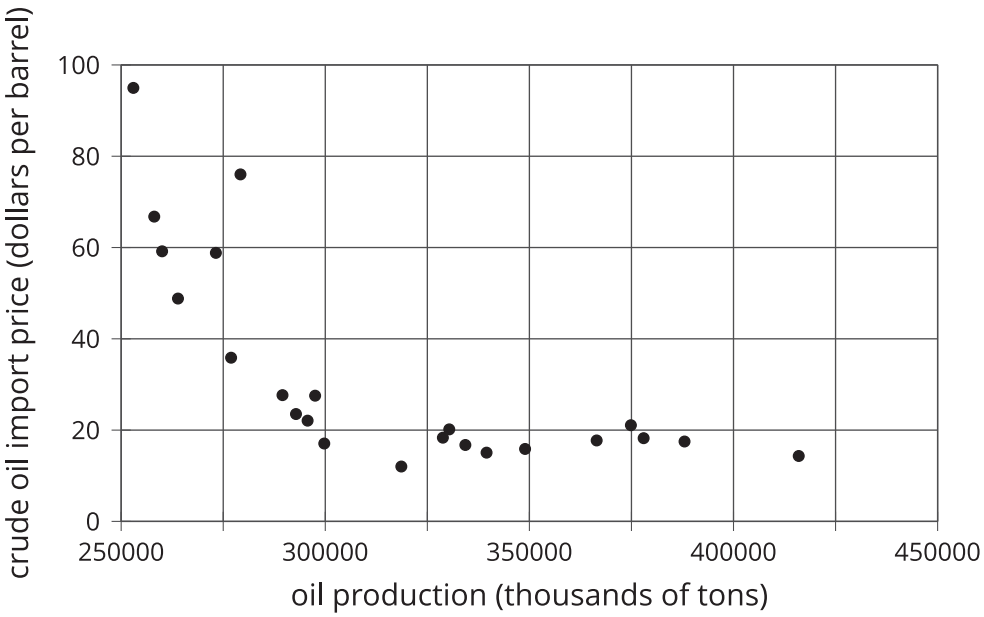
Unit 6, Lesson 7

Observing More Patterns in Scatter Plots

Let's look for other patterns in data.

7.1 Notice and Wonder: Non-linear Scatter Plot

What do you notice? What do you wonder?



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7.2 Scatter Plot City

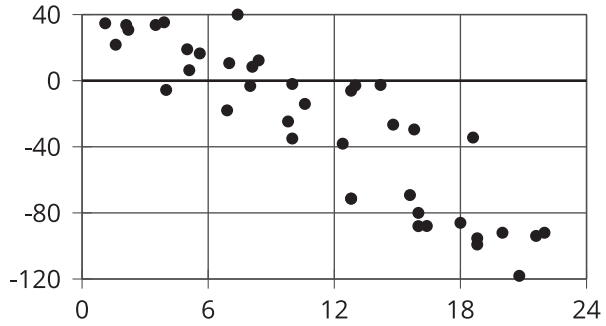
Your teacher will give you a set of cards. Each card shows a scatter plot.

1. Sort the cards into categories and describe each category.
2. Explain the reasoning behind your categories to your partner. Listen to your partner's reasoning for their categories.
3. Sort the cards again into categories based on their associations: positive association, negative association, and neither. Compare your sorting with your partner's and discuss any disagreements.
4. Sort the cards into 2 categories: linear associations and non-linear associations. Compare your sorting with your partner's and discuss any disagreements.

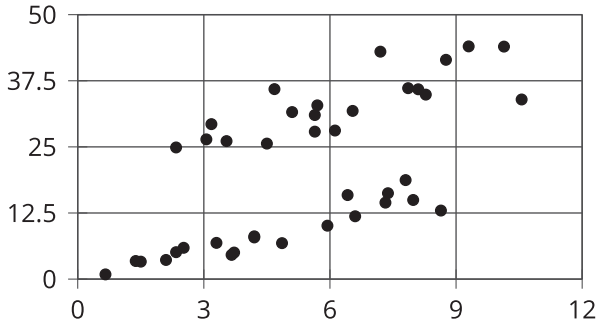
7.3 Clustering

Find groups of 2 or 3 scatter plots that share something in common that the others do not. What do they have in common?

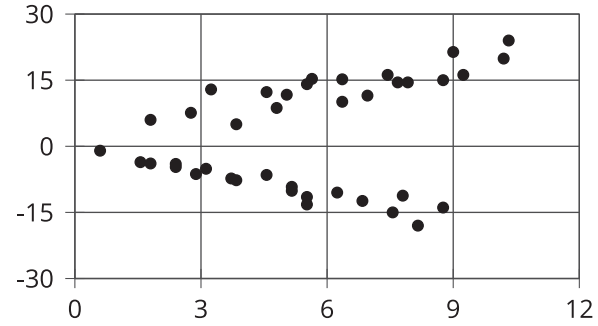
A



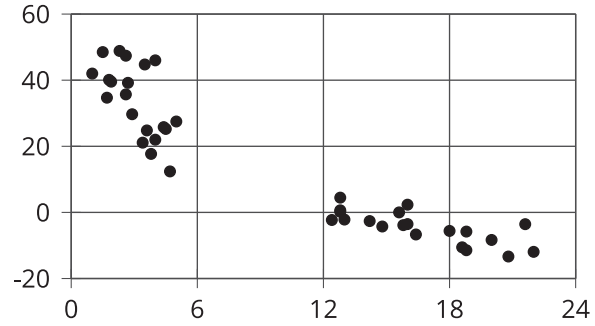
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C



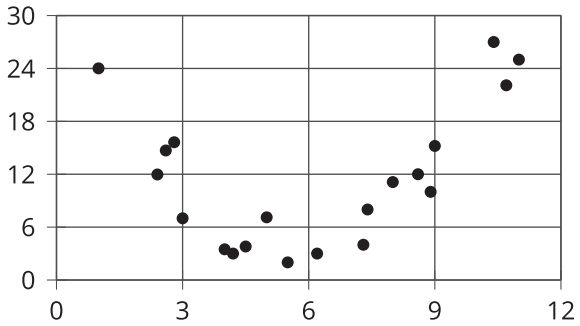
D



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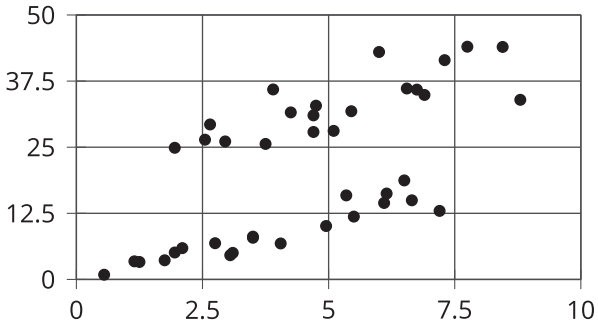
Lesson 7 Summary

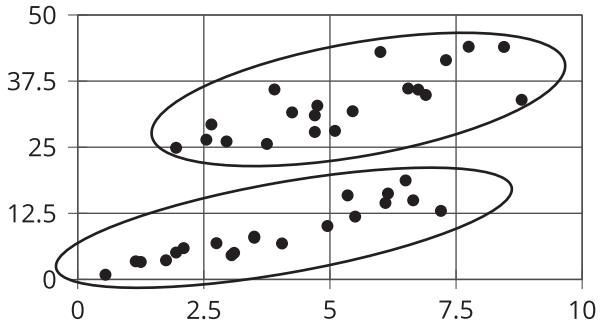
Sometimes a scatter plot shows an association that is not linear:



In this scatter plot, the data initially shows a negative trend then later a positive trend. Because the variables appear to be associated, but not in a linear way, we call this a *non-linear association*. In later grades, you will study functions that can be models for non-linear associations.

Sometimes in a scatter plot we can see separate groups of points.





We call these groups “clusters.” Clusters often appear when multiple patterns are present within the data. There may be subgroups within the overall data set that affect the variables.