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

Many of the year 6 progress outcomes have been met in book 3A and continue to be consolidated in book 3B. Many of the problems appearing in other chapters in book 3B have measurement as a context. The understanding of the language and concepts of measurement are required to comprehend the problems. Answers to problems should always have the correct units of measure recorded as part of the answer. Measurement continues to assist students to make sense of decimals and fractions and to appreciate the number system based on powers of ten.

The mini project from Chapter 26 Book 3A provides a good assessment task for understanding of area and perimeter

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 measurement and measurement problems

Phase 2: Year 6

Understand: (big ideas)	Do (practices)
• Use maths to seek and understand patterns and relationships • Use maths to work with and make sense of change and variation • Use maths logic & reasoning to explain relationships and justify conclusions • Make use of different cultural views and ideas about mathematics • Embrace the history and evolution of mathematics	Students will have learning opportunities to: • Investigate situations • Represent situations • Connect situations • Generalise findings • Explain and justify findings

Know: Context of Measurement

Maths Literacy Development

- Confidently use specialist vocabulary associated with measurement.
- Confidently read & understand math texts involving measurement language and concepts
- Explore the meaning of prefixes used in measurement units

Concepts being developed	Key knowledge being developed
• Understand the decimal relationship between standard units of measure • Understand time is not based on powers of ten • Understand fractions of seconds use powers of ten • Understand volume as a multiplicative measure • Record measurement rules as equations • Understand the zero point for measuring time is determined by what needs measuring • Understand the degree of accuracy of measure is dependent on the context in which the measurement is to be used.	• Know unit for measuring volume as centimetre cubed cm^3 • Know unit for measuring temperature as degrees celsius ^oC • Know the equivalent units of measure between units of time • Know relationships between metric units are based on powers of ten,

Maths Aotearoa Book 3B	Support Material available from Wilkie Way website wilkieway.co.nz: membership area (subscription)
Unit 4: Chapter 12 Solving Problems with Decimals *This chapter sits under the unit on Decimals and Percentages -it focuses on problems using different units of measure. No conversion between units. Uses addition and subtraction of up to two place decimals* • Use rounding to make an estimate • Read and comprehend problems in the context of measurement • Add and subtract up to two place decimals	**Teacher Professional Resources:** **Curriculum Knowledge: Measurement** • Pocket Guide: Using Standard Units of Measure • Measurement Progressions • Powerpoint: The development of measurement concepts & their alignment with number ideas • Article: Developing a linguistic and conceptual understanding of measurement **Student Resources:** Measurement problems
Unit 9 Measurement **Chapter 21 Attributes of Measure** • Identify attributes that can be measured and use correct vocabulary and units to describe the measurement *(Length, Mass, Angles, Capacity, Area, Volume, Temperature)* • Estimate a measure using a benchmark • Measure accurately to a smaller unit of measure • Read measurement scales on a variety of measurement devices **Chapter 22 Standard Units for Length** • Measure accurately in fractions of a metre • Use decimal fractions to communicate the relationship between metres and centimetres *(1cm = 0.01m 10cm = 0.1m)* • Understand the relationship between millimetres and metres *(1mm - 0.001m 10mm = 0.01m 100mm = 0.1m)* **Chapter 23 Identifying Surface Area** • Identify surface area as a measurement of the faces on a cuboid • Use multiplication and side measures of a rectangle to calculate area **Chapter 24 Finding the Volume** • Know the volume as the amount of space a shape occupies • Connect the area of a face with the volume of a cuboid • Devise the rule for calculating the volume of a cuboid using the side measures	

Unit 10: Temperature and Time **Chapter 25 Measuring Temperature** • Read a thermometer scale • Use a thermometer to measure temperature • Add and subtract negative numbers in the context of temperature • Know about other units for measuring temperature • Know about different types of thermometers • Know water temperature is used as beginning and end points *(water freezes at 0ºC and boils at 100ºC)* **Chapter 26 Measuring Time** • Tell the time from an analogue clock • Tell the time from a digital clock • Convert between analogue and digital (e.g. 4:15 as quarter past 4, 4:45 as quarter to 5) • Know number of seconds in a minute, minutes in an hour, hours in a day, days in a week, weeks in a year, days in a year (including a leap year), years in a decade and century • Know how many days in each month • Use a timing device to measure to the closest second **Chapter 27 Using Time** • Begin to think about time management and how they use their time • Solve problems involving duration of time • Investigate time zones and time differences around the world • Investigate how different cultures use time (e.g. knowledge of te taiao)	