"I Have...Who Has...?"--Activity for Exploring Data topics in AP Stats

| I have cases. | I have variables. <br> Who has a display of what |
| :--- | :--- |
| Who has the characteristics <br> of cases? | values are and how often <br> each occurs? |
| I have distribution. | I have dot plot. |
| Who has a graph of a |  |
| distribution of a variable that |  |
| uses columns of dots? | Who has a single number that <br> "condenses" data? |
| I have a summary statistic. | I have a simulation. |
| Who has a procedure in |  |
| which you set up a model |  |
| that copies a real situation? | Who has a distribution that <br> looks "rectangular?" |
| I have a uniform distribution. | I have a normal distribution. |
| Who has the distance on a |  |

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| I have standard deviation. | I have a standard normal <br> distribution. |
| :--- | :--- |
| Who has a normal <br> distribution where the mean $=$ <br> 0 and the standard deviation <br> =1? | Who has a distribution with a <br> tail to the right? |
| I have a skewed right <br> distribution. <br> Who has a distribution with a <br> tail to the left? | I have a skewed left <br> distribution. <br> Who has the three numbers <br> tourths? a distribution into |
| I have quartiles. | I have the median. |
| Who has the number that |  |
| divides a distribution into two |  |
| equal halves? | Who has a distribution with <br> two "peaks?" |
| I have a bimodal distribution. | I have an outlier. <br> Who has a number that |
| Who has a data point that |  |
| stands apart from the bulk of |  |
| the data? |  |
| top fourth and the bottom |  |
| three-fourths? |  |

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| I have the upper quartile. <br> Who has the number that is the arithmetic average of a set of data? | I have the mean. <br> Who has the number that divides a distribution into the bottom fourth and the top three-fourths? |
| :---: | :---: |
| I have the lower quartile. <br> Who has a distribution with a tail? | I have a skewed distribution. <br> Who has a "peak" in a distribution? |
| I have a mode. <br> Who has the point where a normal model changes from concave up to concave down? | I have an inflection point. <br> Who has a variable consisting of numbers (that can be compared in a meaningful way)? |
| I have a quantitative variable. <br> Who has a graph of bars that depicts a quantitative variable? | I have a histogram. <br> Who has a histogram that shows the proportion (or percentage) on the vertical axis? |

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| I have a relative frequency histogram. <br> Who has a variable that consists of counts of cases in several categories? | I have a categorical variable. <br> Who has a plot that depicts the actual numbers in a data set (sometimes divided into the tens digits and the ones digits? |
| :---: | :---: |
| I have a stemplot. <br> Who has a graph that shows the frequencies for categorical data (using a bar for each category)? | I have a bar graph. <br> Who has the two most common measures of center of a distribution? |
| I have mean and median. <br> Who has the location of the mean in a distribution? | I have the "balance point" of a distribution. <br> Who has the location of a median in a distribution? |
| I have the "equal areas point" of a distribution. <br> Who has the distance between the upper and lower quartile? | I have the interquartile range (IQR). <br> Who has the five-number summary? |

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$\left.\begin{array}{|l|l|}\hline \begin{array}{l}\text { I have the minimum, lower } \\ \text { quartile, median, upper } \\ \text { quartile and maximum values. }\end{array} & \text { I have a boxplot. } \\ \begin{array}{l}\text { Who has the graphical } \\ \text { display of the 5-number } \\ \text { summary? }\end{array} & \begin{array}{l}\text { Who has the rule for } \\ \text { determining outliers? }\end{array} \\ \hline \begin{array}{l}\text { I have "If it is more than 1.5 } \\ \text { IQR's away from the nearest } \\ \text { quartile. }\end{array} & \begin{array}{l}\text { I have a cumulative } \\ \text { percentage plot (or a } \\ \text { cumulative relative frequency } \\ \text { plot). }\end{array} \\ \begin{array}{l}\text { Who has a plot that depicts } \\ \text { percentiles on the vertical } \\ \text { axis? }\end{array} & \begin{array}{l}\text { Who has the square of the } \\ \text { standard deviation? }\end{array} \\ \hline \text { I have variance. } & \text { I have bivariate data. } \\ \text { Who has 2-variable } \\ \text { quantitative data? } & \begin{array}{l}\text { Who has the difference } \\ \text { between the observed value } \\ \text { of } y \text { and the predicted value } \\ \text { of y? }\end{array} \\ \hline \text { I have the residual. } & \text { I have extrapolation. } \\ \text { Who has the type of } \\ \text { prediction when the x value } \\ \text { falls outside the range of the } \\ \text { actual data? }\end{array} \begin{array}{l}\text { Who has the term that } \\ \text { describes the tendency for } \\ \text { the points to fan out at one } \\ \text { end of a scatterplot? }\end{array}\right\}$
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| I have heteroscedasticity. <br> Who has the variable on the $y$-axis? | I have the response variable. <br> Who has the line for the set of ( $x, y$ ) data points for which the sum of squares of the residuals is the least? |
| :---: | :---: |
| I have the Least Squares Regression Line. <br> Who has the type of prediction when the $x$ value falls inside the range of the data? | I have interpolation. <br> Who has the variable on the x-axis? |
| I have the explanatory variable. <br> Who has the general approach to fitting lines to data? | I have Linear Regression. <br> Who has a numerical value between -1 and 1 that measures the strength and direction of a linear relationship of data points? |
| I have correlation. <br> Who has a variable other than the ones being plotted that can possibly explain a scatterplot pattern? | I have a lurking variable. <br> Who has the proportion of variation in the $y$ 's that is explained by the model on the x 's? |

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\begin{array}{|l|l|}\hline \begin{array}{l}\text { I have the coefficient of } \\
\text { variation (r-squared). }\end{array} & \text { I have the regression effect. } \\
\text { Who has the difference } \\
\text { between the regression line } \\
\text { and the major axis of the } \\
\text { elliptical cloud (scatterplot)? }\end{array}
$$ \quad \begin{array}{l}Who has a famous set of four \\
scatterplots that teach the \\

value of looking at graphs?\end{array}\right\}\)| I have the Anscombe Data |
| :--- |
| Sets. |
| Who has the scatterplot of <br> residuals? |
| Who has the subjects (or <br> objects) about which data <br> has been collected? |

