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

The learning experiences taken from 4B build onto learning experiences from 4A to meet the progress outcomes as written for year 8.
Mini projects from Books 4A and 4B can be used as assessment tasks.
Some of the learning experiences in Book 4B go beyond the expected progress outcomes for year 8 and provide foundational work for progress during phase 4
There are many more learning opportunities to be found in Figure it Out. Links to Figure it out activities can be found in the Maths Aotearoa teacher books.

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 3: Year 8

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 Space (Geometry)

Maths Literacy Development

• Confidently use specialist vocabulary associated with shape, space, position and orientation
• Confidently read & understand math texts involving geometric language and concepts

Concepts being developed	Key knowledge being developed
• Views from different perspectives • Variant and invariant properties of transformations (reflections, rotations, translations, enlargements) • Spatial thinking by asking, Which way? How far? • Proportional thinking	• Know shapes can be decomposed or recomposed to help find perimeters, areas and volumes • Specific vocabulary and ideas related to circles (foundational to Phase 4) • Know the sum of angles in a triangle is equal to180º • Know the sum of the angles on a straight line is equal to 180º • Know opposite angles of intersecting lines are equal • Know the angle of incidence is equal to the angle of reflection • Know the distance from the line of symmetry is equal for the object and it's reflection

Maths Aotearoa Book 4B	**Support Material available from Wilkie Way website wilkieway.co.nz: membership area (subscription)**
Unit 4 Geometric Properties	**Teacher Professional Resources:**
Chapter 10 Plans & Elevations • Use isometric paper to draw rectangular prisms • Build models of rectangular prisms from 2 dimensional representations • Construct a simple scale model from a plan showing different elevations • Draw different elevations of a model **Chapter 11 Tessellations** • Investigate tessellations • Use reflection, rotation or flipping to create new tessellations • Discover a special relationship ratio 3:4:5 using lattice points and squares (Pythagoras theorem)	**Curriculum Knowledge:** **Geometry** Pocket Guide: Further Developing Geometric Thinking Geometric Progressions **Moderation** Using Curriculum Progress Tools Geometric Progressions 3 - 5 **Video Lesson** Bearings
Unit 5: Position and Orientation	
Chapter 12 Investigating with Angles *This chapter is also included in the measurement plan as it involves measuring angles.* • Use knowledge of rotation to calculate unknown angles along a straight line • Use angle properties of triangles to calculate unknown angles • Use algebraic reasoning to explain rules for geometric shapes **Chapter 13 Bearings and Locations** • Describe location using compass points and a co-ordinate system • Investigate and describe direction using bearings	
Unit 6 Transformations	
Chapter 14 Reflective Symmetry • Identify the invariant properties of reflection • Use the properties of reflection to measure distance and angles **Chapter 15 Rotations and Transformations** • Identify invariant properties of rotation • Rotate an object around a fixed point • Measure the angle of rotation • Translate an object through a fixed point in a given direction **Chapter 16 Enlargements and Distortions** • Identify the invariant properties of enlargements • Understand how a distortion occurs • Use a ratio to increase or decrease a linear measure	