

Maths Scope and Sequence

Mathematics Scope and Sequence Document Last Updated August 2013. SM

EY 3 - Data Handling

Overall expectations - Phase 1

Learners will develop an understanding of how the collection and organization of information helps to make sense of the world. They will sort, describe and label objects by attributes and represent information in graphs including pictographs and tally marks. The learners will discuss chance in daily events.

	Conceptual understandings FROM IBS&S Phase 1	Learning Outcomes. Learners: FROM IBS&S Phase 1	Specific Expectations Learners:	A = Assessed at this grade level E = Explored at this grade level	Which Unit?
Statistics	We collect information to make sense of the world around us. Organizing objects and events helps us to solve problems.	<p><u>When constructing meaning learners:</u></p> <ul style="list-style-type: none"> - understand that sets can be organized by different attributes - understand that information about themselves and their surroundings can be obtained in different ways <p><u>When transferring meaning into symbols learners:</u></p> <ul style="list-style-type: none"> - represent information through pictographs and tally marks - sort and label real objects by attributes. <p><u>When applying with understanding learners:</u></p> <ul style="list-style-type: none"> - create pictographs and tally marks with support - create living graphs using real objects and people - describe real objects and events by attributes. -interpret data to determine using terms more, less, same as 	Sort and label real-life objects into sets by attributes	A	
			With a teacher, or as a group, create a graph of real-life objects	E	
			Develop an understanding of the language associated by data handling: same as, least, most	E	

EY 3 - Measurement

Overall expectations - Phase 1

Learners will develop an understanding of how measurement involves the comparison of objects and the ordering and sequencing of events. They will be able to identify, compare and describe attributes of real objects as well as describe and sequence familiar events in their daily routine.

Conceptual understandings	Learning Outcomes. Learners:	Specific Expectations Learners:	A = Assessed at this grade level E = Explored at this grade level	Which Unit?
Measurement involves comparing objects and events. Objects have attributes that can be measured using non-standard units. Events can be ordered and sequenced.	<p><u>When constructing meaning learners:</u></p> <ul style="list-style-type: none"> - understand that attributes of real objects can be compared and described, for example, longer, shorter, heavier, empty, full, hotter, colder - understand that events in daily routines can be described and sequenced, for example, before, after, bedtime, storytime, today, tomorrow. <p><u>When transferring meaning into symbols learners:</u></p> <ul style="list-style-type: none"> - identify, compare and describe attributes of real objects, for example, longer, shorter, heavier, empty, full, hotter, colder - compare the length, mass and capacity of objects using nonstandard units - identify, describe and sequence events in their daily routine, for example, before, after, bedtime, storytime, today, tomorrow. <p><u>When applying with understanding learners:</u></p> <ul style="list-style-type: none"> - describe observations about events and objects in real-life situations - use non-standard units of measurement to solve problems in real-life situations involving length, mass and capacity. 	Identify, compare and sequence events in their daily routine: Before, after, bedtime, story time, today, tomorrow Use the calendar to explore the sequence of the days of the week and months of the year.	E E	

EY 3 - Shape and Space

Overall expectations - Phase 1

Learners will understand that shapes have characteristics that can be described and compared. They will understand and use common language to describe paths, regions and boundaries of their immediate environment.

Conceptual understandings	Learning Outcomes. Learners:	Specific Expectations Learners:	A= Assessed at this grade level E = Explored at this grade level	Which Unit?
<p>Shapes can be described and organized according to their properties.</p> <p>Objects in our immediate environment have a position in space that can be described according to a point of reference.</p>	<p><u>When constructing meaning</u> learners:</p> <ul style="list-style-type: none"> - understand that 2D and 3D shapes have characteristics that can be described and compared - understand that common language can be used to describe position and direction, for example, inside, outside, above, below, next to, behind, in front of, up, down. <p><u>When transferring meaning into symbols</u> learners:</p> <ul style="list-style-type: none"> - sort, describe and compare 3D shapes - describe position and direction, for example, inside, outside, above, below, next to, behind, in front of, up, down. <p><u>When applying with understanding</u> learners:</p> <ul style="list-style-type: none"> - explore and describe the paths, regions and boundaries of their immediate environment (inside, outside, above, below) and their position (next to, behind, in front of, up, down). 	<p>Sort and identify (point to shape when prompted or independently name): triangle, square, circle, rectangle, heart, star</p> <p>Describe the following shapes: triangle, square, circle, rectangle</p> <p>Compare more complex 2-D shapes: triangles, squares, circles, rectangles, hearts, stars</p>	<p>A</p> <p>A</p> <p>E</p>	

EY 3 - Pattern and Function

Overall expectations - Phase 1

Learners will understand that patterns and sequences occur in everyday situations. They will be able to identify, describe, extend and create patterns in various ways.

Conceptual understandings	Learning Outcomes. Learners:	Specific Expectations Learners:	A = Assessed at this grade level E = Explored at this grade level		Which Unit?
<p>Patterns and sequences occur in everyday situations.</p> <p>Patterns repeat and grow.</p>	<p><u>When constructing meaning learners:</u></p> <ul style="list-style-type: none"> - understand that patterns can be found in everyday situations, for example, sounds, actions, objects, nature. <p><u>When transferring meaning into symbols learners:</u></p> <ul style="list-style-type: none"> - describe patterns in various ways, for example, using words, drawings, symbols, materials, actions, numbers. <p><u>When applying with understanding learners:</u></p> <ul style="list-style-type: none"> - extend and create patterns. 	Find and describe simple patterns		A	
		Create simple patterns using real objects		A	

EY 3 - Number

Overall expectations – Phase 1

Learners will understand that numbers are used for many different purposes in the real world. They will develop an understanding of one-to-one correspondence and conservation of number, and be able to count and use number words and numerals to represent quantities.

Conceptual understandings	Learning Outcomes. Learners:	Specific Expectations Learners:	A = Assessed at this grade level E = Explored at this grade level	Which Unit?
<p>Numbers are a naming system.</p> <p>Numbers can be used in many ways for different purposes in the real world.</p> <p>Numbers are connected to each other through a variety of relationships.</p> <p>Making connections between our experiences with number can help us to develop number sense.</p>	<p><u>When constructing meaning learners:</u></p> <ul style="list-style-type: none"> - understand one-to-one correspondence - understand that, for a set of objects, the number name of the last object counted describes the quantity of the whole set - understand that numbers can be constructed in multiple ways, for example, by combining and partitioning - understand conservation of number* - understand the relative magnitude of whole numbers - recognize groups of zero to five objects without counting (subitizing) - understand whole-part relationships - use the language of mathematics to compare quantities, for example, more, less, first, second. <p><u>When transferring meaning into symbols learners:</u></p> <ul style="list-style-type: none"> - connect number names and numerals to the quantities they represent. <p><u>When applying with understanding learners:</u></p> <ul style="list-style-type: none"> - count to determine the number of objects in a set - use number words and numerals to represent quantities in real-life situations - use the language of mathematics to compare quantities in real-life situations, for example, more, less, first, second - subitize in real-life situations - use simple fraction names in real-life situations. 	Recognize and model numbers to 10	E	
		Use the language of mathematics: more, less, number names	E	
		Tell what 1 more or less is for any quantity up to 10, using manipulatives	E	
		Count, compare and order numbers to 10	E	
		Use 1-1 correspondence up to 10	A	

EY 4 - Measurement

Overall expectations - Phase 1

Learners will develop an understanding of how measurement involves the comparison of objects and the ordering and sequencing of events. They will be able to identify, compare and describe attributes of real objects as well as describe and sequence familiar events in their daily routine.

Conceptual understandings	Learning Outcomes. Learners:	Specific Expectations Learners:	A = Assessed at this grade level E = Explored at this grade level	Which Unit?
<p>Measurement involves comparing objects and events.</p> <p>Objects have attributes that can be measured using non-standard units.</p> <p>Events can be ordered and sequenced.</p>	<p><u>When constructing meaning learners:</u></p> <ul style="list-style-type: none"> - understand that attributes of real objects can be compared and described, for example, longer, shorter, heavier, empty, full, hotter, colder - understand that events in daily routines can be described and sequenced, for example, before, after, bedtime, storytime, today, tomorrow. 	<p>Identify, describe and compare objects using direct comparisons or nonstandard units of measure, according to one or more of the following attributes: length (shorter/shortest, longer/longest), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder), volume (empty/emptier/emptiest, full/fuller/fullest)</p>	E	
		<p>Estimate, measure, label and compare using non-standard units of measurement: length, volume, mass, area</p>	E	
	<p><u>When transferring meaning into symbols learners:</u></p> <ul style="list-style-type: none"> - identify, compare and describe attributes of real objects, for example, longer, shorter, heavier, empty, full, hotter, colder - compare the length, mass and capacity of objects using nonstandard units - identify, describe and sequence events in their daily routine, for example, before, after, bedtime, storytime, today, tomorrow. 	<p>Identify, compare and sequence events in their daily routine: before, after, bedtime, story time, today, tomorrow, daily procedures: dressing/undressing, day, morning, afternoon, evening, night using sequential pictures of up to 4 events</p>	A	
	<p><u>When applying with understanding learners:</u></p> <ul style="list-style-type: none"> - describe observations about events and objects in real-life situations - use non-standard units of measurement to solve problems in real-life situations involving length, mass and capacity. 	<p>Use the calendar to determine the sequence of days of the week, months of the year, and seasons</p>	E	

EY 4 - Shape and Space

Overall expectations - Phase 1

Learners will understand that shapes have characteristics that can be described and compared. They will understand and use common language to describe paths, regions and boundaries of their immediate environment.

Conceptual understandings	Learning Outcomes. Learners:	Specific Expectations Learners:	A = Assessed at this grade level E = Explored at this grade level	Which Unit?
<p>Shapes can be described and organized according to their properties.</p> <p>Objects in our immediate environment have a position in space that can be described according to a point of reference.</p>	<p><u>When constructing meaning learners:</u></p> <ul style="list-style-type: none"> - understand that 2D and 3D shapes have characteristics that can be described and compared - understand that common language can be used to describe position and direction, for example, inside, outside, above, below, next to, behind, in front of, up, down. <p><u>When transferring meaning into symbols learners:</u></p> <ul style="list-style-type: none"> - sort, describe and compare 3D shapes - describe position and direction, for example, inside, outside, above, below, next to, behind, in front of, up, down. <p><u>When applying with understanding learners:</u></p> <ul style="list-style-type: none"> - explore and describe the paths, regions and boundaries of their immediate environment (inside, outside, above, below) and their position (next to, behind, in front of, up, down). 	Recognize, name and discuss 2-D shapes in the environment: Circle, square, triangle, rectangle, heart, star, oval, rhombus	A	
		Sort, describe and compare 2-D shapes according to attributes of form: curved/straight lines, number of sides	E	
		Experiment with various 2-D and 3-D shapes, using them to make pictures and build various constructions	E	
		Give and follow simple directions, of their immediate environment and their position: left, right, forward and backward, above, below, next to, in between, under, over, through, around, behind, inside, in front of.	E	
		Use trial and error to complete simple puzzles, rotation, flipping and sliding pieces so that they will fit	E	

EY 4 - Pattern and Function

Overall expectations - Phase 1

Learners will understand that patterns and sequences occur in everyday situations. They will be able to identify, describe, extend and create patterns in various ways.

Conceptual understandings	Learning Outcomes. Learners:	Specific Expectations Learners:	A = Assessed at this grade level E = Explored at this grade level	Which Unit?
<p>Patterns and sequences occur in everyday situations.</p> <p>Patterns repeat and grow.</p>	<p><u>When constructing meaning learners:</u> - understand that patterns can be found in everyday situations, for example, sounds, actions, objects, nature.</p> <p><u>When transferring meaning into symbols learners:</u> - describe patterns in various ways, for example, using words, drawings, symbols, materials, actions, numbers.</p> <p><u>When applying with understanding learners:</u> - extend and create patterns.</p>	<p>Identify and create simple patterns made with colors, shapes, objects, actions, using up to 2 attributes</p>		<p>A</p>

EY 4 - Number

Overall expectations – Phase 1

Learners will understand that numbers are used for many different purposes in the real world. They will develop an understanding of one-to-one correspondence and conservation of number, and be able to count and use number words and numerals to represent quantities.

Conceptual understandings	Learning Outcomes. Learners:	Specific Expectations Learners:	A = Assessed at this grade level E = Explored at this grade level	Which Unit?
<p>Numbers are a naming system.</p> <p>Numbers can be used in many ways for different purposes in the real world.</p> <p>Numbers are connected to each other through a variety of relationships.</p> <p>Making connections between our experiences with number can help us to develop number sense.</p>	<p><u>When constructing meaning learners:</u></p> <ul style="list-style-type: none"> - understand one-to-one correspondence - understand that, for a set of objects, the number name of the last object counted describes the quantity of the whole set - understand that numbers can be constructed in multiple ways, for example, by combining and partitioning - understand conservation of number* - understand the relative magnitude of whole numbers - recognize groups of zero to five objects without counting (subitizing) - understand whole-part relationships - use the language of mathematics to compare quantities, for example, more, less, first, second. <p><u>When transferring meaning into symbols learners:</u></p> <ul style="list-style-type: none"> - connect number names and numerals to the quantities they represent. <p><u>When applying with understanding learners:</u></p> <ul style="list-style-type: none"> - count to determine the number of objects in a set - use number words and numerals to represent quantities in real-life situations - use the language of mathematics to compare quantities in real-life situations, for example, more, less, first, second - subitize in real-life situations - use simple fraction names in real-life situations. 	Read, write, and model numbers to 12	A	
		Write numbers to 10	E	
		Use 1:1 correspondence to 10	A	
		Use the language of mathematics: more, less, number names	A	
		Tell what 1 more or 1 less is for any quantity to 10, using manipulatives	A	
		Use manipulatives and/or role play to represent number stories in which two quantities are combined or separated	E	
		Estimate quantities to 10	E	
		Explore the concept of sharing a group of objects fairly	E	
Explore addition using number stories and manipulatives (up to sums of 10)	E			