Using Maths Aotearoa and Wilkie Way to deliver the refreshed New Zealand Curriculum

   Maths Aotearoa Book 4B provides a range of learning opportunities building onto knowledge and concepts developed in year 7. These learning opportunities enable students to achieve the outcomes expected in year 8. The teacher book also provides links to further learning opportunities in the MOE Figure it Out series available in all schools. Statistical investigations are used in inquiry situations across the curriculum and further learning opportunities should be explored throughout the school year.

Maths Aotearoa teacher books and student books are available from edify.co.nz

Wilkie Way members also have access to Professional Resources on the teaching of statistical thinking

Phase 3: Year 8

Understand: (big ideas)	Do (practices)
As students build knowledge through their use of the mathematical and statistical processes, they begin to understand: • Patterns and variation • Logic and reasoning • Visualisation and application	Students will have learning opportunities to: • Investigate situations • Represent situations • Connect situations • Generalise findings • Explain and justify findings

Know: Context of Statistics

Problem: Investigate, using multivariate datasets, summary comparison, time series, and relationship situations by:
•   posing an investigative question about a local community matter
•   making conjectures or assertions about expected findings

Plan: Plan how to collect or source data to answer the investigative question, including:
•   determining or identifying the variables needed
•   planning how to collect data for each variable or finding how provided data was collected
•   identifying the group of interest or who the data was collected from
•   building awareness of ethical practices in data collection by strategic questioning of data collection questions or methods.

Data: Collect or source data, including:
•   checking for errors and following up and correcting them when possible
•   creating an inormal data dictionary with information that will help others know about the context.

Analysis: Create data visualisations for the investigation, using multiple visualisations to provide different views of the data. Make statements about the data, including its features and context, in descriptions of distributions.

Conclusion: Communicate findings in context to answer the investigative question, using evidence from analysis, considering possible explanations for findings, and comparing findings to initial conjectures or assertions and their existing knowledge of the world.

Statistical Literacy: Evaluate the data collection methods, data visualisations and findings of others' statistical investigations to see if their claims are reasonable.

Maths Literacy Development

•   Confidently use specialist vocabulary associated with statistics -see vocabulary list in curriculum document
•   Confidently read & understand math texts.
•   Confidently create and interpreting a wide variety of visual displays

Concepts being developed	Key knowledge being developed
• Statistical inquiry cycle • Purpose and limitations of different data displays • Multi-variate data • Quantitative data (number data) • Qualitative data (category data) • Proportional thinking	• Variety of data displays • Use fractions and percentages • Importance of labels • Importance of units of measure • Know measures of centre and spread

Maths Aotearoa Book 4B	Support Material available from Wilkie Way website wilkieway.co.nz: membership area (subscription)
Unit 8: Statistics and Probability **Chapter 22 Working with the Data** • Use the data inquiry cycle • Decide what data needs to be collected to answer questions posed • Calculate measures of centre - mode, median, mean • Calculate spread - range • Describe and explain clusters and outliers in the data • Describe and explain patterns and trends in the data **Chapter 23 Using the Statistical Enquiry Cycle** • Use the data inquiry cycle • Follow data driven statistical investigations • Follow question driven statistical inquiries • Read and interpret a variety of data displays • Identify errors in the data • Make comparisons within and between data displays • Identify features, patterns and trends • Draw conclusions and give reasons based on the context of the data.	**Teacher Professional Resources:** **Curriculum Knowledge:** **Statistics** Pocket Guide: Further Developing Statistical Thinking