



KSPS Early Stage 1 Math Scope and Sequence

EARLY STAGE 1 STAGE STATEMENT

By the end of Early Stage 1, students ask questions and use known facts to explore mathematical problems and develop fluency with mathematical ideas. They use everyday language, concrete materials and informal recordings to demonstrate understanding and link mathematical ideas.

Students count to 30 and represent numbers to 20 with objects, pictures, numerals and words. They read and use ordinal numbers to at least 'tenth'. Students use concrete materials to model addition, subtraction, multiplication and division. They use the language of money and recognise the coins and notes of the Australian monetary system. Students divide objects into two equal parts and describe them as halves. They recognise, describe and continue repeating patterns of objects and drawings.

Students identify length, area, volume, capacity and mass, and compare and arrange objects according to these attributes. They manipulate, sort and represent three-dimensional objects and describe them using everyday language. Students manipulate, sort and describe representations of two-dimensional shapes, identifying circles, squares, triangles and rectangles. They connect events and the days of the week and explain the order and duration of events, telling the time on the hour. Students give and follow simple directions and describe position using appropriate language.

Students answer simple questions to collect information. They use objects to create a data display and interpret data.

From NSW mathematics syllabus

Overview

This scope and sequence has been developed to promote the **connectedness of mathematics as a whole subject**. Unit duration is up to the professional judgement of each teacher.

The focus of each unit is the Number and Algebra concept with the Measurement and Geometry and Statistics and probability integrated/connected into the Number and Algebra focus.

Connections highlighted in yellow are suggestions. Connections can also be made by simply following the sequence of the unit, starting with the Number and Algebra concept/s.

Working mathematically should be imbedded into all maths lesson/activities. Consider opened ended/inquiry based learning tasks when programming.

Mathematics should account for **40%** of your weekly teaching time



Unit	Working Mathematically Outcomes (embedded in each unit)	Outcomes The outcomes in each unit do not have to connect together at all times throughout the unit.	Number & Algebra Key Ideas	Measurement & Geometry Statistics & Probability Number & Algebra Other KLA <u>Concept/s that connect to number/algebra concept</u>
Unit 1 will be used at the beginning of Term 1 on its own and then it can be integrated into every unit throughout the term where there are connections.				
1	<p>MAe-1WM: A student describes mathematical situations using everyday language, actions, materials and informal recordings</p> <p>MAe-2WM: A student uses objects, actions, technology and/or trial and error to explore mathematical problems</p> <p>MAe-3WM: A student uses concrete materials and/or pictorial representations to support conclusions</p>	<p>Whole Number MAe-4NA: A student counts to 30, and orders, reads and represents numbers in the range 0 to 20</p> <p>Patterns and Algebra MAe-8NA: A student recognises, describes and continues repeating patterns</p> <p>Time MAe-13MG: A student sequences events, uses everyday language to describe the durations of events, and reads hour time on clocks</p> <p>Position MAe-16MG: A student describes position and gives and follows simple directions using everyday language</p> <p>Data MAe-17SP: A student represents data and interprets data displays made from objects</p>	<ul style="list-style-type: none"> •Count forwards to 30 from a given number •Count backwards from a given number in the range 0-20 •Compare, order, read and represent numbers to at least 20 •Read and use the ordinal names to at least 'tenth' •Sort and classify objects into groups <p style="background-color: yellow;">e.g. of a connection – Whole Number/Patterns & Algebra/Position Place numeral cards 0-10 on a washing line with even numbers missing. Students place the missing numeral cards in the correct position on the line sharing their reasons for their choices. Discuss number before and number after.</p>	<ul style="list-style-type: none"> •Compare and order the duration of events using the everyday language of time •Sequence events in time •Connect days of the week to familiar events and actions •Give and follow simple directions •Describe position using everyday language <p style="background-color: #d0f0d0;">•Collect information about themselves and their environment, including by asking and answering yes/no questions</p> <p style="background-color: #f0d0d0;">Science and HSIE unit</p> <p style="background-color: #f0d0d0;">•Sport, P.E, CAPA: Give and follow simple directions</p>
2		<p>Addition and Subtraction MAe-5NA: A student combines, separates and compares collections of objects, describes using everyday language, and records using informal methods</p> <p>Length MAe-9MG: A student describes and compares lengths and distances using everyday language</p> <p>2D Space MAe-15MG: A student manipulates, sorts and describes representations of two-dimensional shapes, including circles, triangles, squares and rectangles, using everyday language</p>	<ul style="list-style-type: none"> •Combine two or more groups of objects to model addition •Take part of a group away to model subtraction 	<ul style="list-style-type: none"> •Identify the attribute of 'length' as a measure of an object from end to end •Describe length and distance using everyday language, including comparatives •Identify, name and describe circles, squares, triangles and rectangles presented in different orientations, in pictures and the environment <p style="background-color: yellow;">e.g. of a connection – Length/2D Space Describe the length of one side of a rectangle with the other side of the rectangle as being shorter, longer</p>

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3	<p><u>MAe-1WM</u>: A student describes mathematical situations using everyday language, actions, materials and informal recordings</p> <p><u>MAe-2WM</u>: A student uses objects, actions, technology and/or trial and error to explore mathematical problems</p> <p><u>MAe-3WM</u>: A student uses concrete materials and/or pictorial representations to support conclusions</p>	<p>Multiplication and Division <u>MAe-6NA</u>: A student groups, shares and counts collections of objects, describes using everyday language, and records using informal methods</p> <p>Fractions and Decimals <u>MAe-7NA</u>: A student describes two equal parts as halves</p> <p>Area <u>MAe-10MG</u>: A student describes and compares areas using everyday language</p> <p>2D Space <u>MAe-15MG</u>: A student manipulates, sorts and describes representations of two-dimensional shapes, including circles, triangles, squares and rectangles, using everyday language</p>	<ul style="list-style-type: none"> Investigate and model equal groups Establish the concept of one-half <p><u>e.g. of a connection</u> – Multiplication & Division/Fractions & Decimals/2D Space Students sort a group of 2D shapes into equal groups based on the shape. Choose one of the groups of shapes e.g. circles and break the group in half to show two equal parts</p>	<ul style="list-style-type: none"> Identify the attribute of 'area' as a measure of the amount of surface Describe area using everyday language, including comparatives Identify, name and describe circles, squares, triangles and rectangles presented in different orientations, in pictures and the environment <p><u>e.g. of a connection: 2D Space/Area</u> Use different 2D shapes to cover surfaces.</p>
Assessment Strategies				
<p><u>Ongoing</u></p> <ul style="list-style-type: none"> Observation Work samples Photographs Anecdotal Records Video PLAN 		<p><u>Formative</u></p> <ul style="list-style-type: none"> Best Start Pre tasks Open-ended tasks CTJ Sena 1 & 2 		<p><u>Summative</u></p> <ul style="list-style-type: none"> Best Start Post tasks Open-ended tasks CTJ Sena 1 & 2



Unit	Working Mathematically Outcomes (embedded in each unit)	Outcomes The outcomes in each unit do not have to connect together at all times throughout the unit.	Number & Algebra Key Ideas	Measurement & Geometry Statistics & Probability Number & Algebra Other KLA <i>Concept/s that connect to number/algebra concept</i>
Unit 1 will be used at the beginning of Term 2 on its own and then it can be integrated into every unit throughout the term where there are connections. <i>(Revision of key ideas from previous term is in italics and new key ideas are in bold.)</i>				
1	<p><u>MAe-1WM</u>: A student describes mathematical situations using everyday language, actions, materials and informal recordings</p> <p><u>MAe-2WM</u>: A student uses objects, actions, technology and/or trial and error to explore mathematical problems</p> <p><u>MAe-3WM</u>: A student uses concrete materials and/or pictorial representations to support conclusions</p>	<p>Whole Number <u>MAe-4NA</u>: A student counts to 30, and orders, reads and represents numbers in the range 0 to 20</p> <p>Patterns and Algebra <u>MAe-8NA</u>: A student recognises, describes and continues repeating patterns</p> <p>Time <u>MAe-13MG</u>: A student sequences events, uses everyday language to describe the durations of events, and reads hour time on clocks</p> <p>Position <u>MAe-16MG</u>: A student describes position and gives and follows simple directions using everyday language</p> <p>Data <u>MAe-17SP</u>: A student represents data and interprets data displays made from objects</p>	<ul style="list-style-type: none"> • <i>Count forwards to 30 from a given number</i> • <i>Count backwards from a given number in the range 0-20</i> • <i>Compare, order, read and represent numbers to at least 20</i> • <i>Read and use the ordinal names to at least 'tenth'</i> • Subitise small collections of objects • Use the term 'is the same as' to express equality of groups • <i>Sort and classify objects into small groups</i> 	<ul style="list-style-type: none"> • <i>Compare and order the duration of events using the everyday language of time</i> • <i>Sequence events in time</i> • <i>Connect days of the week to familiar events and actions</i> • Tell time on the hour on digital clocks and analog clocks • <i>Give and follow simple directions</i> • <i>Describe position using everyday language</i>
2		<p>Addition and Subtraction <u>MAe-5NA</u>: A student combines, separates and compares collections of objects, describes using everyday language, and records using informal methods</p> <p>Length <u>MAe-9MG</u>: A student describes and compares lengths and distances using everyday language</p> <p>2D Space <u>MAe-15MG</u>: A student manipulates, sorts and describes representations of two-dimensional shapes, including circles, triangles, squares and rectangles, using everyday language</p>	<ul style="list-style-type: none"> • <i>Combine two or more groups of objects to model addition</i> • <i>Take part of a group away to model subtraction</i> • Compare two groups to determine "how many more" 	<ul style="list-style-type: none"> • <i>Identify the attribute of 'length' as a measure of an object from end to end</i> • <i>Describe length and distance using everyday language, including comparatives</i> • Compare lengths using direct comparison • <i>Identify, name and describe circles, squares, triangles and rectangles in different orientations, in pictures and the environment</i> <p><u>e.g. of a connection</u> – Length/2D Space Describe the length of one side of a rectangle with the shorter side by using centicubes to measure each length. Predict how many more centicubes you would need to make the rectangle into a square. (challenging task)</p>

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3	<p><u>MAe-1WM</u>: A student describes mathematical situations using everyday language, actions, materials and informal recordings</p> <p><u>MAe-2WM</u>: A student uses objects, actions, technology and/or trial and error to explore mathematical problems</p> <p><u>MAe-3WM</u>: A student uses concrete materials and/or pictorial representations to support conclusions</p>	<p>Multiplication and Division <u>MAe-6NA</u>: A student groups, shares and counts collections of objects, describes using everyday language, and records using informal methods</p> <p>Fractions and Decimals <u>MAe-7NA</u>: A student describes two equal parts as halves</p> <p>Volume and Capacity <u>MAe-11MG</u>: A student describes and compares the capacities of containers and the volumes of objects or substances using everyday language</p> <p>Mass <u>MAe-12MG</u>: A student describes and compares the masses of objects using everyday language</p> <p>3D Space <u>MAe-14MG</u>: A student manipulates, sorts and represents three-dimensional objects and describes them using everyday language</p>	<ul style="list-style-type: none"> • Investigate and model equal groups • Establish the concept of one-half 	<ul style="list-style-type: none"> • Identify the attribute of 'capacity' as a measure of the amount of substance a container can hold • Identify the attribute of 'volume' as a measure of the amount of space an object occupies • Describe capacity and volume using everyday language, including comparatives • Identify the attribute of 'mass' as a measure of the amount of matter in an object • Describe mass using everyday language, including comparatives • Describes features of common three-dimensional objects using everyday language <u>e.g. of a connection – Volume & Capacity/Mass/3D Space</u> Fill a given container with water to demonstrate capacity. Stack and pack another identical container with Base 10 blocks to demonstrate volume. Predict which container would be heavier and explain reasons for this prediction. How could we make each container have the same mass?
Assessment Strategies				
<p><u>Ongoing</u></p> <ul style="list-style-type: none"> • Observation • Work samples • Photographs • Anecdotal Records • Video • PLAN 		<p><u>Formative</u></p> <ul style="list-style-type: none"> • Best Start • Pre tasks • Open-ended tasks • CTJ • Sena 1 & 2 		<p><u>Summative</u></p> <ul style="list-style-type: none"> • Best Start • Post tasks • Open-ended tasks • CTJ • Sena 1 & 2



Unit	Working Mathematically Outcomes (embedded in each unit)	Outcomes The outcomes in each unit do not have to connect together at all times throughout the unit.	Number & Algebra Key Ideas	Measurement & Geometry Statistics & Probability Number & Algebra Other KLA <i>Concept/s that connect to number/algebra concept</i>
Unit 1 will be used at the beginning of Term 3 on its own and then it can be integrated into every unit throughout the term where there are connections. <i>(Revision of key ideas from previous term is in italics and new key ideas are in bold.)</i>				
1	<p><i>MAe-1WM: A student describes mathematical situations using everyday language, actions, materials and informal recordings</i></p> <p><i>MAe-2WM: A student uses objects, actions, technology and/or trial and error to explore mathematical problems</i></p> <p><i>MAe-3WM: A student uses concrete materials and/or pictorial representations to support conclusions</i></p>	<p>Whole Number <i>MAe-4NA: A student counts to 30, and orders, reads and represents numbers in the range 0 to 20</i></p> <p>Patterns and Algebra <i>MAe-8NA: A student recognises, describes and continues repeating patterns</i></p> <p>Time <i>MAe-13MG: A student sequences events, uses everyday language to describe the durations of events, and reads hour time on clocks</i></p> <p>Position <i>MAe-16MG: A student describes position and gives and follows simple directions using everyday language</i></p> <p>Data <i>MAe-17SP: A student represents data and interprets data displays made from objects</i></p>	<ul style="list-style-type: none"> • <i>Count forwards to 30 from a given number</i> • <i>Count backwards from a given number in the range 0-20</i> • <i>Compare, order, read and represent numbers to at least 20</i> • <i>Read and use the ordinal names to at least 'tenth'</i> • <i>Subitise small collections of objects</i> • <i>Use the term 'is the same as' to express equality of groups</i> • Use the language of money • <i>Sort and classify objects into small groups</i> • Recognise, copy, continue, create and describe repeating patterns of objects and drawings 	<ul style="list-style-type: none"> • <i>Compare and order the duration of events using the everyday language of time</i> • <i>Sequence events in time</i> • <i>Connect days of the week to familiar events and actions</i> • <i>Tell time on the hour on digital clocks and analog clocks</i> • <i>Give and follow simple directions</i> • <i>Describe position using everyday language</i> • Use the terms 'left' and 'right' to describe position in relation to self <div style="background-color: #d4edda; padding: 5px; margin-top: 5px;"> <ul style="list-style-type: none"> • <i>Collect information about themselves and their environment, including by asking and answering yes/no questions</i> • <i>Organise actual objects into data displays</i> • <i>Interpret data displays made from objects</i> </div> <p style="text-align: center; color: #c00000; font-weight: bold; margin-top: 5px;">Science or HSIE unit</p>
2		<p>Addition and Subtraction <i>MAe-5NA: A student combines, separates and compares collections of objects, describes using everyday language, and records using informal methods</i></p> <p>Length <i>MAe-9MG: A student describes and compares lengths and distances using everyday language</i></p> <p>2D Space <i>MAe-15MG: A student manipulates, sorts and describes representations of two-dimensional shapes, including circles, triangles, squares and rectangles, using everyday language</i></p>	<ul style="list-style-type: none"> • <i>Combine two or more groups of objects to model addition</i> • <i>Take part of a group away to model subtraction</i> • <i>Compare two groups to determine "how many more"</i> • Record addition and subtraction informally 	<ul style="list-style-type: none"> • <i>Identify the attribute of 'length' as a measure of an object from end to end</i> • <i>Describe length and distance using everyday language, including comparatives</i> • <i>Compare lengths using direct comparison</i> • Record comparisons of length informally • <i>Identify, name and describe circles, squares, triangles and rectangles in different orientations, in pictures and the environment</i> • Sort, manipulate, make and draw circles, squares, triangles and rectangles

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3	<u>MAe-1WM</u> : A student describes mathematical situations using everyday language, actions, materials and informal recordings <u>MAe-2WM</u> : A student uses objects, actions, technology and/or trial and error to explore mathematical problems <u>MAe-3WM</u> : A student uses concrete materials and/or pictorial representations to support conclusions	Multiplication and Division <u>MAe-6NA</u> : A student groups, shares and counts collections of objects, describes using everyday language, and records using informal methods Fractions and Decimals <u>MAe-7NA</u> : A student describes two equal parts as halves Area <u>MAe-10MG</u> : A student describes and compares areas using everyday language 2D Space <u>MAe-15MG</u> : A student manipulates, sorts and describes representations of two-dimensional shapes, including circles, triangles, squares and rectangles, using everyday language	<ul style="list-style-type: none"> Investigate and model equal groups Record grouping and sharing using informal methods Establish the concept of one-half Record halves of objects using drawings 	<ul style="list-style-type: none"> Identify the attribute of 'area' as a measure of the amount of surface Describe area using everyday language, including comparatives Compare areas using direct comparison Record comparisons of area informally Identify, name and describe circles, squares, triangles and rectangles presented in different orientations, in pictures and the environment Sort, manipulate, make and draw circles, squares, triangles and rectangles <p><u>e.g. of a connection</u> – 2D Space/Fractions & Decimals/ Multiplication and Division/Area Find the area of a given surface using a 2D shape that has been divided (half/quarter). Explain the reason for dividing the shape that way.</p>
Assessment Strategies				
<u>Ongoing</u> <ul style="list-style-type: none"> Observation Work samples Photographs Anecdotal Records Video PLAN 		<u>Formative</u> <ul style="list-style-type: none"> Best Start Pre tasks Open-ended tasks CTJ Sena 1 & 2 		<u>Summative</u> <ul style="list-style-type: none"> Best Start Post tasks Open-ended tasks CTJ Sena 1 & 2



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Unit 1 will be used at the beginning of Term 4 on its own and then it can be integrated into every unit throughout the term where there are connections.
(Revision of key ideas from previous term is in italics and new key ideas are in bold.)

1	<p><u>MAe-1WM</u>: A student describes mathematical situations using everyday language, actions, materials and informal recordings</p> <p><u>MAe-2WM</u>: A student uses objects, actions, technology and/or trial and error to explore mathematical problems</p> <p><u>MAe-3WM</u>: A student uses concrete materials and/or pictorial representations to support conclusions</p>	<p>Whole Number <u>MAe-4NA</u>: A student counts to 30, and orders, reads and represents numbers in the range 0 to 20</p> <p>Patterns and Algebra <u>MAe-8NA</u>: A student recognises, describes and continues repeating patterns</p> <p>Time <u>MAe-13MG</u>: A student sequences events, uses everyday language to describe the durations of events, and reads hour time on clocks</p> <p>Position <u>MAe-16MG</u>: A student describes position and gives and follows simple directions using everyday language</p> <p>Data <u>MAe-17SP</u>: A student represents data and interprets data displays made from objects</p> <p>Addition and Subtraction <u>MAe-5NA</u>: A student combines, separates and compares collections of objects, describes using everyday language, and records using informal methods</p>	<ul style="list-style-type: none"> • Count forwards to 30 from a given number • Count backwards from a given number in the range 0-20 • Compare, order, read and represent numbers to at least 20 • Read and use the ordinal names to at least 'tenth' • Subitise small collections of objects • Use the term 'is the same as' to express equality of groups • Use the language of money • Sort and classify objects into small groups • Recognise, copy, continue, create and describe repeating patterns of objects and drawings • Combine two or more groups of objects to model addition • Take part of a group away to model subtraction • Compare two groups to determine "how many more" • Record addition and subtraction informally 	<ul style="list-style-type: none"> • Compare and order the duration of events using the everyday language of time • Sequence events in time • Connect days of the week to familiar events and actions • Tell time on the hour on digital clocks and analog clocks • Give and follow simple directions • Describe position using everyday language • Use the terms 'left' and 'right' to describe position in relation to self <p>Collect information about themselves and their environment, including by asking and answering yes/no questions</p> <ul style="list-style-type: none"> • Organise actual objects into data displays • Interpret data displays made from objects <p style="text-align: center;">Science or HSIE unit</p>
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2	<u>MAe-1WM</u> : A student describes mathematical situations using everyday language, actions, materials and informal recordings <u>MAe-2WM</u> : A student uses objects, actions, technology and/or trial and error to explore mathematical problems <u>MAe-3WM</u> : A student uses concrete materials and/or pictorial representations to support conclusions	Multiplication and Division <u>MAe-6NA</u> : A student groups, shares and counts collections of objects, describes using everyday language, and records using informal methods Fractions and Decimals <u>MAe-7NA</u> : A student describes two equal parts as halves 2D Space <u>MAe-15MG</u> : A student manipulates, sorts and describes representations of two-dimensional shapes, including circles, triangles, squares and rectangles, using everyday language Volume and Capacity <u>MAe-11MG</u> : A student describes and compares the capacities of containers and the volumes of objects or substances using everyday language Mass <u>MAe-12MG</u> : A student describes and compares the masses of objects using everyday language 3D Space <u>MAe-14MG</u> : A student manipulates, sorts and represents three-dimensional objects and describes them using everyday language	<ul style="list-style-type: none"> Investigate and model equal groups Record grouping and sharing using informal methods Establish the concept of one-half Record halves of objects using drawings 	<ul style="list-style-type: none"> Identify the attribute of 'capacity' as a measure of the amount of substance a container can hold Identify the attribute of 'volume' as a measure of the amount of space an object occupies Describe capacity and volume using everyday language, including comparatives Compare volumes and capacities using direct comparison Record comparisons of capacity and volume informally Identify the attribute of 'mass' as a measure of the amount of matter in an object Describe mass using everyday language, including comparatives Compare masses directly by hefting Record comparisons of mass informally Describes features of common three-dimensional objects using everyday language Sort and manipulate three-dimensional objects found in the environment Identify, name and describe circles, squares, triangles and rectangles presented in different orientations, in pictures and the environment Sort, manipulate, make and draw circles, squares, triangles and rectangles
Assessment Strategies				
<u>Ongoing</u> <ul style="list-style-type: none"> Observation Work samples Photographs Anecdotal Records Video PLAN 		<u>Formative</u> <ul style="list-style-type: none"> Best Start Pre tasks Open-ended tasks CTJ Sena 1 & 2 		<u>Summative</u> <ul style="list-style-type: none"> Best Start Post tasks Open-ended tasks CTJ Sena 1 & 2