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

Maths Aotearoa Book 4A provides a range of learning opportunities building onto knowledge and concepts developed in year 6. These learning opportunities enable students to achieve the outcomes expected in year 7. The teacher book also provides links to further learning opportunities 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 geometric ideas and further classroom resources

Phase 3: Year 7

Understand: (big ideas)	Do (practices)
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	Students will have learning opportunities to: • Investigate situations • Represent situations • Connect situations • Generalise findings • Explain and justify findings

Know: Context of Geometry

Shapes	Spatial reasoning	Pathways
Classify and name shapes based on their attributes Identify and describe angles, at a point, angles on a straight line and vertically opposite angles.	Visualise, construct and draw plan views for front, back, left, right and top views of 3D shapes. Transform 2D shapes by resizing by a whole number or unit fraction.	Interpret and communicate the location of positions and pathways using co-ordinates, angle measures, and the 8 main and half way compass points.

Maths Literacy Development

- Confidently use specialist vocabulary associated with shape, space, position and orientation - see vocabulary list in curriculum documents
- Confidently read & understand math texts involving geometric language and concepts

Concepts being developed	Key knowledge being developed
• Angle properties of geometric shapes • Spatial awareness by thinking and asking Which way? How far? • Proportional thinking • Importance of symmetry to different cultures • Variant and invariant properties of shapes	• Know the sum of the interior angles of a triangle is 180º • Knowledge of direction • Know the sum of the interior angles of a quadrilateral is 360º • Whole number scale factors - enlargements • Fractional scale factors - reductions

Maths Aotearoa Book 4A	Support Material available from Wilkie Way website wilkieway.co.nz: membership area (subscription)
Unit 4 Geometric Properties	
Chapter 13 Constructing Geometric Shapes • Classify polygons based on their geometric properties • Construct triangles and regular hexagons using a ruler and compass **Chapter 14 Lines and Angles** *This chapter was included in the measurement plan as it involves measuring angles.* • Use the language of angles- acute, obtuse, reflex • Use the language of straight lines - vertical, horizontal, diagonal, parallel, perpendicular, intersection • Draw conclusions about angles at an intersection • Use a protractor to measure angles accurately	**Teacher Professional Resources:** **Curriculum Knowledge:** **Geometry** Pocket Guide: Further developing Geometric Thinking Geometric Progressions
Unit 5 Position and Orientation	
Chapter 15 Maps and Plans • Use points of the compass • Use knowledge of simple ratios to find equivalent ratios • Select and interpret scales on maps and plans • Investigate scales on a variety of maps (including Google Maps) • Investigate plan view drawings • Draw a plan to a self selected scale	
Unit 6 Transformations	
Chapter 16 Rotational and Reflective Symmetry • Use terminology order of reflective symmetry and rotational symmetry with understanding • Investigate symmetrical and angle properties of parallelograms **Chapter 17 Enlargements** • Enlarge a simple shape by a specific scale factor • Know a fractional scale factor results in a reduction • Identify the invariant properties of an enlargement	