

# Performance Task - Data Management Investigation

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## Overview:

This is a probability and statistics research project. You will choose an appropriate topic and pose a significant problem of interest. You will collect data using a variety of methods (e.g. Internet research, database research (E-Stat), surveys, etc.). You will be expected to analyze the data using one variable statistics, two variable statistics and probabilities.

## Quick Checklist:

**Topic:** Relevant, interesting and appropriate topic

**Problem(s) Posed:** One or more relevant and interesting problem is posed relating to the topic

**Hypothesis:** State what you are expecting to find (e.g. what trends or results are you anticipating you will check this hypothesis with the analysis)

**Background Information:** Find all relevant background information to include in your report.

**Introduction:** Introduce the topic, the problems and the techniques you are using to solve your problem.

**Data Collection (Surveys & Other):** Use the internet, E-Stat or other databases to find information, use surveys to get opinions or other data related to your topic.

### Types of Analysis:

#### **Probability**

include probability calculations; Venn diagrams, etc.

#### **1 Variable**

Histograms, measures of central tendency, IQR and StdDev, Normal distributions, probability calculations, limitations

#### **2 Variable**

Scatter plots with linear regression performed, classify strengths and trends, comment on reliability, state independent and dependent variables, analyze cause-and-effect, outliers, etc.

**Charts:** Various charts and graphs, captions and full descriptions and discussions of the observations from the charts

**Predictions and Sample Calculations (from the models):** Use your models to make future predictions on trends. Make probability calculations based on your data.

**Limitations:** State all limitations of your analyses

**Future Work:** What would you do if you had more time? What would be the next steps? What are other problems that were raised that would be interesting to follow up on?

**Conclusions:** Did your work support your hypothesis and solve your problem? Discuss why or why not.

**References:** Site all references used.