Year 1 Mathematics
Curriculum and assessment plan

Example

ACiQ v9.0

Level description	Context and cohort considerations
In Year 1, learning in Mathematics builds on each student's prior learning and experiences. Students engage in a range of approaches to learning and doing mathematics that develop their understanding of and fluency with concepts, procedures and processes by making connections, reasoning, problem-solving and practice. Proficiency in mathematics enables students to respond to familiar and unfamiliar situations by employing mathematical strategies to make informed decisions and solve problems efficiently. Students further develop proficiency and positive dispositions towards mathematics and its use as they: • use their curiosity and imagination to explore situations, recognise patterns in their environment and choose ways of representing their thinking when communicating with others • demonstrate that numbers can be represented, partitioned and composed in various ways, recognise patterns in numbers and extend their knowledge of numbers beyond 2 digits • use physical or virtual materials and diagrams when modelling practical problems through active learning experiences, recognise existing patterns, employ different strategies and discuss the reasonableness of answers • explain ways of making direct and indirect comparisons and begin to use uniform, informal units to measure some attributes • reason spatially and use spatial features to classify shapes and objects; they recognise these shapes and objects in their environment and use simple transformations, directions and pathways to move the positions of shapes and objects within a space • use simple surveys to collect and sort data, based on a question of interest, recognise that data can be represented in different ways, and explain patterns that they see in the results • develop a sense of equivalence, fairness, repetition and variability when they engage in play-based and practical activities.	The Year 1 cohort participates in daily mathematics learning. This plan has considered: • summative and formative data from Prep showing the need to extend on students' emerging Number and Algebra understandings • exploration and use of digital tools (e.g. virtual materials) in Number and Statistics, which supports the learning and doing of mathematics. Across the year, the contexts for teaching and learning create authentic learning experiences for students. Unit 1 provides opportunities to connect to the Humanities and Social Sciences (HASS) learning area as students develop Geography knowledge, understandings and skills to better understand features of local places and their location.

Unit 1 — Place and space	Unit 2 — Patterns and structures	Unit 3 — Playful partitioning	Unit 4 — Collections, categories and comparisons
Duration: 10 weeks	**Duration: 10 weeks**	**Duration: 10 weeks**	**Duration: 10 weeks**
Spatial reasoning involves understanding location, dimensions and properties of objects. Spatial reasoning skills help young learners understand how things, including themselves, move and interact in a physical space. These learnings are the focus of this unit. In the first phase of this unit, students build on experiences from Prep as they explore number concepts in a range of meaningful contexts. In indoor and outdoor environments, students identify numbers in their personal surroundings, and become familiar with the features of their physical spaces, e.g. number walks, noticing signs and numbers, and exploring page numbers. Students are then provided with opportunities to read, write, discuss and demonstrate connections between number names, numerals and quantities and develop their ability to order numbers. Understandings are supported through multiple representations including physical and virtual materials, numerals, number lines, number tracks and charts. Large scale hundred charts can be collaboratively built, and number representations explored. Literacy skills are developed as students use mathematical vocabulary to communicate their ideas and thinking strategies. In the second phase of this unit, students deepen and apply number knowledge and skills when investigating the natural, managed and constructed features of the school environment. Students use their natural interest in Mathematics to make sense of their physical and social worlds. This unit connects to the Geography sub-strand of the HASS learning area as students investigate features of local places and their location. Students measure the length of shapes and objects using uniform informal units, e.g. pencils, pop sticks, paperclips. Through guided explorations students recognise the need for units to be uniform and used end-to-end without gaps or overlaps. Personal and social capabilities are enhanced as students use role play and games to give and follow directions to move people and objects within familiar spaces. They develop their understanding of the importance of directional words (e.g. ‘forwards’, ‘backwards’, ‘left’, ‘right’) and the sequence of instructions. Students use their emerging proficiency with length to measure the distance between two locations using footsteps. Throughout this unit students undertake a series of observed demonstration opportunities where spatial and measurement discoveries are recorded.	Mathematics involves the study of patterns. Exploring patterns assists young learners to notice and understand mathematical relationships. This unit provides students with a range of contexts to explore patterns and structures when comparing, sorting and classifying shapes and objects and investigating repeating and growing patterns in Algebra. In the first phase of this unit, students build on their early understandings of shapes by investigating and recognising shapes and objects in the environment. Students discuss the shapes and objects and are guided to identify similarities and differences. Students notice patterns when they compare shapes and objects using obvious features, e.g. sides, corners, edges. They also notice patterns and structures when sorting and classifying shapes and objects into groups based on features, e.g. number of sides, descriptions such as it is round like a ball. In the second phase of this unit, students develop critical and creative thinking skills as they investigate a range of patterns and structures in Algebra. Students continue to develop their understanding from Prep that the same pattern can be found in many different forms — physical objects, sounds, movements and symbols. Students are immersed in a variety of experiences to recognise and continue repeating and growing patterns (e.g. they use money to skip count in twos, fives and tens with coins and notes) and use shapes and objects (e.g. tiles, leaves and beads) to continue growing patterns. Students then use numbers, symbols and objects to create their own skip counting and repeating patterns. They develop critical and creative thinking skills as they connect ideas in ways that are new to them. Students interpret repeating patterns and identify the structure (i.e. unit of repeat), e.g. hop, hop, hop, leap, jump is ‘HHHLJ’ or ‘three hops, one leap and one jump’ or ‘3, 1, 1’. Throughout this unit students engage in practical investigations to demonstrate their ability to make, compare and classify shapes and objects, and create skip counting and repeating patterns, identifying the repeating unit. A sample collection of discoveries and explanations is kept in an investigation folio and shared at the end of the unit.	Part-whole understanding supports young learners to realise numbers are made up of two or more other smaller numbers. This knowledge is used to partition numbers, put them back together again, and calculate using addition and subtraction. In this unit, students deepen part-whole understandings to partition numbers and use the mathematical modelling process to find solutions to practical problems. In the first phase of this unit, students deepen number understandings and skills from Units 1 and 2 to explore structure and pattern in the place value system. Students are supported to notice and use the patterns in the number system, e.g. ten ones equals one ten so thirty ones equals three tens. Using drawings, physical and virtual materials, and diagrams, students represent and partition two-digit numbers into tens and ones in different ways. In the second phase of this unit, students consolidate their understanding of partitioning. Through investigation, stories and game play (e.g. skittles, barrier games, dominoes, guess and check — how many in the container), students use part-part-whole relationships to add and subtract and develop an understanding of equal sharing and grouping. Students develop fluency with calculation strategies including subitising, counting on, counting back, make to ten, counts of tens and ones, and partitioning. In hands-on experiences students represent equal sharing and grouping and use these calculation strategies. Students are guided to use the mathematical modelling process to represent authentic problem scenarios, including simple money transactions, using think boards, diagrams and physical materials. They develop critical and creative thinking skills to put ideas into action. Students then explain the connection between the think board, the physical materials and the numbers in the calculations. Evidence of student learning is collected in learning journals as students engage in practical investigations. In this unit, students demonstrate problem-solving strategies through the mathematical modelling process by using think boards, diagrams, physical materials, written calculations and verbal explanations. Student learning journals record reflections and evidence of strategies used in annotated samples, photographs and written reflections.	Exploring collections through quantification, grouping and comparison helps young learners to develop an understanding of estimation and approximation, as well as the ability to notice similar and distinctive features. In the first phase of this unit, students revise and consolidate number understandings from the year. They deepen and extend on understandings and skills to count large collections of objects (to at least 120) using a range of strategies, e.g. by partitioning collections into equal groups and skip counting in twos, fives or tens. Students record the amount, connecting written numerals to physical and verbal representations. Evidence of student learning is collected through a supervised assessment. In the second phase of this unit, students use counting strategies to quantify and compare collections in measurement contexts. Through practical investigations in familiar environments students compare and order collections of objects and events based on the attributes of mass, capacity and duration. Students compare collections of three or more objects using hefting and balance scales (mass) and compare three or more containers by pouring sand, water or rice from container to container (capacity). Students use a variety of sand timers to sequence and compare events (duration). Students are supported to develop comparative language to communicate their thinking, e.g. ‘heavier’, ‘lightest’, ‘fastest’, ‘slower’. Students then represent the categorical data from measurement investigations in different ways, including using digital tools, objects, images, drawings, lists, tally marks and symbols, and a pictograph with objects or drawings. Students use counting strategies to compare the numbers within categories (i.e. results). Evidence of student learning is gathered in a project investigation folio.

	Unit 1 — Place and space		Unit 2 — Patterns and structures		Unit 3 — Playful partitioning		Unit 4 — Collections, categories and comparisons	
	Assessment 1 — Observed demonstration	**Term/ week**	**Assessment 2 — Project**	**Term/ week**	**Assessment 3 — Project: Mathematical modelling**	**Term/ week**	**Assessment 4 — Supervised assessment**	**Term/ week**
Assessment	**Description:** Through practical tasks (e.g. demonstrations that involve the manipulation of physical and virtual materials and teacher–student conferences), students demonstrate their proficiency when: • connecting number names, numerals and quantities • ordering numbers • comparing and ordering objects based on the attribute of length, communicating reasoning • measuring the length of shapes and objects using uniform informal units • giving and following directions to move people and objects within a space. **Technique:** Observed demonstration **Mode:** Spoken/signed and practical (with physical materials) **Conditions:** • started in Week 2 and completed over multiple lessons by end of Week 9 • may be completed in small groups • practical components are observed by the teacher	Term 1 Week 9	**Description:** Through an investigation folio, students complete a variety of tasks to explore patterns and structures. The investigation folio includes annotated samples (e.g. drawings, photographs, physical materials, video) of students' learning focusing on: • using numbers, symbols and objects to create skip counting and repeating patterns • identifying the repeating unit in patterns • making, comparing and classifying shapes and objects using obvious features. **Technique:** Project **Mode:** Multimodal (written, spoken/signed and practical with physical materials) **Conditions:** • started in Week 2 and completed over multiple lessons by end of Week 8 • practical components are observed by the teacher	Term 2 Week 8	**Description:** Students keep a learning journal (e.g. drawings, photographs, written calculations, video explanations, think boards) to record strategies and solutions to a series of tasks. Students use mathematical modelling to solve practical problems involving addition, subtraction of numbers to 20, equal sharing and grouping. Through mathematical modelling scenarios, students demonstrate how one- and two-digit numbers can be partitioned in different ways. **Technique:** Project **Mode:** Multimodal (written, spoken/signed and practical with physical materials) **Conditions:** • started in Week 8 and completed over multiple lessons by end of Week 10 • practical components are observed by the teacher	Term 3 Week 10	**Description:** Students respond to questions, scenarios, or problems that involve: • connecting number names, numerals and quantities, and order numbers to at least 120 • partitioning collections into equal groups • skip counting in twos, fives or tens to quantifying collections to at least 120. **Technique:** Supervised assessment **Mode:** Written and practical (with physical materials) **Conditions:** • may be completed one-on-one, in small groups or in whole class settings • may be completed over multiple lessons or broken into components in Week 4 • questions or instructions can be read to students • practical components are observed by the teacher	Term 4 Week 4
							Assessment 5 — Project **Description:** A collection of annotated responses from practical investigations is collated in an investigation folio. The investigation folio shows evidence of students' learning, focusing on: • comparing and ordering objects and events based on the attributes of mass, capacity and duration, and communicating reasoning • collecting and recording categorical data from measurement investigations • creating one-to-one displays, including pictographs with objects and drawings • comparing and discussing data using counting strategies. **Technique:** Project **Mode:** Multimodal (written, spoken/signed and practical with physical materials) **Conditions:** • started in Week 6 and completed over multiple lessons by end of Week 8 • practical components are observed by the teacher	Term 4 Week 8

	Unit 1 — Place and space	Unit 2 — Patterns and structures	Unit 3 — Playful partitioning	Unit 4 — Collections, categories and comparisons
Achievement standard	By the end of Year 1, students connect number names, numerals and quantities, and order numbers to at least 120. They demonstrate how one- and two-digit numbers can be partitioned in different ways and that two-digit numbers can be partitioned into tens and ones. Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120. They solve problems involving addition and subtraction of numbers to 20 and use mathematical modelling to solve practical problems involving addition, subtraction, equal sharing and grouping, using calculation strategies. Students use numbers, symbols and objects to create skip counting and repeating patterns, identifying the repeating unit. They compare and order objects and events based on the attributes of length, mass, capacity and duration, communicating reasoning. Students measure the length of shapes and objects using uniform informal units. They make, compare and classify shapes and objects using obvious features. Students give and follow directions to move people and objects within a space. They collect and record categorical data, create one-to-one displays, and compare and discuss the data using frequencies.	By the end of Year 1, students connect number names, numerals and quantities, and order numbers to at least 120. They demonstrate how one- and two-digit numbers can be partitioned in different ways and that two-digit numbers can be partitioned into tens and ones. Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120. They solve problems involving addition and subtraction of numbers to 20 and use mathematical modelling to solve practical problems involving addition, subtraction, equal sharing and grouping, using calculation strategies. Students use numbers, symbols and objects to create skip counting and repeating patterns, identifying the repeating unit. They compare and order objects and events based on the attributes of length, mass, capacity and duration, communicating reasoning. Students measure the length of shapes and objects using uniform informal units. They make, compare and classify shapes and objects using obvious features. Students give and follow directions to move people and objects within a space. They collect and record categorical data, create one-to-one displays, and compare and discuss the data using frequencies.	By the end of Year 1, students connect number names, numerals and quantities, and order numbers to at least 120. They demonstrate how one- and two-digit numbers can be partitioned in different ways and that two-digit numbers can be partitioned into tens and ones. Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120. They solve problems involving addition and subtraction of numbers to 20 and use mathematical modelling to solve practical problems involving addition, subtraction, equal sharing and grouping, using calculation strategies. Students use numbers, symbols and objects to create skip counting and repeating patterns, identifying the repeating unit. They compare and order objects and events based on the attributes of length, mass, capacity and duration, communicating reasoning. Students measure the length of shapes and objects using uniform informal units. They make, compare and classify shapes and objects using obvious features. Students give and follow directions to move people and objects within a space. They collect and record categorical data, create one-to-one displays, and compare and discuss the data using frequencies.	By the end of Year 1, students connect number names, numerals and quantities, and order numbers to at least 120. They demonstrate how one- and two-digit numbers can be partitioned in different ways and that two-digit numbers can be partitioned into tens and ones. Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120. They solve problems involving addition and subtraction of numbers to 20 and use mathematical modelling to solve practical problems involving addition, subtraction, equal sharing and grouping, using calculation strategies. Students use numbers, symbols and objects to create skip counting and repeating patterns, identifying the repeating unit. They compare and order objects and events based on the attributes of length, mass, capacity and duration, communicating reasoning. Students measure the length of shapes and objects using uniform informal units. They make, compare and classify shapes and objects using obvious features. Students give and follow directions to move people and objects within a space. They collect and record categorical data, create one-to-one displays, and compare and discuss the data using frequencies.
Moderation	**Calibration:** Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.	**Expert:** Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.	**Consensus:** Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.	**Consensus:** Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.

Content descriptions	Units				Content descriptions	Units				Content descriptions	Units			
Number	**1**	**2**	**3**	**4**	**Algebra**	**1**	**2**	**3**	**4**	**Measurement**	**1**	**2**	**3**	**4**
recognise, represent and order numbers to at least 120 using physical and virtual materials, numerals, number lines and charts AC9M1N01	☑	☐	☐	☑	recognise, continue and create pattern sequences, with numbers, symbols, shapes and objects, formed by skip counting, initially by twos, fives and tens AC9M1A01	☐	☑	☐	☐	compare directly and indirectly and order objects and events using attributes of length, mass, capacity and duration, communicating reasoning AC9M1M01	☑	☐	☐	☑
partition one- and two-digit numbers in different ways using physical and virtual materials, including partitioning two-digit numbers into tens and ones AC9M1N02	☐	☐	☑	☐	recognise, continue and create repeating patterns with numbers, symbols, shapes and objects, identifying the repeating unit AC9M1A02	☐	☑	☐	☐	measure the length of shapes and objects using informal units, recognising that units need to be uniform and used end-to-end AC9M1M02	☑	☐	☐	☐
quantify sets of objects, to at least 120, by partitioning collections into equal groups using number knowledge and skip counting AC9M1N03	☐	☐	☐	☑						describe the duration and sequence of events using years, months, weeks, days and hours AC9M1M03	☐	☐	☐	☑
add and subtract numbers within 20, using physical and virtual materials, part-part-whole knowledge to 10 and a variety of calculation strategies AC9M1N04	☐	☐	☑	☐										

Content descriptions	Units			
Number	**1**	**2**	**3**	**4**
use mathematical modelling to solve practical problems involving additive situations including simple money transactions; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem AC9M1N05	☐	☐	☑	☐
use mathematical modelling to solve practical problems involving equal sharing and grouping; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem AC9M1N06	☐	☐	☑	☐

Content descriptions	Units			
Algebra	**1**	**2**	**3**	**4**

Content descriptions	Units			
Measurement	**1**	**2**	**3**	**4**

Content descriptions	Units			
Space	**1**	**2**	**3**	**4**
make, compare and classify familiar shapes; recognise familiar shapes and objects in the environment, identifying the similarities and differences between them AC9M1SP01	☐	☑	☐	☐
give and follow directions to move people and objects to different locations within a space AC9M1SP02	☑	☐	☐	☐

Content descriptions	Units			
Statistics	**1**	**2**	**3**	**4**
acquire and record data for categorical variables in various ways including using digital tools, objects, images, drawings, lists, tally marks and symbols AC9M1ST01	☐	☐	☐	☑
represent collected data for a categorical variable using one-to-one displays and digital tools where appropriate; compare the data using frequencies and discuss the findings AC9M1ST02	☐	☐	☐	☑

General capabilities	Units			
	1	**2**	**3**	**4**
Critical and creative thinking	☑	☑	☑	☑
Digital literacy	☐	☐	☐	☑
Ethical understanding	☐	☐	☐	☐
Intercultural understanding	☐	☐	☐	☐
Literacy	☑	☐	☐	☑
Numeracy	☑	☑	☑	☑
Personal and social capability	☐	☐	☐	☐

Cross-curriculum priorities	Units			
	1	**2**	**3**	**4**
Aboriginal and Torres Strait Islander histories and cultures	☐	☐	☐	☐
Asia and Australia's engagement with Asia	☐	☐	☐	☐
Sustainability	☐	☐	☐	☐