

Chapter 2 Summarizing Single Variable Data

Review: The Process of Statistical Analysis.

- ✓ 1) Identify the Research Question.
- ✓ 2) Decide what to measure
- ✓ 3) Gather Data
- 4) Summarize Data
- 5) Make an Inference.

Section 2.1

→ Frequency Tables & Histograms

Ex: Female Heights (Adult) in cm.

$\left\{ \begin{array}{l} \text{min} \rightarrow 148.0, 152.2, 155.2, 152.7, 155.1, 155.5, 156.8, 158.4, 158.3, 156.2 \\ 158.6, 159.9, 164.2, 157.9, 159.8, 160.9, 162.3, 158.0, 159.8, 156.9 \\ 162.4, 160.2, 166.9, 167.2, 167.6, 164.0, 170.4, 175.9, 176.4, 184.1 \end{array} \right\}$
 $\uparrow$
 max

→ Frequency Table: divides interval over which values are scattered into sub-intervals ("classes"), then tallies the number of values in each class.

- Range = max - min = $184.1 - 148.0 = 36.1$.
- Divide the range into classes (or bins)

$$\text{class width} = \frac{\text{range}}{\# \text{ of classes}} = \frac{36.1}{5} = 7.22 \rightarrow 7.3$$

← my choice

• Round class width up to same precision as data.

	Class (bin)	Tally	Frequency = f	Relative Frequency = f/n
	$\text{min} \rightarrow 148.0 - 155.2$		5	$5/30 \approx 17\%$
$148.0 + 7.3 \rightarrow$	$155.3 - 162.5$		16	$16/30 \approx 53\%$
$155.3 + 7.3 \rightarrow$	$162.6 - 169.8$		5	$5/30 \approx 17\%$
$162.6 + 7.3 \rightarrow$	$169.9 - 177.1$		3	$3/30 = 10\%$
$169.9 + 7.3 \rightarrow$	$177.2 - 184.4$		1	$1/30 \approx 3\%$
			Total → 30	$30/30 = 100\%$
			(Sample size: $n=30$)	