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

All the progress outcomes for end of phase 1 (year 3) are found in the Maths Aotearoa Book 2A with the exception of a specific learning activity on perimeter. Ensuring use of the term perimeter in meaningful contexts can occur in everyday situations - perimeter of the playground, perimeter of the school field etc.

Maths topics connect with each other and Maths Aotearoa chose to include turns in a chapter on Giving Direction (position and orientation) This chapter has been referenced in this plan

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

Phase 1: Year 3

Understand: (big ideas)	Do (practices)
• Maths is about seeking patterns • Maths is about change and variation • Maths involves reasoning - from observations • Maths develops within different cultures • Maths is created by humans and therefore has a history and continues to evolve.	Students will have learning opportunities, and be guided to: • Investigate situations • Represent situations • Connect situations • Generalise findings • Explain and justify findings

Know: Contexts of Measurement

Maths Literacy Development

- Assistance with learning specialist vocabulary.
- Assistance with reading & understanding math texts.
- Explore the meaning of prefixes using in measurement units

Concepts being developed	Key knowledge being developed
• Measuring starts at the beginning of the object being measured. • The size of the measurement unit remains the same. • Measurement units are repeated with no gaps or overlaps • The measure is the total number of units used. • Units can be partioned into equal size smaller units	• The length around the outside of a 2 D shape is called the perimeter • The surface of a 2 D shape is called the area • The space occupied by a 3D shape is the volume, how much it holds is the capacity

Maths Aotearoa Book 2A	Support Material available from Wilkie Way website wilkieway.co.nz: membership area (subscription)
Unit 7: Transformations	
Chapter 21 Tessellation *This chapter sits under the unit on Transformations but provides a learning opportunity for students to develop the understanding of possible non standard units of area (No gaps or overlaps, only shapes that tessalate can be used to measure area. This understanding is foundational for understanding the standard units of measure for area.* (BLM 6 - 10 provide outlines for shapes to explore tessellation)	**Teacher Professional Resources:** **Curriculum Knowledge: Measurement** Pocket Guide: Learning to 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 8 Position and Orientation	
Chapter 22 Giving directions *This chapter sits under Position & Orientation and gives students a foundational understand of turns around a fixed point (themselves). This is foundational work for making sense of measuring angles. Clockwise and anti clockwise requires an understanding of the measurement of time on an analogue clock. Fractional knowledge is required for half and quarter turns.*	
Unit 9: Length	
Chapter 24 Measuring Length • Know linear measure as the repeat of a single unit of length, without gaps or overlaps • Know standard units of length - metre (m), decimetre (dm) , centimetre (cm), millimetre (mm), kilometre (km) • Estimate lengths • Select an appropriate unit of measure • Recognise parts of a unit as a fraction of a unit • Use a ruler to measure lengths in centimetre *(Perimeter is not formally introduced until book 2B but there is no reason why it should not be talked about in measurement activities)*	
Unit 10: Mass	
Chapter 25 Measuring Mass • Measuring mass by weighing an object using the repeat of a single unit of mass • Know a unit of mass can be combined into another single unit to represent a repeat of single units (eg a 100g weight) • Know standard units of mass - gram (g) and kilogram (kg) • Estimate the mass of an object using a benchmark mass • Use a combination of weights to measure mass • Use balance scales	

Unit 11: Capacity and Volume	
Chapter 26 Measuring Capacity and Volume • Understand capacity and volume as measures of space • Measure volume using the repeat of a single unit of volume with no gaps or overlaps • Know standard units of capacity - litres (L) and millilitres (mL) • Know standard units of volume cubic centimetre or centimetre cubed (cm^3) • Estimate and measure using litres and millilitres • Explore the meaning of volume as a measurement of space • Measure volume using appropriate units (cubes)	
Unit 12: Time	
Chapter 27 Measuring Time • Begin to understand the cyclic nature of time • Compare and order times using a time line • Name and order days of the week from any starting point • Name and order months of the year from any starting point • Identify the start and finish point of an event • Investigate different tools for measuring time **Chapter 28 Telling the Time** • Read o'clock, half past, quarter to and quarter past on an analogue clock • Read the hours and minutes on a digital clock • Make connections between the digital clock and the analogue clock (quarter past = 15 minutes etc.) (BLM 13 - analogue clockfaces)	