**Prep 1: Correlations**

**Read about correlations in the pack and work through the tasks below**

1. **Fill in the gaps:**

This is a measure of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. It measures how strongly the variables are related with each other, and in which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. If a strong correlation is found, a value from one variable can be used to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the corresponding value of the other.

1. **Draw a positive and negative correlation on the axes below**

Positive Negative

**3a) what are these graphs called? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3b) Give one example of a positive correlation and one example of a negative correlation**

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4) Correlations also have hypothesis and as are predicting a relationship and not a difference are worded differently. A directional hypothesis states if it will be positive or negative and a non-directional simply states there will be a correlation.

**Identify below whether these are directional or non-directional**

There will be a significant correlation between deaths by drowning and ice creams eaten between the months of June and august

There will be a significant negative correlation between amount of Christmas presents bought and cash in the bank.

There will be a significant positive correlation between mince pies eaten and size of waste line.

**5) Fill in the gaps:**

We use a formula to find out what a correlation coefficient is. This indiciates the strength and direction of the correlation. The correlation coefficient cannot be any value other than those between -1 and 1. A score of \_\_\_\_\_\_ indicates a perfect negative correlation, and a score of \_\_\_\_\_ indicates a perfect positive correlation. A score of \_\_\_\_\_ indicates no correlation

**6) What correlation coefficient would indicate a…**

Weak positive correlation? Strong negative correlation?

Negative moderate correlation? weak negative correlation?

**7) Estimate the correlation coefficients for the scattergraphs below. Write next to graph.**



**8) Which of these are positive and which are negative criticisms of correlations and add some detail in to create full evaluation**

*Can be used when research would be impossible or unethical to manipulate an IV for example …………………………..*

*Cannot and must not infer cause and effect relationships because …………………*

*Can only detect linear (straight line) relationships.*

Correlations are useful tools………….