Prep Mathematics Curriculum and assessment plan

Example

Level description	Context a				
In Foundation, learning in Mathematics builds on the Early Years Learning Framework and 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, skills, procedures and processes by making connections, reasoning, problem-solving and	The Prep o This plan h				
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.	• information				
Students further develop proficiency and positive dispositions towards mathematics and its use as they:					
• explore situations, sparked by curiosity, using physical and virtual materials to represent, sort, quantify, compare and solve everyday problems	 explorat 				
 look for and make connections between number names, numerals and quantities, and compare quantities and shapes, using elementary mathematical reasoning in active learning experiences 	in releva doing of				
• bring mathematical meaning to their use of familiar terms and language when they pose and respond to questions, and explain their thinking and reasoning	Across the create aut				
• build confidence and autonomy in being able to make and justify mathematical decisions based on quantification and direct comparisons	promote c				
 learn to recognise repetition in pattern sequences and apply this to creatively build repeating patterns in a range of contexts 	SKIIIS and				
 develop a sense of sameness, difference and change when they engage in play-based activities. 					



ACiQ v9.0

and cohort considerations

o cohort participates in daily mathematics learning. n has considered:

ation provided in kindergarten transition statements students' prior numeracy experiences with early ng, measurement and patterning

ation and use of digital tools (e.g. virtual materials) vant contexts, which supports the learning and of mathematics.

he year, the contexts for teaching and learning uthentic learning experiences for students. Units curiosity, numeracy, critical and creative thinking d positive dispositions towards mathematics.

Unit 1 — Playful explorations through Maths	Unit 2 — Making choices and giving reasons why	Unit 3 — Curious about collections	Unit 4 — (
Duration: 10 weeks	Duration: 10 weeks	Duration: 10 weeks	Duration:
Student exploration fosters natural curiosity and encourages young learners to make sense of the world. In this unit, students engage in playful experiences with numbers and patterns and are encouraged to ask questions that reflect their natural curiosity. Emphasis is placed on developing flexible, critical and creative thinking skills by formulating questions in response to explorations and wonderings.	In mathematical investigations, making choices encourages flexible thinking and discovery of alternative approaches. Young learners deepen their reasoning skills by sharing their thinking and talking about the choices they have made. Throughout this unit students are encouraged to communicate and demonstrate their thinking, choices and strategies in a range of number and measurement contexts.	Providing students with the opportunities to investigate encourages them to pose questions, seek information, explore concepts and prioritise information relevant to the topic. This enables young learners to identify mathematical relationships and connected concepts. In this unit, students engage in play-based explorations to foster curiosity and develop an understanding of quantification, shapes and data collection.	Supporting promotes in communica real-world ideas are p In the first year class imagination
In the first phase of this unit, students begin to develop number sense from zero to 20 in familiar environments. They are encouraged to notice numbers and quantities in the everyday world through classroom experiences and maths walks. Students develop an understanding of number names, representations and sequences through practical investigations involving role play, games, books, songs and rhymes and active experiences. Students deepen conceptual understandings by using a wide range of physical and virtual materials and are supported to make connection to verbal/signed and written representations of numbers. In the second phase of this unit, students continue to build their confidence as early learners of mathematics. They explore pattern situations using materials, shapes, sounds, rhymes and actions. They are supported to recognise patterns in daily life, such as routines, and identify patterns in natural and built surroundings. Students develop confidence to recognise, copy and continue repeating patterns. They also make connections to the number structure of patterns, e.g. red, red, blue, red, red, blue is 'two red, one blue'. Throughout this unit, annotated samples of student learning are collected in a learning journal, e.g. drawings, photographs, physical materials, pattern crafts. Students show, explain and demonstrate their knowledge, understanding and skills to a familiar audience at the end of the term to celebrate learning in their first year of schooling.	In the first phase of this unit, students continue to build confidence as mathematicians by extending on number understandings from Unit 1. Students consolidate their knowledge of number names, representations and sequences through hands-on learning with physical materials and game play. They deepen their understanding as they establish the language of counting to partition and combine physical or virtual collections up to 10 in different ways, e.g. using physical materials and ten frames, dominoes and dice. Through practical experiences and game play, students use counting strategies and subitising (to 5) to quantify collections. In the second phase of this unit, students explore measurement in their environment. Students identify the attributes of objects, including length, capacity and mass. Students work independently and in small groups to directly compare pairs of objects from their classroom environment. They are guided to understand the importance of a baseline. Students use language to describe measurement attributes and compare pairs of objects, e.g. 'tall', 'long', 'wide', 'heavier', 'shorter'. They develop critical and creative thinking skills as they draw conclusions and communicate why and how they made choices and decisions. Teachers use observed demonstration across a series of tasks to collect evidence of students' learning.	In the first phase of this unit, students' curiosity is fostered as they explore collections of shapes and objects through play-based activities such as a classroom shape hunt. In familiar environments, students are encouraged to recognise and name shapes, describing their key attributes. They then deepen their understanding by creating these shapes independently using a variety of different mediums. In the second phase of this unit, students are supported to make connection between shapes and statistics knowledge. As students collect and sort collections of shapes into groups using their key attributes (e.g. colour, size, texture or number of sides) they represent information using objects or images and explain how collections have been sorted. Students draw on their understanding of number concepts from Units 1 and 2 to quantify data. They count collections to at least 20 and make comparisons between the size of collections. Students use relevant information to explain their reasoning. Teachers use a supervised assessment to collect evidence of students' learning.	year. Durin students te of addition, their picnic discuss the and numer number of many are le In the seco picnic they the day any picnic. Afte events and language, Finally, stu 'underneat 'up', 'down and locatio objects. Students re and particij mathematic collected th

Creative solutions to a picnic

10 weeks

ng young learners to find creative solutions s inquisitiveness, flexible thinking and organising ication of results. This unit provides an engaging d context where possibilities are explored and e put into action in new creative ways.

est phase of the unit, students help plan the end-ofest eddy bears' picnic. Students use their ion and apply understandings and skills from the ring focused lessons and in playful experiences, test and trial ideas by experimenting with a series on, subtraction and equal sharing problems to plan nic. Students use physical materials, verbally heir thinking and record the results with drawings erals, e.g. sharing plates and cups, counting the of sandwiches and answering questions on how e left.

cond phase of the unit, as students prepare for the ey also identify, sequence and compare times of and the events/activities that will take place at the fter the picnic, students order images of these nd justify the placement using sequencing e, e.g. this happened 'first', 'next', we did this 'last'. tudents use familiar language (e.g. 'next to', ath', 'above', 'below', 'in front', 'behind', 'beside', vn', 'left' and 'right') as they describe the position tion of themselves and objects in relation to other

reflect on problems posed during design, planning cipation in the picnic and develop their atical reasoning skills as they communicate their picnic solutions. Evidence of student learning is through an investigation folio.

	Unit 1 — Playful exploration through math	s	Unit 2 — Making choices and giving reaso	ns why		Unit 4 — Creative solutions to a picnic		
	Assessment 1 — Project	Term/ week	Assessment 2 — Observed demonstration	Term/ week	Assessment 3 — Supervised assessment	Term/ week	Assessment 4 — Project	Term/ week
Assessment	 Description: Students keep a learning journal (e.g. drawings, photographs, physical materials, pattern crafts) demonstrating their proficiency when: making connections between number names, numerals and position in the sequence of numbers from zero to at least 20 copying and continuing repeating patterns. Technique: Project Mode: Multimodal (written, spoken/signed and practical with physical materials) Conditions: started in Week 3 and completed over multiple lessons by end of Week 9 practical components are observed by the teacher 	Term 1 Week 9	 Description: Through practical tasks (e.g. demonstrations that involve the manipulation of physical and virtual materials, teacher-student conferences, group discussions and sharing of ideas and thinking), students demonstrate their proficiency when: making connections between number names, numerals and position in the sequence of numbers from zero to at least 20 using subitising (to 5) and counting strategies to quantify collections partitioning and combining collections up to 10 in different ways, representing these with numbers identifying the attributes of mass, capacity and length using direct comparison strategies to compare objects. Technique: Observed demonstration Mode: Spoken/signed and practical (with physical materials) Conditions: started in Week 3 and completed over multiple lessons by end of Week 9 may be completed in small groups practical components are observed by the teacher 	Term 2 Week 9	 Description: Students answer short response questions when: representing practical situations that involve quantifying collections by naming, creating and sorting familiar shapes into groups giving reasoning on how collections have been sorted by using key attributes collecting, sorting and comparing data in response to questions by comparing the size of collections. Technique: Supervised assessment Mode: Written, spoken/signed 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 8 practical components are observed by the teacher 	Term 3 Week 8	 Description: Through an investigation folio, students will complete a variety of tasks to plan a school teddy bears' picnic. The investigation folio includes annotated samples (e.g. drawings, photographs, physical materials, video) of students' learning focusing on their proficiency when: representing practical situations that involve equal sharing, adding to and taking away from collections to at least 10 sequencing and connecting events to the time of day comparing events and activities using direct comparison strategies describing the position and location of themselves and objects at the picnic. 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 4 Week 8

	Unit 1 — Playful exploration through maths	Unit 2 — Making choices and giving reasons why	Unit 3 — Curious about collections	Unit
nt standard	By the end of Foundation Year, students make	By the end of Foundation Year, students make	By the end of Foundation Year, students make	By th
	connections between number names, numerals and	connections between number names, numerals and	connections between number names, numerals and	conr
	position in the sequence of numbers from zero to at least	position in the sequence of numbers from zero to at least	position in the sequence of numbers from zero to at least	posit
	20. They use subitising and counting strategies to	20. They use subitising and counting strategies to	20. They use subitising and counting strategies to	20. 1
	quantify collections. Students compare the size of	quantify collections. Students compare the size of	quantify collections. Students compare the size of	quar
	collections to at least 20. They partition and combine	collections to at least 20. They partition and combine	collections to at least 20. They partition and combine	colle
	collections up to 10 in different ways, representing these	collections up to 10 in different ways, representing these	collections up to 10 in different ways, representing these	colle
	with numbers. Students represent practical situations that	with numbers. Students represent practical situations that	with numbers. Students represent practical situations that	with
	involve quantifying, equal sharing, adding to and taking	involve quantifying, equal sharing, adding to and taking	involve quantifying, equal sharing, adding to and taking	invol
	away from collections to at least 10. They copy and	away from collections to at least 10. They copy and	away from collections to at least 10. They copy and	away
	continue repeating patterns.	continue repeating patterns.	continue repeating patterns.	cont
Achieveme	Students identify the attributes of mass, capacity, length	Students identify the attributes of mass, capacity, length	Students identify the attributes of mass, capacity, length	Stud
	and duration, and use direct comparison strategies to	and duration, and use direct comparison strategies to	and duration, and use direct comparison strategies to	and
	compare objects and events. They sequence and	compare objects and events. They sequence and	compare objects and events. They sequence and	comp
	connect familiar events to the time of day. Students	connect familiar events to the time of day. Students	connect familiar events to the time of day. Students	conn
	name, create and sort familiar shapes and give their	name, create and sort familiar shapes and give their	name, create and sort familiar shapes and give their	name
	reasoning. They describe the position and the location of	reasoning. They describe the position and the location of	reasoning. They describe the position and the location of	reas
	themselves and objects in relation to other objects and	themselves and objects in relation to other objects and	themselves and objects in relation to other objects and	them
	people within a familiar space.	people within a familiar space.	people within a familiar space.	peop
	Students collect, sort and compare data in response to	Students collect, sort and compare data in response to	Students collect, sort and compare data in response to	Stud
	questions in familiar contexts.	questions in familiar contexts.	questions in familiar contexts.	ques
Moderation	Calibration:	Consensus:	Expert:	Con
	Refer to QCAA moderation advice on the QCAA website	Refer to QCAA moderation advice on the QCAA website	Refer to QCAA moderation advice on the QCAA website	Refe
	under the Assessment tab in the learning area.	under the Assessment tab in the learning area.	under the Assessment tab in the learning area.	unde

Content descriptions		Units			Content descriptions		Un	iits		Content descriptions	Units						
Number 1 2 3 4 A		Algebra	1	2	3	4	Measurement	1	2	3	4						
name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals AC9MFN01					recognise, copy and continue repeating patterns represented in different ways AC9MFA01					identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning AC9MFM01		Ø					
recognise and name the number of objects within a collection up to 5 using subitising AC9MFN02										sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions AC9MFM02							
quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning AC9MFN03																	
partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts AC9MFN04																	

4 — Creative solutions to a picnic

the end of Foundation Year, students make nections between number names, numerals and ition in the sequence of numbers from zero to at least They use subitising and counting strategies to intify collections. Students compare the size of ections to at least 20. They partition and combine ections up to 10 in different ways, representing these numbers. Students represent practical situations that plve quantifying, equal sharing, adding to and taking ay from collections to at least 10. They copy and tinue repeating patterns.

dents identify the attributes of mass, capacity, length duration, and use direct comparison strategies to pare objects and events. They sequence and nect familiar events to the time of day. Students ne, create and sort familiar shapes and give their soning. They describe the position and the location of mselves and objects in relation to other objects and ople within a familiar space.

dents collect, sort and compare data in response to stions in familiar contexts.

nsensus:

er to QCAA moderation advice on the QCAA website ler the Assessment tab in the learning area.

Content descriptions		Units			Content descriptions		Un	its		Content descriptions		Units			
Number	1	2	3	4	Algebra	1	2	3	4	Measurement	1	2	3	4	
represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies AC9MFN05															
represent practical situations that involve equal sharing and grouping with physical and virtual materials and use counting or subitising strategies AC9MFN06															

Content descriptions		Un	iits		Content descriptions	Units					
Space	1	2	3	4	Statistics	1	2	3	4		
sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons AC9MFSP01			V		collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations AC9MFST01			V			
describe the position and location of themselves and objects in relation to other people and objects within a familiar space AC9MFSP02				V							

General capabilities	Units							
	1	2	3	4				
Critical and creative thinking	V	V	V	V				
Digital literacy								
Ethical understanding								
Intercultural understanding								
Literacy	V	V		V				
Numeracy	V	V	V	V				
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						

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