# M1.7 – Use a scatter diagram to identify a correlation between two variables

## Teacher answers

### Quiz

1. Which of the following is/are appropriate to draw as scatterplots?
2. The mean horn length of two populations of African rhinos
3. The frequency of short-haired and long-haired cats from a cross of two long-haired parents
4. The diameter of oak tree trunks and the average number of leaves per branch
5. The abundance of insects and the fledging weight of lapwing chicks.

C D

1. Plot the following information from the table into a scatterplot – the length of a male peacock’s tail against the number of females he courted in a single breeding season

|  |  |  |
| --- | --- | --- |
| **Peacock** | **Tail length (cm)** | **Number of females courted** |
| 1 | 140 | 1 |
| 2 | 135 | 1 |
| 3 | 156 | 3 |
| 4 | 147 | 4 |
| 5 | 152 | 5 |
| 6 | 164 | 5 |
| 7 | 154 | 4 |
| 8 | 162 | 6 |
| 9 | 139 | 2 |
| 10 | 149 | 3 |
| 11 | 153 | 4 |
| 12 | 159 | 5 |
| 13 | 154 | 5 |
| 14 | 157 | 4 |
| 15 | 161 | 5 |

Add a trendline to this scatter plot and describe the relationship you observe

This a strong positive correlation

Trendline should have data points equally distributed on either side
(note N=15, so 8 points fall below, and 7 above).

1. Describe the relationship observed in this scatterplot charting the weight of female house flies against the number of eggs laid per day.

Negative correlation

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