Quantitative Data

- For a Statistics project, students weighed the contents of cans of cola.
- In 2000, 24 cans of cola were weighed (full and empty). The difference in weight is the weight of the contents. The units are grams.

Weight of Contents

368, 351, 355, 367, 352, 369, 370, 369
370, 355, 354, 357, 366, 353, 373, 365
355, 356, 362, 354, 353, 378, 368, 349

Weight of Contents

- What can we say about the weight of contents of a can of cola?
  - Variation!
  - Smallest value?
  - Largest value?
  - Middle value?
Display of Data

• Stem-and-Leaf Display or Stem Plot
  – Orders the data and creates a display of the distribution of values.

Display of Data

• Histogram
  – A picture of the distribution of the data.
  – Collects values into bins.
  – Bins should be of equal width.
  – Different bin choices can yield different pictures.

Histogram

- Frequency
- Measurement
Constructing a Histogram

• Order data from smallest to largest using a stem and leaf display.
• Determine bins.
  – equal width
  – more data → more bins

Stem and Leaf

34 | 9
35 | 12334455567
36 | 25678899
37 | 0038

Weight of Contents

Weight of Contents of Cans of Cola

- Frequency
- Weight (grams)
Shape

- Symmetry
  - Mounded, flat
- Skew
  - Right, left
- Other
  - Multiple peaks, outliers

Symmetric
Mounded in the Middle

Histogram of Octane Rating

Skew - Right

pH of Pork Loins
**Skew - Left**

Frequency of Flexibility Index of Young Adult Men

**Multiple Peaks**

Frequency of Size of Diamonds (carats)

**Weight of Contents**

Frequency of Weight of Contents of Cans of Cola