Warm Up

1) As the number of minutes a candle burns goes up, the height of the candle goes ___.
2) As the water in a balloon increases, the weight of the balloon ______.
3) The more hours you work, the ___ money you make.
4) The more cousins you have, the ___ your grade in Lang Arts is.

Scatter Plots

A **scatter plot** is a graph used to determine whether there is a relationship between paired data.

In many real-life situations, scatter plots follow patterns that are approximately linear.

If \( y \) tends to increase as \( x \) increases, then the paired data are said to be a **positive correlation**.

If \( y \) tends to decrease as \( x \) increases, the paired data are said to be a **negative correlation**.

If the points show no linear pattern, the paired data are said to have **relatively no correlation**.

Tell whether a line of best fit for each scatter plot would have a positive or negative slope. If a line of best fit would not be appropriate for the data, write neither.

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**Any Correlation???**

1. ![Positive Linear Correlation](image1)
2. ![Positive Correlation](image2)
3. ![Negative Correlation](image3)
4. ![Positive Correlation](image4)

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1. Chapter 12 Graphing Lines
Scatter Plots

Tell whether the variables in each scatter plot are positively correlated, negatively correlated, or unrelated.

1. negative
2. no correlation
3. positive

Tell whether each pair of quantities is positively correlated, negatively correlated, or not related.

4. traffic volume and commuting time
5. average outside temperature and amount of fuel used to heat a house
6. hat size and average of math test scores

Cluster Examples:

Identify the clusters:

Outliers...
Plot the airline fares and see if there is a correlation between the distance traveled and the price per ticket.

<table>
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<th>Cost ($)</th>
<th>Distance (miles)</th>
</tr>
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<tbody>
<tr>
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<tr>
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**Scatter Plots**

Scatter Plot Homework ~