CURRICULUM DEVELOPMENT UNIT MATHEMATICS

New Edition 2010

Annual Teaching Guide (ATG)

Japan **O**verseas **C**ooperation **V**olunteers

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Section 2.1

Kindergarten | Term 1

Strands	*Topics*	*Sub Topics*	*Learning Outcomes*	*Lessons*	
Number Concept	General/ Readiness		1. Classify objects into sets, according to shape, size, colour, texture, sound, etc. 2. Describe a set of objects using phrases such as 'large', 'small', 'many', 'few', etc.	3	
	Counting		3. Count in sequence up to 50. 4. Count backwards from 10. 5. Count the number of objects in a set up to 12 objects. 6. Solve problems related to counting operations.	9	2.0 wk
Computation	Addition	Vocabulary	1. Combine two sets of objects, and count the number of objects in the resulting set, with totals up to 9. 2. Describe the set obtained from combining two sets of objects using phrases such as 'larger', 'has more than', etc.	4	
		Representation of addition	3. Use objects to add two numbers, with totals up to 9. 4. Use pictorial representations to add two numbers, with total up to 9. 5. Write number sentences to represent addition. 6. Identify situations in their everyday activities (e.g., games) where they use addition. 7. Create and solve problems involving addition.	14	3.0 wk

Strands	*Topics*	*Sub Topics*	*Learning Outcomes*	*Lessons*	
Statistics	General/ Readiness		1. Classify objects according to selected attributes, e.g., size, colour, shape, texture, sound etc.	4	2.5 wk
	Data Collection	Collecting data through looking	2. Collect simple sets of data in the classroom and school environment, using observation.	11	
		Determining frequency	3. Describe the result of classification and data collection activities.		
			4. Use counting to determine the number of objects in a group.		
Geometry	General/ Readiness		1. Describe the attributes of objects using phrases such as 'round', 'straight', 'flat', 'curved', etc.	4	2.5 wk
	Three-Dimensional Shapes		2. Describe the attributes of three-dimensional shapes using phrases such as 'roll', 'slide', 'stack up', 'flat', 'round', 'curved', etc.	11	
			3. Classify three-dimensional shapes on the basis of their attributes, e.g. shape, size, and function in real life.		
			4. Identify examples of three-dimensional shapes in real life.		
			5. Use three-dimensional shapes to make objects, e.g., a rocket, a house.		
Measurement	Linear Measurement	Vocabulary for length, height, and distance	1. Describe the length of objects using phrases such as 'short', 'long', 'wide', etc.	14	3.0 wk
			2. Compare lengths of objects using phrases such as 'longer than', 'shorter than', 'wider than', etc.		
			3. Describe heights of objects using phrases such as 'tall', 'short'.		
			4. Compare the heights of objects using phrases such as 'taller than', 'shorter than', etc.		
			5. Describe distances using phrases such as 'short', 'long', 'far away', 'nearby', etc.		
			6. Compare distances using phrases such as 'shorter', 'longer', 'closer', 'further', etc		
	Mass		7. Describe the mass of objects as heavy, light, very light, etc.	4	
			8. Compare the mass of objects, using phrases such as 'heavier than', 'lighter than', 'as heavy as', etc.		

Section 2.2

Kindergarten | Term 2

Strands	*Topics*	*Sub Topics*	*Learning Outcomes*	*Lessons*	
Number Concepts	Whole Numbers	Representation of numbers	7. Read and identify the numbers 0 to 12.	12	2.0 wk
			8. Write the correct numeral to indicate the number of objects in a set.		
			9. Write numbers from zero to twelve in words.		
		Making and comparing sets	10. Make sets of up to 12 objects.		
			11. Identify sets that are equal in number but arranged differently.		
			12. Draw a variety of arrangements to represent a set of a given size.		
			13. Make a set that has the same number of objects as a given set.		
			14. Make a set that has one more object than a given set.		
			15. Compare the number of objects in two sets, using 1-1 correspondence.		
Computation	Subtraction	Vocabulary	8. Separate a set of objects by taking away a given quantity of objects.	15	2.5 wk
			9. Describe the resulting set obtained after the separation of a set , using phrases such as 'has less than'.		
		Representation of subtraction	10. Use objects to subtract one number from another, with both numbers being less than or equal to 9.		
			11. Use pictorial representations to subtract one number from another, with both numbers being less than or equal to 9.		
			12. Write number sentences to represent subtraction.		
			13. Identify situations in their everyday activities (e.g., sharing sweets) where they use subtraction.		
			14. Create and solve simple problems involving subtraction.		

Strands	*Topics*	*Sub Topics*	*Learning Outcomes*	*Lessons*	
Statistics	Data Representation	Recording data using words and objects	5. Use simple statements to record and represent data, e.g., 'John has four marbles'. 6. Represent data graphically using objects, e.g. picture cutouts, blocks.	9	1.5 wk
Geometry	Plane Shapes	Two-dimensional shapes	6. Describe the attributes of two-dimensional shapes. 7. Classify two-dimensional shapes on the basis of their attributes, e.g., shape and size. 8. Identify objects in real life that are made up of two dimensional shapes. 9. Use cutouts of two-dimensional shapes to make patterns and pictures.	12	2.0 wk
Measurement	Capacity		9. Describe the capacity of containers using phrases such as 'holds a lot', 'holds a little', etc. 10. Compare the capacity of containers using phrases such as ' holds more than', 'holds the same as', etc.	4	2.0 wk
	Use of non-standard units	Estimation	11. Estimate the length, mass, and capacity of objects using non-standard units.	8	
		Measurement	12. Measure the length, mass and capacity of objects using non-standard units. 13. Solve problems involving the estimation and measurement of length, mass, and capacity using non-standard units.		

Section 2.3

Kindergarten | Term 3

Strands	Topics	Sub Topics	Learning Outcomes	Lessons	
Number Concepts	Whole Numbers	Comparing sets	16. Compare the number of objects in sets of up to 12 objects using phrases such as 'same number as', 'equal to', 'more than', 'less than', 'one more than', etc. 17. Compare the number of objects in two sets with up to 12 objects using the symbols '=' and '>'.	12	2.5 wk
		Ordinal numbers	18. Identify the position of an object in an ordinal arrangement of up to 5 objects.		
	Introduction to the Calculator		19. Describe physical features of a simple calculator e.g. the keys, the display area. 20. Use calculators to investigate counting operations.	3	
Computation	Use of the Calculator		15. Identify the keys for addition and subtraction on their calculators. 16. Explain how to use the calculator to add or subtract two numbers.	3	0.5 wk
Statistics	Data Interpretation	Use of comparative terms related to quantity	7. Compare data using phrases such as 'more than' 'less than' 'one more than', 'the same as', 'the most' etc.	9	1.5 wk

Strands	*Topics*	*Sub Topics*	*Learning Outcomes*	*Lessons*	
Geometry	Plane Shapes	Spatial relationships	10. Trace two-dimensional shapes. 11. Identify rectangles and circles by names. 12. Describe the relative position of objects using relationships such as 'above', 'below', 'in', 'on', ' outside', 'inside', etc.	12	2.0 wk
Measurement	Time	Vocabulary	14. Use time vocabulary appropriately; e.g., today, yesterday, tomorrow, morning, afternoon, etc.	14	3.5 wk
		Days of the week	15. Name the days of the week. 16. Identify the current day, 'Today is…'. 17. Identify the day corresponding to tomorrow or yesterday given the current day.		
		Months of the year	18. Identify the current month. 19. State the month in which they were born. 20. Tell time on the hour.		
		Time on the hour	21. Represent time on the hour on an actual or model clock. 22. Represent the time for events that occur on the hour, using an actual or model clock.		
	Money	Features of coins	23. Describe the 1 cent, 2 cent, 5 cent coins. 24. Identify the 1 cent, 2 cent, and 5 cent coins.	7	
		Representation of amounts of money	25. Represent 2 cents and 5 cents in different ways using coins and drawings. 26. Find the total value of a set of coins up to a total of 5 cents.		