The preceding procedure results in a simple random sample of five names selected from a list of 38 different names. The same procedure can be used with a much larger population.

Pollsters often use the above procedure to randomly generate telephone numbers. Suppose that you want to randomly generate phone numbers beginning with an area code of 347 and an exchange of 489 (as in the song "Diary" by Alicia Keys). You can use the above procedure to randomly generate numbers between 0 and 9999, and the result will be a complete phone number that could be called for a survey. Now randomly generate 10 such numbers, and combine them with the area code of 347 and the exchange of 489 so that you have a list of 10 people who can be reached at phone numbers with the format of (347) 489–xxxx.

## from data TO DECISION

**Critical Thinking**

The concept of "six degrees of separation" grew from a 1967 study conducted by psychologist Stanley Milgram. His original finding was that two random residents in the United States are connected by an average of six intermediaries. In his first experiment, he sent 60 letters to subjects in Wichita, Kansas, and asked them to forward the letters to a specific woman in Cambridge, Massachusetts. The subjects were instructed to hand-deliver the letters to acquaintances who they believed could reach the target person either directly or through other acquaintances. Of the 60 subjects who were solicited, 50 participated, and three of the letters reached the target. Two subsequent experiments also had low completion rates, but Milgram eventually reached a 35% completion rate, and he found that for completed chains, the mean number of intermediaries was around six. Consequently, Milgram's original data led to the concept referred to as "six degrees of separation."

**Analyzing the Results**

**1.** Did Stanley Milgram's original experiment have a good design, or was it flawed? Explain.

**2.** Do Milgram's original data justify the concept of "six degrees of separation?"

**3.** Describe a sound experiment for determining whether the concept of six degrees of separation is valid.