10.6: Samples and Population

Review with a partner how to determine if   
events are *independent* or *dependent.* Use   
an example.

You flip a coin and roll a number cube.   
Find the probability of the event.

1. Flipping heads and rolling a 6

2. Flipping heads and rolling an odd number

3. Flipping heads and rolling a number greater than 3

4. Flipping tails and rolling a number less   
than 5

You survey 20 students in your school to find their favorite summer activity. Can you make conclusions about the population of your   
school based on the results? Explain.

Identify the population and sample.

1. residents of a city; senior residents of a city

2. members of a gym who play basketball; members of a gym

3. books in a classroom; nonfiction books in   
a classroom

4. travel mugs in a souvenir shop; mugs in a souvenir shop

Population: an entire group of people or objects

Sample: a part of the population; samples can be used to make an *inference* , or conclusion

Unbiased Sample: is representative of a population; it is selected at random and is large enough to provide accurate data

Biased Sample: is not representative of a population; one or more parts of the population are favored over others

Identify the population and the sample.

1. All students in a school 2. 75 strawberries in the field

30 students in the school All the strawberries in the field

3. You want to know the number of students in your school who read some of the newspaper at least once a week. You survey 30 random students that you meet in the hallway between classes.

a. What is the population of your survey?

b. What is the sample of your survey?

c. Is the sample biased or unbiased? Explain.

Which sample is better for making a prediction? Explain.

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| Predict the number of residents in St. Lucie County who own a home. | |
| Sample A | A random sample of 100 residents in the county |
| Sample B | A random sample of 100 residents in the city of Fort Pierce |

4.

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| Predict the number of people at a beach who are wearing sunscreen. | |
| Sample A | A random sample of 50 people at the beach |
| Sample B | A random sample of 5 people at the beach |

5.

Determine whether you would survey the population or a sample. Explain.

6. You want to know the average weight of the members of your family.

7. You want to know the number of grocery stores in Florida that carry your favorite cereal.

8. A survey asked 60 randomly chosen students if they eat school lunch. Forty said yes. There were 560 school lunches sold today. Predict the number of students who attend the school.