

Sampling from a population

NAME:

This worksheet will help us practice the idea of random sampling.

The following table gives the record high temperature for each state. We will consider this set to be the population and we will practice sampling from it. The mean of these 50 numbers is 113.92 degrees.

State	High temperature (F)	State	High temperature (F)
Alabama	112	Montana	117
Alaska	100	Nebraska	118
Arizona	127	Nevada	122
Arkansas	120	New Hampshire	106
California	134	New Jersey	110
Colorado	118	New Mexico	116
Connecticut	106	New York	108
Delaware	110	North Carolina	110
Florida	109	North Dakota	121
Georgia	113	Ohio	113
Hawaii	100	Oklahoma	120
Idaho	118	Oregon	119
Illinois	117	Pennsylvania	111
Indiana	116	Rhode Island	104
Iowa	118	South Carolina	111
Kansas	121	South Dakota	120
Kentucky	114	Tennessee	113
Louisiana	114	Texas	120
Maine	105	Utah	117
Maryland	109	Vermont	105
Massachusetts	107	Virginia	110
Michigan	112	Washington	118
Minnesota	114	West Virginia	112
Mississippi	115	Wisconsin	114
Missouri	118	Wyoming	114

(source: 1996 Information Please Almanac)

1. Again, we'll assume this set of fifty numbers is our population and we'll select a sample of size ten from it. First, assign to each state a two-digit number, 01 to 50. Write the numbers beside each state in the table.

2. Now, using the random table in the back of your book, select ten states to be included in the sample. So that everyone gets the same answer, enter the table at line 130. Write down the states that are in your sample.

3. Find the average high temperature for your sample of ten states. Label it in degrees Fahrenheit. This can be used to estimate the average high for all fifty states.

It is rare to sample as we have done here. In real life, when we have information about every individual in the population, we would just use the population data and not sample at all. Here, we are sampling for demonstration purposes only.