

# Mathematics – Primary - Scope and Sequence

## Semester 1

This Scope and Sequence is to be used to guide planning within the classroom. Students needs and interests are to be taken into consideration when planning and implementing content. From Kindergarten to Year 10, students with disability may engage with:

- syllabus outcomes and content from their age-appropriate stage with adjustments to teaching, learning and/or assessment activities; or
- selected syllabus outcomes and content from their age-appropriate stage relevant to their learning needs; or
- syllabus outcomes from an earlier stage, using age-appropriate content; or
- selected Years 7–10 Life Skills outcomes and content from one or more syllabuses (for students in Years 7–10).

Term 1		
Weeks	Content Focus	Outcomes
1-10	Working Mathematically	<p><b>Communicating</b></p> <ul style="list-style-type: none"> <li>• MAe-1WM Describes mathematical situations using everyday language, actions, materials and informal recordings</li> <li>• MA1-1WM Describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols</li> <li>• MA2-1WM Uses appropriate terminology to describe, and symbols to represent, mathematical ideas</li> <li>• MA3-1WM Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions</li> </ul> <p><b>Problem Solving</b></p> <ul style="list-style-type: none"> <li>• MAe-2WM Uses objects, actions, technology and/or trial and error to explore mathematical problems</li> <li>• MA1-2WM Uses objects, diagrams and technology to explore mathematical problems</li> <li>• MA2-2WM Selects and uses appropriate mental or written strategies, or technology, to solve problems</li> <li>• MA3-2WM Selects and applies appropriate problem-solving strategies, including the use of digital technologies, in undertaking investigations</li> </ul> <p><b>Reasoning</b></p> <ul style="list-style-type: none"> <li>• MAe-3WM Uses concrete materials and/or pictorial representations to support conclusions</li> <li>• MA1-3WM Supports conclusions by explaining or demonstrating how answers were obtained</li> <li>• MA2-3WM Checks the accuracy of a statement and explains the reasoning used</li> <li>• MA3-3WM Gives a valid reason for supporting one possible solution over another</li> </ul>
1 & 2	Emergent Topic: Whole Numbers	<p><b>Emergent Outcome – Number and Algebra</b></p> <ul style="list-style-type: none"> <li>• MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>• MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>• MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>• MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	Conventional Topic: Position	<p><b>Conventional Outcome - Measurement &amp; Geometry</b></p> <ul style="list-style-type: none"> <li>• MAe-16MG Describes position and gives and follows simple directions using everyday language</li> <li>• MA1-16MG Represents and describes the positions of objects in everyday situations and on maps</li> <li>• MA2-17MG Uses simple maps and grids to represent position and follow routes, including using compass directions <ul style="list-style-type: none"> <li>↳ Compare different methods of identifying locations in the environment, eg compare the reference system used in Aboriginal Country maps with standard grid-referenced maps (Stage 2)</li> </ul> </li> <li>• MA3-17MG Locates and describes position on maps using a grid reference system <ul style="list-style-type: none"> <li>↳ Use a given map to plan and show a route from one location to another, eg draw a possible route to the local park or use an Aboriginal land map to plan a route (Stage 3)</li> <li>↳ <b>Life Skill:</b> Recognise different cultural representations of maps, including in Aboriginal and Torres Strait Islander cultures.</li> </ul> </li> </ul>
3 & 4	Emergent Topic: Whole Numbers	<p><b>Emergent Outcome – Number and Algebra</b></p> <ul style="list-style-type: none"> <li>• MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>• MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>• MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>• MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	Conventional Topic: Time	<p><b>Conventional Outcome – Measurement &amp; Geometry</b></p> <ul style="list-style-type: none"> <li>• MAe-13MG Sequences events, uses everyday language to describe the durations of events, and reads hour time on clocks</li> <li>• MA1-13MG Describes, compares and orders durations of events, and reads half- and quarter-hour time <ul style="list-style-type: none"> <li>↳ Recognise that in some cultures seasonal changes mark the passing of time, eg the flowering of plants and the migration patterns of animals are used by many peoples, including Aboriginal people. Recognise that some cultures use informal units of time, eg the use of tidal change in Aboriginal communities (Stage 1)</li> </ul> </li> <li>• MA2-13MG Reads and records time in one-minute intervals and converts between hours, minutes and seconds</li> <li>• MA3-13MG Uses 24-hour time and am and pm notation in real-life situations, and constructs timelines <ul style="list-style-type: none"> <li>↳ <b>Life Skill:</b> Recognise methods used by some cultures for representing calendar time, eg the use of animal migration patterns by Aboriginal and Torres Strait Islander peoples to indicate seasons.</li> </ul> </li> </ul>
5, 6 & 7	Emergent Topic: Whole Numbers & Money	<p><b>Emergent Outcome – Number and Algebra</b></p> <ul style="list-style-type: none"> <li>• MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>• MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>• MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>• MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul> <p><b>Money</b></p> <ul style="list-style-type: none"> <li>↳ <b>Life Skill:</b> Recognise alternative forms of currency in ancient cultures, eg the bartering system used by Aboriginal and Torres Strait Islander cultures.</li> </ul>

	<b>Conventional Topic:</b> Addition & Subtraction	<b>Conventional Outcome - Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-5NA Combines, separates and compares collections of objects, describes using everyday language, and records using informal methods <ul style="list-style-type: none"> <li>Investigate different methods of adding and subtracting used in various cultures, eg Aboriginal and Torres Strait Islander methods involving spatial patterns and reasoning, Asian counting tools such as the abacus (Early Stage 1)</li> </ul> </li> <li>MA1-5NA Uses a range of strategies and informal recording methods for addition and subtraction involving one- and twodigit numbers</li> <li>MA2-5NA Uses mental and written strategies for addition and subtraction involving two-, three-, fourand five-digit numbers</li> <li>MA3-5NA Selects and applies appropriate strategies for addition and subtraction with counting numbers of any size</li> </ul>
<b>8 &amp; 9</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Pattern & Algebra	<b>Conventional Outcome - Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-8NA Recognises, describes and continues repeating patterns</li> <li>MA1-8NA Creates, represents and continues a variety of patterns with numbers and objects</li> <li>MA2-8NA Generalises properties of odd and even numbers, generates number patterns, and completes simple number sentences by calculating missing values</li> <li>MA3-8NA Analyses and creates geometric and number patterns, constructs and completes number sentences, and locates points on the Cartesian plane</li> </ul> <p>Life Skill: Recognise that some languages other than English, such as Aboriginal and Torres Strait Islander languages, may have interchangeable terms with the same meaning.</p> <p>Life Skill: Recognise what comes next in a simple pattern of shapes. Recognise repeating patterns of shapes in a range of contexts, eg paving patterns, wallpaper, Aboriginal artwork.</p>
<b>10 &amp; 11</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Two- Dimensional Space & Three- Dimensional Space & Angles (Stage 2 & 3)	<b>Conventional Outcome - Measurement &amp; Geometry</b> <ul style="list-style-type: none"> <li>MAe-15MG Manipulates, sorts and describes representations of two-dimensional shapes, including circles, triangles, squares and rectangles, using everyday language <ul style="list-style-type: none"> <li>Identify circles, triangles, squares and rectangles in pictures and the environment, including in Aboriginal art (Early Stage 1)</li> </ul> </li> <li>MA1-15MG Manipulates, sorts, represents, describes and explores two-dimensional shapes, including quadrilaterals, pentagons, hexagons and octagons <ul style="list-style-type: none"> <li>Identify and name shapes embedded in pictures, designs and the environment, eg in Aboriginal art. Students can use computer. drawing tools to outline shapes embedded in a digital picture or design. (Stage 1)</li> </ul> </li> <li>MA2-15MG Manipulates, identifies and sketches two-dimensional shapes, including special quadrilaterals, and describes their features <ul style="list-style-type: none"> <li>Identify lines of symmetry in pictures, artefacts, designs and the environment, eg Aboriginal rock carvings or Asian lotus designs. (Stage 2)</li> </ul> </li> <li>MA3-15MG Manipulates, classifies and draws two-dimensional shapes, including equilateral, isosceles and scalene triangles, and describes their properties</li> <li>MAe-14MG Manipulates, sorts and represents three-dimensional objects and describes them using everyday language <ul style="list-style-type: none"> <li>Sort, describe and name familiar three-dimensional objects in the environment. Describe the features of familiar three-dimensional objects, such as local landmarks including Aboriginal landmarks, using everyday language, eg flat, round, curved. (Early Stage 1)</li> </ul> </li> <li>MA1-14MG Sorts, describes, represents and recognises familiar three-dimensional objects, including cones, cubes, cylinders, spheres and prisms</li> <li>MA2-14MG Makes, compares, sketches and names three-dimensional objects, including prisms, pyramids, cylinders, cones and spheres, and describes their features <ul style="list-style-type: none"> <li>Sketch three-dimensional objects from different views, including top, front and side views. Investigate different two-dimensional representations of three-dimensional objects in the environment, e.g. in Aboriginal art. (Stage 2)</li> </ul> </li> <li>MA3-14MG Identifies three-dimensional objects, including prisms and pyramids, on the basis of their properties, and visualises, sketches and constructs them given drawings of different views</li> <li>MA2-16MG Identifies, describes, compares and classifies angles</li> <li>MA3-16MG Measures and constructs angles, and applies angle relationships to find unknown angles</li> </ul>
<b>Term 2</b>		
<b>Weeks</b>	<b>Content Focus</b>	<b>Outcomes</b>
<b>1-10</b>	<b>Working Mathematically</b>	<p><b>Communicating</b></p> <ul style="list-style-type: none"> <li>MAe-1WM Describes mathematical situations using everyday language, actions, materials and informal recordings</li> <li>MA1-1WM Describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols</li> <li>MA2-1WM Uses appropriate terminology to describe, and symbols to represent, mathematical ideas</li> <li>MA3-1WM Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions</li> </ul> <p><b>Problem Solving</b></p> <ul style="list-style-type: none"> <li>MAe-2WM Uses objects, actions, technology and/or trial and error to explore mathematical problems</li> <li>MA1-2WM Uses objects, diagrams and technology to explore mathematical problems</li> <li>MA2-2WM Selects and uses appropriate mental or written strategies, or technology, to solve problems</li> <li>MA3-2WM Selects and applies appropriate problem-solving strategies, including the use of digital technologies, in undertaking investigations</li> </ul> <p><b>Reasoning</b></p> <ul style="list-style-type: none"> <li>MAe-3WM Uses concrete materials and/or pictorial representations to support conclusions</li> <li>MA1-3WM Supports conclusions by explaining or demonstrating how answers were obtained</li> <li>MA2-3WM Checks the accuracy of a statement and explains the reasoning used</li> <li>MA3-3WM Gives a valid reason for supporting one possible solution over another</li> </ul>
<b>1 &amp; 2</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>

	<b>Conventional Topic:</b> Multiplication and Division	<b>Conventional Outcome - Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-6NA Groups, shares and counts collections of objects, describes using everyday language, and records using informal methods</li> <li>MA1-6NA Uses a range of mental strategies and concrete materials for multiplication and division</li> <li>MA2-6NA Uses mental and informal written strategies for multiplication and division</li> <li>MA3-6NA Selects and applies appropriate strategies for multiplication and division, and applies the order of operations to calculations involving more than one operation</li> </ul>
<b>2 &amp; 3</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Length & Area	<b>Conventional Outcome - Measurement &amp; Geometry</b> <ul style="list-style-type: none"> <li>MAe-9MG Describes and compares lengths and distances using everyday language</li> <li>MA1-9MG Measures, records, compares and estimates lengths and distances using uniform informal units, metres and centimetres <ul style="list-style-type: none"> <li>Record lengths and distances by referring to the number and type of uniform informal unit used. Investigate different informal units of length used in various cultures, including those used in Aboriginal communities. (Stage 1)</li> </ul> </li> <li>MA2-9MG Measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres, and measures, compares and records temperatures</li> <li>MA3-9MG Selects and uses the appropriate unit and device to measure lengths and distances, calculates perimeters, and converts between units of length</li> <li>MAe-10MG Describes and compares areas using everyday language</li> <li>MA1-10MG Measures, records, compares and estimates areas using uniform informal units</li> <li>MA2-10MG Measures, records, compares and estimates areas using square centimetres and square metres</li> <li>MA3-10MG Selects and uses the appropriate unit to calculate areas, including areas of squares, rectangles and triangles</li> </ul>
<b>4 &amp; 5</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Fractions and Decimals	<b>Conventional Outcome - Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-7NA Describes two equal parts as halves</li> <li>MA1-7NA Represents and models halves, quarters and eighths</li> <li>MA2-7NA Represents, models and compares commonly used fractions and decimals</li> <li>MA3-7NA Compares, orders and calculates with fractions, decimals and percentages</li> </ul>
<b>6 &amp; 7</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Data & Chance	<b>Conventional Outcome – Statistics &amp; Probability</b> <ul style="list-style-type: none"> <li>MAe-17SP Represents data and interprets data displays made from objects</li> <li>MA1-17SP Gathers and organises data, displays data in lists, tables and picture graphs, and interprets the results</li> <li>MA2-18SP Selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs</li> <li>MA3-18SP Uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables</li> <li>MA1-18SP Recognises and describes the element of chance in everyday events</li> <li>MA2-19SP Describes and compares chance events in social and experimental contexts</li> <li>MA3-19SP Conducts chance experiments and assigns probabilities as values between 0 and 1 to describe their outcomes</li> </ul>
<b>9 &amp; 10</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Volume & Capacity & Mass	<b>Conventional Outcome - Measurement &amp; Geometry</b> <ul style="list-style-type: none"> <li>MAe-11MG Describes and compares the capacities of containers and the volumes of objects or substances using everyday language</li> <li>MA1-11MG Measures, records, compares and estimates volumes and capacities using uniform informal units</li> <li>MA2-11MG Measures, records, compares and estimates volumes and capacities using litres, millilitres and cubic centimetres</li> <li>MA3-11MG Selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities, and converts between units of capacity</li> <li>MAe-12MG Describes and compares the masses of objects using everyday language compares the masses of objects using everyday language <ul style="list-style-type: none"> <li>Investigate the use of hefting in practical situations, eg the practice used by Aboriginal people of hefting duck eggs to determine whether ducklings will be male or female. (Early Stage 1)</li> </ul> </li> <li>MA1-12MG Measures, records, compares and estimates the masses of objects using uniform informal units</li> <li>MA2-12MG Measures, records, compares and estimates the masses of objects using kilograms and grams</li> <li>MA3-12MG Selects and uses the appropriate unit and device to measure the masses of objects, and converts between units of mass</li> </ul>
<b>Assessment</b>	<p><b>Assessment for Learning:</b> Enables teachers to use information about students' knowledge, understanding and skills to inform their teaching.</p> <p><b>Assessment as Learning:</b> Involves students in the learning process where they monitor their own progress, ask questions and practices skills.</p> <p><b>Assessment of Learning:</b> Assists teachers to use evidence of student learning to assess student achievement against learning goals and standards.</p> <p><b>Assessments:</b> Sena 1 &amp; 2 Assessments</p>	

**Resources**

**Syllabus:** <https://www.educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/mathematics>  
**ABCYA:** <https://www.abcya.com/>  
**Butterfly Wings Units:** <https://obwm.weebly.com/>  
**Everyday Maths Hub:** <https://education.nsw.gov.au/campaigns/mathematics>

# Mathematics – Primary - Scope and Sequence

## Semester 2

This Scope and Sequence is to be used to guide planning within the classroom. Students needs and interests are to be taken into consideration when planning and implementing content. From Kindergarten to Year 10, students with disability may engage with:

- syllabus outcomes and content from their age-appropriate stage with adjustments to teaching, learning and/or assessment activities; or
- selected syllabus outcomes and content from their age-appropriate stage relevant to their learning needs; or
- syllabus outcomes from an earlier stage, using age-appropriate content; or
- selected Years 7–10 Life Skills outcomes and content from one or more syllabuses (for students in Years 7–10).

Term 3		
Weeks	Content Focus	Outcomes
1-10	Working Mathematically	<p><b>Communicating</b></p> <ul style="list-style-type: none"> <li>• MAe-1WM Describes mathematical situations using everyday language, actions, materials and informal recordings</li> <li>• MA1-1WM Describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols</li> <li>• MA2-1WM Uses appropriate terminology to describe, and symbols to represent, mathematical ideas</li> <li>• MA3-1WM Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions</li> </ul> <p><b>Problem Solving</b></p> <ul style="list-style-type: none"> <li>• MAe-2WM Uses objects, actions, technology and/or trial and error to explore mathematical problems</li> <li>• MA1-2WM Uses objects, diagrams and technology to explore mathematical problems</li> <li>• MA2-2WM Selects and uses appropriate mental or written strategies, or technology, to solve problems</li> <li>• MA3-2WM Selects and applies appropriate problem-solving strategies, including the use of digital technologies, in undertaking investigations</li> </ul> <p><b>Reasoning</b></p> <ul style="list-style-type: none"> <li>• MAe-3WM Uses concrete materials and/or pictorial representations to support conclusions</li> <li>• MA1-3WM Supports conclusions by explaining or demonstrating how answers were obtained</li> <li>• MA2-3WM Checks the accuracy of a statement and explains the reasoning used</li> <li>• MA3-3WM Gives a valid reason for supporting one possible solution over another</li> </ul>
1 & 2	Emergent Topic: Whole Numbers	<p><b>Emergent Outcome – Number and Algebra</b></p> <ul style="list-style-type: none"> <li>• MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>• MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>• MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>• MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	Conventional Topic: Position	<p><b>Conventional Outcome - Measurement &amp; Geometry</b></p> <ul style="list-style-type: none"> <li>• MAe-16MG Describes position and gives and follows simple directions using everyday language</li> <li>• MA1-16MG Represents and describes the positions of objects in everyday situations and on maps</li> <li>• MA2-17MG Uses simple maps and grids to represent position and follow routes, including using compass directions <ul style="list-style-type: none"> <li>↳ Compare different methods of identifying locations in the environment, eg compare the reference system used in Aboriginal Country maps with standard grid-referenced maps (Stage 2)</li> </ul> </li> <li>• MA3-17MG Locates and describes position on maps using a grid reference system <ul style="list-style-type: none"> <li>↳ Use a given map to plan and show a route from one location to another, eg draw a possible route to the local park or use an Aboriginal land map to plan a route (Stage 3)</li> </ul> </li> </ul> <p>↳ <b>Life Skill:</b> Recognise different cultural representations of maps, including in Aboriginal and Torres Strait Islander cultures.</p>
3 & 4	Emergent Topic: Whole Numbers	<p><b>Emergent Outcome – Number and Algebra</b></p> <ul style="list-style-type: none"> <li>• MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>• MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>• MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>• MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	Conventional Topic: Time	<p><b>Conventional Outcome – Measurement &amp; Geometry</b></p> <ul style="list-style-type: none"> <li>• MAe-13MG Sequences events, uses everyday language to describe the durations of events, and reads hour time on clocks</li> <li>• MA1-13MG Describes, compares and orders durations of events, and reads half- and quarter-hour time <ul style="list-style-type: none"> <li>↳ Recognise that in some cultures seasonal changes mark the passing of time, eg the flowering of plants and the migration patterns of animals are used by many peoples, including Aboriginal people. Recognise that some cultures use informal units of time, eg the use of tidal change in Aboriginal communities (Stage 1)</li> </ul> </li> <li>• MA2-13MG Reads and records time in one-minute intervals and converts between hours, minutes and seconds</li> <li>• MA3-13MG Uses 24-hour time and am and pm notation in real-life situations, and constructs timelines</li> </ul> <p>↳ <b>Life Skill:</b> Recognise methods used by some cultures for representing calendar time, eg the use of animal migration patterns by Aboriginal and Torres Strait Islander peoples to indicate seasons.</p>
5, 6 & 7	Emergent Topic: Whole Numbers & Money	<p><b>Emergent Outcome – Number and Algebra</b></p> <ul style="list-style-type: none"> <li>• MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>• MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>• MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>• MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul> <p><b>Money</b></p> <p>↳ <b>Life Skill:</b> Recognise alternative forms of currency in ancient cultures, eg the bartering system used by Aboriginal and Torres Strait Islander cultures.</p>

	<b>Conventional Topic:</b> Addition & Subtraction	<b>Conventional Outcome - Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-5NA Combines, separates and compares collections of objects, describes using everyday language, and records using informal methods <ul style="list-style-type: none"> <li>Investigate different methods of adding and subtracting used in various cultures, eg Aboriginal and Torres Strait Islander methods involving spatial patterns and reasoning, Asian counting tools such as the abacus (Early Stage 1)</li> </ul> </li> <li>MA1-5NA Uses a range of strategies and informal recording methods for addition and subtraction involving one- and twodigit numbers</li> <li>MA2-5NA Uses mental and written strategies for addition and subtraction involving two-, three-, fourand five-digit numbers</li> <li>MA3-5NA Selects and applies appropriate strategies for addition and subtraction with counting numbers of any size</li> </ul>
<b>8 &amp; 9</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Pattern & Algebra	<b>Conventional Outcome - Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-8NA Recognises, describes and continues repeating patterns</li> <li>MA1-8NA Creates, represents and continues a variety of patterns with numbers and objects</li> <li>MA2-8NA Generalises properties of odd and even numbers, generates number patterns, and completes simple number sentences by calculating missing values</li> <li>MA3-8NA Analyses and creates geometric and number patterns, constructs and completes number sentences, and locates points on the Cartesian plane</li> </ul> <p>Life Skill: Recognise that some languages other than English, such as Aboriginal and Torres Strait Islander languages, may have interchangeable terms with the same meaning.</p> <p>Life Skill: Recognise what comes next in a simple pattern of shapes. Recognise repeating patterns of shapes in a range of contexts, eg paving patterns, wallpaper, Aboriginal artwork.</p>
<b>10 &amp; 11</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Two- Dimensional Space & Three- Dimensional Space & Angles (Stage 2 & 3)	<b>Conventional Outcome - Measurement &amp; Geometry</b> <ul style="list-style-type: none"> <li>MAe-15MG Manipulates, sorts and describes representations of two-dimensional shapes, including circles, triangles, squares and rectangles, using everyday language <ul style="list-style-type: none"> <li>Identify circles, triangles, squares and rectangles in pictures and the environment, including in Aboriginal art (Early Stage 1)</li> </ul> </li> <li>MA1-15MG Manipulates, sorts, represents, describes and explores two-dimensional shapes, including quadrilaterals, pentagons, hexagons and octagons <ul style="list-style-type: none"> <li>Identify and name shapes embedded in pictures, designs and the environment, eg in Aboriginal art. Students can use computer. drawing tools to outline shapes embedded in a digital picture or design. (Stage 1)</li> </ul> </li> <li>MA2-15MG Manipulates, identifies and sketches two-dimensional shapes, including special quadrilaterals, and describes their features <ul style="list-style-type: none"> <li>Identify lines of symmetry in pictures, artefacts, designs and the environment, eg Aboriginal rock carvings or Asian lotus designs. (Stage 2)</li> </ul> </li> <li>MA3-15MG Manipulates, classifies and draws two-dimensional shapes, including equilateral, isosceles and scalene triangles, and describes their properties</li> <li>MAe-14MG Manipulates, sorts and represents three-dimensional objects and describes them using everyday language <ul style="list-style-type: none"> <li>Sort, describe and name familiar three-dimensional objects in the environment. Describe the features of familiar three-dimensional objects, such as local landmarks including Aboriginal landmarks, using everyday language, eg flat, round, curved. (Early Stage 1)</li> </ul> </li> <li>MA1-14MG Sorts, describes, represents and recognises familiar three-dimensional objects, including cones, cubes, cylinders, spheres and prisms</li> <li>MA2-14MG Makes, compares, sketches and names three-dimensional objects, including prisms, pyramids, cylinders, cones and spheres, and describes their features <ul style="list-style-type: none"> <li>Sketch three-dimensional objects from different views, including top, front and side views. Investigate different two-dimensional representations of three-dimensional objects in the environment, e.g. in Aboriginal art. (Stage 2)</li> </ul> </li> <li>MA3-14MG Identifies three-dimensional objects, including prisms and pyramids, on the basis of their properties, and visualises, sketches and constructs them given drawings of different views</li> <li>MA2-16MG Identifies, describes, compares and classifies angles</li> <li>MA3-16MG Measures and constructs angles, and applies angle relationships to find unknown angles</li> </ul>
<b>Term 4</b>		
<b>Weeks</b>	<b>Content Focus</b>	<b>Outcomes</b>
<b>1-10</b>	<b>Working Mathematically</b>	<p><b>Communicating</b></p> <ul style="list-style-type: none"> <li>MAe-1WM Describes mathematical situations using everyday language, actions, materials and informal recordings</li> <li>MA1-1WM Describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols</li> <li>MA2-1WM Uses appropriate terminology to describe, and symbols to represent, mathematical ideas</li> <li>MA3-1WM Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions</li> </ul> <p><b>Problem Solving</b></p> <ul style="list-style-type: none"> <li>MAe-2WM Uses objects, actions, technology and/or trial and error to explore mathematical problems</li> <li>MA1-2WM Uses objects, diagrams and technology to explore mathematical problems</li> <li>MA2-2WM Selects and uses appropriate mental or written strategies, or technology, to solve problems</li> <li>MA3-2WM Selects and applies appropriate problem-solving strategies, including the use of digital technologies, in undertaking investigations</li> </ul> <p><b>Reasoning</b></p> <ul style="list-style-type: none"> <li>MAe-3WM Uses concrete materials and/or pictorial representations to support conclusions</li> <li>MA1-3WM Supports conclusions by explaining or demonstrating how answers were obtained</li> <li>MA2-3WM Checks the accuracy of a statement and explains the reasoning used</li> <li>MA3-3WM Gives a valid reason for supporting one possible solution over another</li> </ul>
<b>1 &amp; 2</b>	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>

	<b>Conventional Topic:</b> Multiplication and Division	<b>Conventional Outcome - Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-6NA Groups, shares and counts collections of objects, describes using everyday language, and records using informal methods</li> <li>MA1-6NA Uses a range of mental strategies and concrete materials for multiplication and division</li> <li>MA2-6NA Uses mental and informal written strategies for multiplication and division</li> <li>MA3-6NA Selects and applies appropriate strategies for multiplication and division, and applies the order of operations to calculations involving more than one operation</li> </ul>
2 & 3	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Length & Area	<b>Conventional Outcome - Measurement &amp; Geometry</b> <ul style="list-style-type: none"> <li>MAe-9MG Describes and compares lengths and distances using everyday language</li> <li>MA1-9MG Measures, records, compares and estimates lengths and distances using uniform informal units, metres and centimetres <ul style="list-style-type: none"> <li>Record lengths and distances by referring to the number and type of uniform informal unit used. Investigate different informal units of length used in various cultures, including those used in Aboriginal communities. (Stage 1)</li> </ul> </li> <li>MA2-9MG Measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres, and measures, compares and records temperatures</li> <li>MA3-9MG Selects and uses the appropriate unit and device to measure lengths and distances, calculates perimeters, and converts between units of length</li> <li>MAe-10MG Describes and compares areas using everyday language</li> <li>MA1-10MG Measures, records, compares and estimates areas using uniform informal units</li> <li>MA2-10MG Measures, records, compares and estimates areas using square centimetres and square metres</li> <li>MA3-10MG Selects and uses the appropriate unit to calculate areas, including areas of squares, rectangles and triangles</li> </ul>
4 & 5	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Fractions and Decimals	<b>Conventional Outcome - Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-7NA Describes two equal parts as halves</li> <li>MA1-7NA Represents and models halves, quarters and eighths</li> <li>MA2-7NA Represents, models and compares commonly used fractions and decimals</li> <li>MA3-7NA Compares, orders and calculates with fractions, decimals and percentages</li> </ul>
6 & 7	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Data & Chance	<b>Conventional Outcome – Statistics &amp; Probability</b> <ul style="list-style-type: none"> <li>MAe-17SP Represents data and interprets data displays made from objects</li> <li>MA1-17SP Gathers and organises data, displays data in lists, tables and picture graphs, and interprets the results</li> <li>MA2-18SP Selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs</li> <li>MA3-18SP Uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables</li> <li>MA1-18SP Recognises and describes the element of chance in everyday events</li> <li>MA2-19SP Describes and compares chance events in social and experimental contexts</li> <li>MA3-19SP Conducts chance experiments and assigns probabilities as values between 0 and 1 to describe their outcomes</li> </ul>
9 & 10	<b>Emergent Topic:</b> Whole Numbers	<b>Emergent Outcome – Number and Algebra</b> <ul style="list-style-type: none"> <li>MAe-4NA Counts to 30, and orders, reads and represents numbers in the range 0 to 20</li> <li>MA1-4NA Applies place value, informally, to count, order, read and represent two- and three-digit numbers</li> <li>MA2-4NA Applies place value to order, read and represent numbers of up to five digits</li> <li>MA3-4NA Orders, reads and represents integers of any size and describes properties of whole numbers</li> </ul>
	<b>Conventional Topic:</b> Volume & Capacity & Mass	<b>Conventional Outcome - Measurement &amp; Geometry</b> <ul style="list-style-type: none"> <li>MAe-11MG Describes and compares the capacities of containers and the volumes of objects or substances using everyday language</li> <li>MA1-11MG Measures, records, compares and estimates volumes and capacities using uniform informal units</li> <li>MA2-11MG Measures, records, compares and estimates volumes and capacities using litres, millilitres and cubic centimetres</li> <li>MA3-11MG Selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities, and converts between units of capacity</li> <li>MAe-12MG Describes and compares the masses of objects using everyday language compares the masses of objects using everyday language <ul style="list-style-type: none"> <li>Investigate the use of hefting in practical situations, eg the practice used by Aboriginal people of hefting duck eggs to determine whether ducklings will be male or female. (Early Stage 1)</li> </ul> </li> <li>MA1-12MG Measures, records, compares and estimates the masses of objects using uniform informal units</li> <li>MA2-12MG Measures, records, compares and estimates the masses of objects using kilograms and grams</li> <li>MA3-12MG Selects and uses the appropriate unit and device to measure the masses of objects, and converts between units of mass</li> </ul>
<b>Assessment</b>	<p><b>Assessment for Learning:</b> Enables teachers to use information about students' knowledge, understanding and skills to inform their teaching.</p> <p><b>Assessment as Learning:</b> Involves students in the learning process where they monitor their own progress, ask questions and practices skills.</p> <p><b>Assessment of Learning:</b> Assists teachers to use evidence of student learning to assess student achievement against learning goals and standards.</p> <p><b>Assessments:</b> Sena 1 &amp; 2 Assessments</p>	

**Resources**

**Syllabus:** <https://www.educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/mathematics>  
**ABCYA:** <https://www.abcya.com/>  
**Butterfly Wings Units:** <https://obwm.weebly.com/>  
**Everyday Maths Hub:** <https://education.nsw.gov.au/campaigns/mathematics>