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| Kennedy-horizontal-rgb | **Year 11 2020**  **Mathematics Applications**  **Statistical Investigation** |

**Time allowed: 85 minutes**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Statistical Investigation Process**

You are an intern at the Australian Bureau of Statistics. Your boss has just come down with a terrible illness and will not be at work for the foreseeable future. Before he fell ill, your boss was about to write a statistical report to be presented at an international conference, and the CEO has just asked you to complete the report. You find your boss’s work and note that all he has done so far is collect the data. You really want to keep your position, so you are determined to write the report for presentation at the conference.

***In order to complete the work required, you will implement the STATISTICAL INVESTIGATION PROCESS, a process that can be described by the following steps:***

1. ***Identifying a problem and posing a statistical question***
2. ***Collecting or obtaining data - Design and implement a plan to collect and obtain appropriate data.***
3. ***Analysing the data,***
4. ***Interpreting and communicating the results***

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In this investigative activity, you are to carry out a statistical investigation that will involve comparing two groups of data to investigate a statement. Although you may use technology, your report (including diagrams) needs to be hand-written.

A completed statistical investigation is a communication of your results and conclusions in a concise systematic manner and includes but is not restricted to:

* an introduction that outlines the question to be answered
* data collection, sampling technique used, raw data
* selection and application of suitable mathematical and graphical techniques you have studied to analyse and compare the provided data with justification
* interpretation of your results relating your answer to the original problem and any further questions that could be explored

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| Marks Allocated for: | Marked score | Maximum score |
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| Statement of Problem & Examination of data   * an overview of your investigation and how it will be approached, considering the data collection and assumptions made. |  | ~~4~~ |
| Numerical and graphical analysis of data     * choose appropriate statistical measures you have studied to analyse the data, justifying your choice * consider and draw the most appropriate graphs which represent the data provided, justifying your choice |  | ~~4~~  8 |
| Interpretation of the results of this analysis in relation to the original question   * describe any trends and patterns in your data * state how your data relates to the original problem * use your knowledge and understanding gained in this unit to explain your results |  | 8 |
| Conclusion & further points for investigation   * summarise your findings and conclusions in one paragraph * consider areas for further investigation |  | 2 |
| TOTAL |  | 26 |