

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

Maths Aotearoa Book 2A provides a range of learning opportunities building onto knowledge and concepts developed in year 2. These learning opportunities enable students to achieve the outcomes expected during year 3.

The teacher book also provides links to further learning opportunites in the MOE Figure It Out Series available in all schools.

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 word problems using measurement contexts.

Phase 1: Year 3			
Understand: (big ideas)	Do (practic	es)	
<ul> <li>As students build knowledge through their use of the mathematical and statistical processes, they begin to understand:</li> <li>Patterns and variation</li> <li>Logic and reasoning</li> <li>Visualisation and application</li> </ul>	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			
Measuring		Perimeter, area and volume	
Estimate & then reliably measure length, capacity & mass using whole metric units. Compare & order objects using metric units of length, mass or capacity Turn & describe how far an object or person has turned, using full, half three quarter turns as benchmarks Identify the duration of events using years, months, weeks, days, hours seconds. Tell the time to the hour, half hour and quarter past and quarter to the h	number / quarter and s, minutes and nour.	<ul> <li>Visualise, estimate and measure:</li> <li>the perimeter of polygons using metric units</li> <li>the area of 2D shapes using squares of identical size</li> <li>the volume of rectangular prisms (cuboids) by filling the with identical 3D blocks.</li> </ul>	
Maths Literacy Development			
<ul> <li>Assistance with learning specialist vocabulary.</li> <li>Assistance with reading &amp; understanding math texts.</li> <li>Explore the meaning of prefixes using in measurement units</li> <li>See the vocabulary list in the curriculum document</li> </ul>			
Concepts being developed		Key knowledge being developed	
<ul> <li>Measuring starts at the beginning of the object being measured.</li> <li>The size of the measurement unit remains the same.</li> <li>Measurement units are repeated with no gaps or overlaps</li> <li>The measure is the total number of units used.</li> <li>Units can be partioned into equal size smaller units</li> </ul>	<ul> <li>The leng</li> <li>The surfa</li> <li>The space</li> </ul>	th around the outside of a 2 D shape is called the perimeter ace of a 2 D shape is called the area se occupied by a 3D shape is the volume, how much it holds is the capacity	
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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
Unit 8 Position and Orientation	
<b>Chapter 22 Giving directions</b> 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.	Student Resources: Measurement problems
Unit 9: Length	
<ul> <li>Chapter 24 Measuring Length <ul> <li>Know linear measure as the repeat of a single unit of length, without gaps or overlaps</li> <li>Know standard units of length - metre (m), decimetre (dm), centimetre (cm), millimetre (mm), kilometre (km)</li> <li>Estimate lengths</li> <li>Select an appropriate unit of measure</li> <li>Recognise parts of a unit as a fraction of a unit</li> <li>Use a ruler to measure lengths in centimetre</li> <li>(<i>Perimeter is not formally introduced until book 2B but there is no reason why it should not be talked about in measurement activities and measuring sides of polygons in centimetres as a practice activity for measuring reliably )</i></li> </ul> </li> </ul>	
Unit 10: Mass	
<ul> <li>Chapter 25 Measuring Mass</li> <li>Measuring mass by weighing an object using the repeat of a single unit of mass</li> <li>Know a unit of mass can be combined into another single unit to represent a repeat of single units (eg a 100g weight)</li> <li>Know standard units of mass - gram (g) and kilogram (kg)</li> <li>Estimate the mass of an object using a benchmark mass</li> <li>Use a combination of weights to measure mass</li> <li>Use balance scales</li> </ul>	

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 <sup>3</sup> )	
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 nast guarter to and guarter nast on an analogue clock	
Read the hours and minutes on a digital clock	
<ul> <li>Make connections between the digital clock and the analogue clock (quarter past = 15 minutes etc.)</li> </ul>	
(BLM 13 - analogue clockfaces)	