



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

The only progress step given for year 4 for Space (Geometry) refers to visualise, predict and identify a shape that is a reflection, rotation or translation of a given 2 dimensional shape. It is essential to look at all the progress outcomes for year 6, along with the learning progressions and consider the stepping stones and learning opportunities students can build on to achieve all the progress outcomes specified for the end of the phase. Year 4 learning opportunities come from Book 2B of Maths Aotearoa as part of the structured approach to learning mathematical concepts, skills and knowledge. Exploration opportunities are given to provide foundational work for more complex ideas and encourage students to think about geometric ideas.

Each chapter is linked to further learning experiences in Figure it Out 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 geometric ideas and further classroom resources

Phase 2: Year 4

Understand: (big ideas)	Do (practices)
<ul style="list-style-type: none">• Maths is about seeking patterns and relationships• Maths is about working with change and variation• Maths involves reasoning - from observations and prior knowledge• Maths develops within different cultures• Maths is created by humans and therefore has a history and continues to evolve.	Students will have learning opportunities to: <ul style="list-style-type: none">• Investigate situations• Represent situations• Connect situations• Generalise findings• Explain and justify findings
Know: Context of Space (Geometry)	
Maths Literacy Development	
<ul style="list-style-type: none">• Assistance with learning to use specialist vocabulary associated with shape, space, position & orientation• Assistance with reading & understanding math texts involving geometric language and concepts	
Concepts being developed	Key knowledge being developed
<ul style="list-style-type: none">• Direction (which way?) ,Distance (how far?) Location (where?)• Angle as a turn around a fixed point• Reflective and Rotational symmetry• Tranformations• Classification by more than one attribute• Spatial thinking• Spatial reasoning• Spatial visualisation	<ul style="list-style-type: none">• Direction left and right• Rotation, clockwise and anti clockwise• Full, half and quarter turns• Points of the compass• Language of geometry to describe attributes• Identify and name a wider range of shapes

<p style="text-align: center;">Maths Aotearoa Book 2B</p>	<p style="text-align: center;">Support Material available from Wilkie Way website wilkieWAY.co.nz: membership area (subscription)</p>
<p>Unit 6 Geometric Shapes</p> <p>Chapter 18 Lines and Angles <i>This chapter was also included in the measurement plan as foundational to the measurement of angles</i></p> <ul style="list-style-type: none"> • Know the static features of a right angle • Create a right angle measure • Explore the dynamic concept of an angle - it can grow larger or smaller by rotating one or both of its arms • Identify angles as more or less than a right angle • Name 2 dimensional shapes based on the number of sides <p>Chapter 19 Triangles</p> <ul style="list-style-type: none"> • Explore and name different sorts of triangles • Introduce triangular and square based pyramids <p>Chapter 20 Cross Sections</p> <ul style="list-style-type: none"> • Explore cross sections • Work with spatial visualisation 	<p>Teacher Professional Resources:</p> <p>Curriculum Knowledge: Geometry Pocket Guide: Geometric Thinking</p> <p>Geometric Progressions</p> <p>Student Resources: Geometric problems</p> <p>Video Lessons Using Grid references Grid References and Compass Points</p>
<p>Unit 7: Transformations</p> <ul style="list-style-type: none"> • Chapter 21 Rotational Symmetry • Recognise rotational symmetry in shapes and designs • Use reflective and rotational symmetry in a design • Use flips, slides and turns in a design <p>Chapter 22 Geometric Ideas</p> <ul style="list-style-type: none"> • Explore enlargements, reductions and distortions • Explore simple flight paths 	
<p>Unit 8 Position and Orientation</p>	
<p>Chapter 23 Giving Directions</p> <ul style="list-style-type: none"> • Give directions using the points of the compass • Follow directions using a simple map • Give directions using a simple map 	