to be in the sample.



In a *systematic sample*, a rule is used to select members of a population, such as selecting every other person.



In a *convenience sample*, easy-to-reach members of a population are selected, such as those in the first row.



In a *random sample*, each member of a population has an equal chance of being selected.

EXAMPLE 1 Classify samples

BASEBALL A sportswriter wants to survey college baseball coaches about whether they think wooden bats should be mandatory throughout college baseball. Identify the type of sample described.

- The sportswriter contacts only the coaches that he has cell phone numbers for in order to get quick responses.
- The sportswriter mails out surveys to all the coaches and uses only the surveys that are returned.

Solution

- The sportswriter selected coaches that are easily accessible. So, the sample is a convenience sample.
- The coaches can choose whether or not to respond. So, the sample is a self-selected sample.