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1. Explanatory: water temperature (quantitative)
Response: weight change (quantitative)

3. a) Positive. Students with higher IQs tend to have higher GPAs and vice versa, because both IQ and GPA are related to mental ability.

b) Roughly linear, because a line through the scatterplot of points would provide a good summary. Moderately strong, because most of the points would be close to the line.

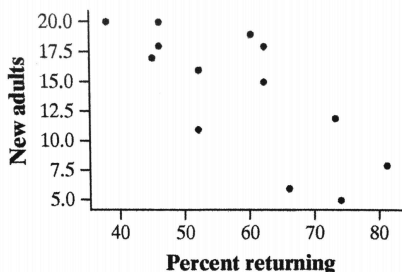
c) $IQ \approx 103$ and $GPA \approx 0.4$.

4. a) Negative. Months with high temperatures tend to have low gas consumption and vice versa, because as the temperature gets warmer, less gas would be needed for heating.

b) Roughly linear, because a line through the scatterplot of points would provide a good summary. Strong, because the points would be close to the line.

c) A month when an average temperature ≈ 58 degrees and gas usage ≈ 260 cubic feet.

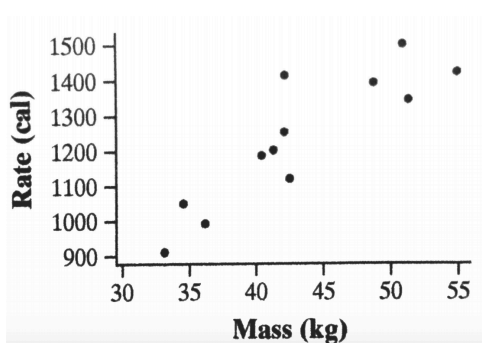
6.



8. a) There is a negative, linear, moderately strong association between percent returning and the number of new adults.

b) Because this association is negative, we conclude that the sparrowhawk is a long-lived territorial species.

10. a) A scatterplot is shown below.



b) There is a positive, linear strong association between lean body mass and metabolic rate. This association is consistent with the researchers' belief that lean body mass is an important influence on metabolic rate.