Stat 7 - class 4
(L-19)

6 right a lot,
too little amount too much

1. sort data smallest to largest
2. make raw frequency table
3. figure out how many bars/groupings work
   for that data set

Figure 1.5 (bars need to touch) (L-20)
(L-21)

1 row for each leaf

*histogram intervals include
left-hand point

Phosphorus
quant, histogram,
cont, ratio

Histogram Complexity
1. horizontal scale: right # of bars
2. vertical scale: 3 types of hist. by vertical scale

Nesting/hierarchical
plant 1 plant 2

leaf 1 leaf 2
leaf 1 leaf 2

different

Scanned with CamScanner
relative frequency

- When histogram is drawn on density scale, rel freq. (%) is portrayed with area under hist.

\[
\text{density scale: total area under curve } = 100\%
\]

Convention: all hist. on density scale

Same spread - numerical
Same shape - words
Different center

Same center
Same shape
Different spread
same center
same spread
different shape

left tail
right tail

(1) point of symmetry
(2) asymmetric
(3) long left hand tail
(4) bimodal/multi mode
w1n length
\[
\begin{bmatrix}
y_1 \\ \\
y_2 \\ \\
\vdots \\ \\
y_n
\end{bmatrix}
\]
1 row for each butterfly

mean \( \bar{y} = \frac{1}{n} \sum_{i=1}^{n} y_i \) = 3.96 cm

mean \( \bar{y} \)

mean \( \bar{y} = 4 \)

balance point/center of gravity

subtract 4

mean \( \bar{y} \)

deviations from mean

mean \( \bar{y} \)

point of symmetry = mean
\[
\begin{align*}
\begin{pmatrix}
2 \\
1 \\
9
\end{pmatrix} & \xrightarrow{\text{sort}} \begin{pmatrix}
1 \\
2 \\
9
\end{pmatrix} \quad n=3 \\
\begin{pmatrix}
2 \\
1 \\
9 \\
3
\end{pmatrix} & \xrightarrow{\text{sort}} \begin{pmatrix}
1 \\
2 \\
3 \\
9
\end{pmatrix}
\end{align*}
\]

\[\text{median} = 2 \quad \text{mean} = 4\]

\[\text{median} \quad 2.5\]

Point of symmetry = mean = median = mode

\[\text{median} = 50/50 \text{ point in area under curve}\]

Stock market gains/losses

\[\text{median stays the same} \quad \rightarrow \text{mean shifts}\]

\[\text{spread} = (75^{th} - 25^{th}) = \text{inter-quartile range}\]

Percentile = 25^{th} quantile