

Lesson B Guided Notes

Structure of a Data Set

The characteristics of the individuals about which we collect information are called _____.

The information collected is called a _____

Qualitative and Quantitative Variables

Variables can be divided into two types:

- Qualitative Variables - classify individuals into categories.
- Quantitative Variables - tell how much or how many of something there is.

Example 1 Which of the following variables are qualitative and which are quantitative?

- (a) A person's age
- (b) A person's major
- (c) The mileage (in miles per gallon) of a car
- (d) The color of a car

Ordinal and Nominal Qualitative Variables

Qualitative variables can be further divided into **nominal variables** and **ordinal variables**.

Ordinal variables have a natural ordering.

Nominal variables have no natural ordering.

Example 2 Which of the following variables are ordinal and which are nominal?

- (a) State of residence
- (b) Gender
- (c) Letter grade in a statistics class (A, B, C, D, or F)
- (d) Size of soft drink ordered at a fast-food restaurant (small, medium, or large)

Discrete and Continuous Quantitative Variables

Quantitative variables can be further divided into **discrete variables** and **continuous variables**.

Discrete variables are quantitative variables whose possible values can be listed.

Continuous variables are quantitative variables that can take on any value in some interval.

Example 3 Which of the following variables are discrete and which are continuous?

- (a) The age of a person at his or her last birthday
- (b) The height of a person
- (c) The number of siblings a person has
- (d) The distance a person commutes to work