WHANGAPARAOA COLLEGE

Year 9 Maths Statistical Investigation

Name: _____ **Teacher:** _____ **Group:** _____

Context

In this assessment activity, you will conduct a statistical investigation, following the PPDAC cycle.

In your group you will decide on a summative question which asks about a "typical" measure of Year 9 learners at Whangaparaoa College. Together you will plan the investigation, collect and record your data.

The **Problem**, **Plan** and **Data** stages of the PPDAC cycle will be worked on collaboratively in groups but you will each need to write up these stages individually on your own refill.

The **Analysis** and **Conclusion** stages will also need to be written up. These stages will be written up individually under test conditions.

Problem (in groups)

As a group, decide what you want to investigate.
Think about:

- what your variable will be
- what your summative investigative question will be

Numerical variable (continuous/ discrete): _____

_____

Summative Question	Teacher's signature

Justified Prediction: _____

_____

_____

Plan (in groups)

Write a plan together describing how the data will be collected and recorded. You need to explain:

- in detail how you will collect the data from the learners
- any issues you might have in collecting the data and how you can address them
- how you will record the data.

Data (in groups)

Obtain a sample (your class) from the population of Year 9 learners at Whangaparoa College.
As a group collect your data from the learners.
Each learner in your group will need a copy of the data written on their own piece of refill paper.

Analysis (individually under test conditions)

You will complete an analysis of your data set. This will include:

- drawing a dot plot and a box-and-whisker graph, correctly labelled
- describing the features of the graphs in context using **DISCUSS**
- using evidence to support your comments
- linking your results to the context
- writing whether your results make sense, are they what you expected and why?

Conclusion (individually under test conditions)

Answer your original summative question.

Make an inference about the population of Year 9 learners at Whangaparaoa College.

Reflect on the investigation process. What went well? What could you have improved?

Is there something else that would be interesting to further investigate?

The quality of your discussion and reasoning about the investigation process and how well you link your findings to the context will determine your overall grade.

Year 9 Maths Statistical Investigation Success Criteria

	Achieved	Merit	Excellence
	Conduct a statistical investigation using statistical methods	Conduct a statistical investigation using statistical methods, with justification.	Conduct a statistical investigation using statistical methods, with statistical insight
	Learners will show evidence of using **each** component of the PPDAC cycle in **context**.	Learners will show evidence of using **each** component of the PPDAC cycle in **context**, **explaining** what they are doing and supporting their findings with **evidence**.	Learners will show evidence of using **each** component of the PPDAC cycle in **context**, reflecting on their process, justifying their decisions and **showing evidence of statistical insight** and commenting on whether their results make sense to them, based on their understanding of the situation.
	The learner:	***In addition to the requirement for Achieved, the learner:***	***In addition to the requirement for Merit, the learner:***
Problem	• poses an appropriate summative question.	• states what the numerical variables is	• writes a justified prediction
Plan	• plans the statistical investigation and clearly identifies how the data will be collected and recorded	• justifies decisions made in planning the investigation	• identifies anything that might affect the accuracy of the data they collect
Data	• collects and records the data using appropriate units		
Analysis	• draws a **box plot** and a **dot plot** • discusses features of the graph using **DISCUSS**	• discusses features of the displays and measures in **context** **AND** • uses evidence to support their comments	• discusses the displays and measures, integrating statistical and contextual knowledge *"Do my results make sense?"* *"Is this what I expected to happen based on my understanding of this context?"*
Conclusion	• clearly answers their initial question	• makes an inference about the population of Year 9 learners at Whangaparaoa College • communicates findings clearly in context	• considers whether their sample reflects the population • reflects on the investigation process and considers: o has anything affected how accurate their results are o other areas for further investigation