

Sampling Methods Worksheet

These questions are taken (with some modifications) from the Nelson textbook, *The Mathematics of Data Management*.

1. Identify the type of random sampling in each of the following scenarios:
 - a) The principal randomly selects four classes and surveys each student in those classes.
 - b) William picks names out of a hat.
 - c) A hockey card collector opens a drawer of sorted cards and, after selecting a random starting point, takes out every fifth card.
 - d) The ministry of Education randomly selects your school for testing and 40 student names are randomly selected from a student list.
 - e) Your class submits solutions to a problem and your teacher divides the work into four piles by achievement levels (1, 2, 3, 4). She then randomly picks three examples from each.
2. State the advantages and disadvantages of each sampling technique:
 - a) Simple random sampling
 - b) Systematic random sampling
 - c) Stratified random sampling
 - d) Multi-stage random sampling
3. Get a book. (Yes, do it!) For each part a) through e), describe (briefly and specifically) how you selected your pages, and write down the page numbers you selected.
 - a) Select 6 pages using simple random sampling.
 - b) Select 10 pages using systematic random sampling.
 - c) Select 12 pages using stratified random sampling.
 - d) Select 10 pages using multi-stage random sampling.
4. Now get a deck of cards. (Yes, do it!) For each part a) through e), describe (briefly and specifically) how you selected your cards, and write down the cards you selected.
 - a) Select 6 cards using simple random sampling.
 - b) Select 10 cards using systematic random sampling.
 - c) Select 12 cards using stratified random sampling.
 - d) Select 10 cards using multi-stage random sampling.

5. Based on the following groups of names, identify a sampling method that may have been used to collect the samples listed in parts i) through v) below.

Shaggy	Paul	Joey	Susan
Fred	John	Monica	Elmo
Scooby	George	Rachel	Ernie
Thelma	Ringo	Ross	Oscar
Daphne		Chandler	Zoe
		Phoebe	Maria

- i) Joey, Monica, Fred, Paul, Daphne
- ii) Susan, Elmo, Ernie, Oscar, Zoe, Maria
- iii) Shaggy, Scooby, Thelma
- iv) Rachel, Susan, Zoe, Scooby, John, Monica
- v) Shaggy, Fred, George, John, Joey, Chandler, Susan, Ernie