

- (4) Ratio scale – equality of intervals and ratios may be determined; there is a true 0 point.

Example are height, weight, and annual income. Doubling weight will take a 50 pounder to 100 pounds;  $\frac{100}{50} = \frac{160}{80} = 2$ .

### Presenting Data

- (1) Identify the source and the individuals. How many are in the set?
- (2) Identify variables and type.
- (3) Identify units of measurement.
- (4) Label everything.

Statistical Inference – the procedure by which we reach a conclusion about a population on the basis of the information contained in a sample that has been drawn from that population.

Simple Random Sample (SRS) – a sample of size  $n$  from a population of size  $N$  in such a way that every possible sample of size  $n$  has the same chance of being selected.

**NOTE.** As a rule, sampling is done without replacement.

**EXAMPLE.** We have 10 individuals numbered 0 thru 9, and want to choose an SRS of 3. For our procedure, we note that there are 50 rows of random numbers in Table A on page A-2. Without looking at the table, we choose a row from 1 to 50. Take the person with the same number as the first digit in that row along with the two succeeding people. Consider 0 the successor of 9. Suppose we pick row 36, where the first digit is 6, so we take for our sample persons 6, 7, 8. Each person has a 30% chance of being chosen. Is this an SRS?

**NO** – group {6, 7, 8} has a 10% chance of being chosen, but group {3, 6, 8} has 0% chance of being chosen.