



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 in year 3 and chooses to explore circles and spheres more closely. The teacher book also provides links to further learning opportunities in the MOE Figure it Out series available in all schools. Much of the work at this phase in student learning is practical. Students need access to physical 3D shapes; to handle them, turn, stack and generally explore. Digital versions and pictures of 3D shapes are insufficient to fully understand the attributes of these shapes. A couple of chapters have also been included in the measurement plan as the knowledge and concepts involved are as much measurement as they are geometry.

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

Wilkie Way members also have access to Professional and Classroom Resources on the teaching of geometric ideas including video lessons.

Phase 1: Year 3

Understand: (big ideas)

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

Do (practices)

Students will have learning opportunities, and be guided to:

- Investigate situations
- Represent situations
- Connect situations
- Generalise findings
- Explain and justify findings

Know: Context of Geometry

Shapes	Spatial Reasoning	Pathways
Visualise, identify, compare, and sort 2D and 3D shapes, using the attributes of shapes. Identify right angles in shapes and objects.	Compose & decompose 2D shapes using attributes of shapes. (e.g lines of symmetry) other shapes, side lengths & angles. Predict the result of a one step transformation (reflection, translation or rotation) on 2D shapes.	Follow and create a sequence of step by step instructions (an algorithm) for moving people or objects to a different location. Interpret, draw and use simple maps to locate objects and places relative to other objects and places.

Maths Literacy Development

- Assistance with learning and using specialist vocabulary.
- Assistance with reading & understanding math texts.
- See list of vocabulary in curriculum document

Concepts being developed

- Direction (which way?) ,Distance (how far?) Location (where?)
- Angle as a turn around a fixed point
- Reflective symmetry
- Equality as a balance between two halves
- Classification by attribute
- Spatial thinking
- Spatial reasoning

Key knowledge being developed

- Direction left and right
- Rotation, clockwise and anti clockwise
- Full, half and quarter turns
- Half as two equal parts
- Quarter as four equal parts
- Language of geometry to describe attributes
- Identify and name a wider range of shapes

Maths Aotearoa Book 2A	Support Material available from Wilkie Way website wilkieWAY.co.nz: membership area (subscription)
Unit 6 Geometric Shapes	Teacher Professional Resources: Curriculum Knowledge: Geometry Pocket Guide: Geometric Thinking Geometric Progressions Classroom Resources Geometry Name my shape
Chapter 18 3-D Shapes <ul style="list-style-type: none"> • Confidently name common 2 dimensional and 3 dimensional shapes • Explore a wider range of 2D and 3D shapes • Describe specific features of 3 dimensional shapes using increasing geometric language • Use attributes to identify a shape Chapter 19 Circles, Cones and Spheres <ul style="list-style-type: none"> • Explore circles, cones and spheres • Appreciate the importance of circles in our world 	
Unit 7 Transformations	
Chapter 20 Reflective Symmetry <ul style="list-style-type: none"> • Recognise reflective symmetry in everyday objects and geometric shapes • Create reflective symmetrical patterns • Understand terminology “lines of symmetry” • Explore shapes, patterns and objects with multiple lines of symmetry Chapter 21 Tessellation <i>(This chapter was also included in the measurement plan as foundational to the concept of measuring area)</i> <ul style="list-style-type: none"> • Tessellate shapes through exploration with different shapes • Understand to tessellate requires no gaps or overlaps (BLM 6 - 10 provide outlines for shapes to explore tessellation)	

Unit 8 Position and Orientation	Support Material available from Wilkie Way website wilkieWAY.co.nz: membership area (subscription)
Chapter 22 Giving Directions <i>(This chapter was also included in the measurement plan as foundational to the concept of measuring angles)</i> <ul style="list-style-type: none">• Identify left and right on themselves• Give directions using left and right• Turn themselves clockwise or anticlockwise Chapter 23 Viewpoints and Plans <ul style="list-style-type: none">• Visualise perspectives other than their own• Create a simple plan of a 3 dimensional situation• Interpret simple plans• Give directions based on a simple plan	