Grade: Kindergarten

Module: 2

Title: We Are All Set!

Date:

Source: Adapted from Erickson, 2008.

Grade Level: Kindergarten



Source: Adapted from Erickson, 2008.

Module Title:

Conceptual Lens: Relationships

Module Overview:

In Module 2, students continue to count out objects into sets as they compare the quantities represented by sets of objects and numerals. They will build a foundation for place value as they compose and decompose teen numbers into sets of ten ones and some further ones and write numbers through twenty. Students will model simple joining and separating situations as they begin to explore addition and subtraction concepts. They will also describe the physical world around them as they use simple shapes to construct more complex shapes and describe their relative position in space.

Technology Integration:

Teachers should be proficient utilizing interactive whiteboard technology and internet resources such as ThinkCentral and other websites that provide interactive math tools. Also, teachers should demonstrate knowledge of administering online testing, interpreting data, and selecting computer based activities for students.

Standards addressed in this module:

New	K.OA.1	K.OA.2	K.OA.3	K.OA.5				
	K.G.4	K.G.5	K.G.6					
	K.NBT.1							
Repeat	K.CC.1	K.CC.2	K.CC.3	K.CC.4	K.CC.5	K.CC.6	K.CC.7	
	K.MD.3							

Mathematical Practices addressed in this module:

- 1. Make sense of problems and persevere in solving them.
- 2. Reason abstractly and quantitatively.
- 3. Construct viable arguments and critique the reasoning of others.
- 4. Model with mathematics.
- 5. Use appropriate tools strategically.
- 6. Attend to precision.
- 7. Look for and make use of structure.
- 8. Look for and express regularity in repeated reasoning.

Source: Adapted from Erickson, 2008.

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Generalizations	Guiding Questions
	(F = factual; C = conceptual; P = philosophical)
1.Sets of concrete objects, pictures, and numerals can be used to compare two numbers. (N,)	How can I name these sets with a number/numeral? (F) What numeral can you write to represent the number shown by this set? (F) What number does this set represent? (F) How can you compare the quantities represented by these two sets? (C) What does a set represent? (C) How can you use counters to determine which of these numerals is greater/less? (C) How can I represent/show these sets using (numerals/drawings)? (C) Where do you see objects in a set in the real world? (P)
2. Discrete objects, words, pictorial representations, and numerals represent numbers. (N)	What does a set with zero objects look like? (C)What number does this represent? (F)How can numbers be represented?(C)How many objects are in this set? (F)How can we record what we count? (C)How can we show numbers in different ways? (C)How do we use numbers every day? (P)What do numbers mean to us? (P)What is a numeral?(C)Why are numbers important? (P)
3.Teen numbers can be represented as a group of ten ones and some more ones. (N)	How can you make a group of ten ones and some more ones? (C) How can this number be represented? (F) How many groups of ten do you have and how many extras? (F) How many more do you need to make 20? (F) What is an efficient strategy for counting teen numbers? (C) What did you notice about the number and the number of left overs? (C) What is an efficient way to count an amount greater than ten? (C) How can we use these counters to make this number? (C)
4. Addition represents an Add To or Put Together process. (N, A,)	How can I find the total when I join two quantities together? (C) What happens when I join quantities together? (C) How can I represent problem situations using objects, pictures, and numbers? (C) How does the order of addends change the total? (C) How can I use models to represent addition situations? (C) How can we use a five frame to help me with addition situations? (C) What is the difference between more and less? (C)
5. Subtraction represents a Take From process. (N, Sb,)	How can I find what is left over when I take a quantity away? (C) How can I represent problems using objects, pictures, and numbers? (C) What happens when some objects are taking away from a set of objects? (C) How can I represent problem situations using objects, pictures, and numbers? (C) How can I use models to represent subtraction situations? (C) How can we use a five frame to help me with subtraction situations? (C)
6. A number value can be flexibly composed and decomposed. (N)	How many different ways can you make this number? (F) How can numbers be represented? (C) How many ways can you can you show 6? (F)

Source: Adapted from Erickson, 2008.

Generalizations	Guiding Questions
7. Simple shapes can be used to compose more complex shapes and complex shapes can be decomposed into simpler shapes. (G)	(F = factual; C = conceptual; P = philosophical) How can these two triangles be used to create another shape? (C) What shapes make up the larger shape? (F) Where can we find shapes in real world situations? How do we use shapes in school? (C) What other shapes can be used to make a square?(F) What makes shapes different from each other? (C)
8. Effective mathematicians utilize appropriate tools, models, and strategies to solve problems and justify solutions. (N, Sb, A, G)	How can I use these blocks to represent the number? (C) How can you prove that this represents the number? (C) What number does this ten-frame represent? (F)

	2013-2014
Critical Content	Key Skills
What Students Will Know	What Students Will Be Able to Do
Number	New Standards
• Use visualization to subitize parts of	
whole numbers: (perceptual then	K.OA.1
conceptual)	Represent addition and subtraction with objects, fingers, mental
Compare numbers	explanations, expressions, or equations
Uses than	explainations, expressions, or equations.
Represent teen numbers	K.OA.2.
• Write numbers 0 to 20	Solve addition and subtraction word problems, and add and subtract
	within 10, e.g., by using objects or drawings to represent the problem.
	K.OA.3.
Addition	Decompose numbers less than or equal to 10 into pairs in more
 Draw joining sets representing 	than one way, e.g., by using objects or drawings, and record each
equations.	decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).
	K.OA.5.
Subtraction	Fluently add and subtract within 5.
Separate total to create sets.	V NDT 1
• Draw Take From pictures to represent	Compose and decompose numbers from 11 to 19 into ten ones and some
equations.	further ones, e.g., by using objects or drawings, and record each
	composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$);
Geometry	understand that these numbers are composed by ten ones and one, two,
shapes.	three, four, five, six, even, eight, or nine ones.
• Decompose complex shapes into simpler	K.G.5.
shapes.	Model shapes in the world by building shapes from components (e.g. sticks,
	clay, toothpicks, marshmallows, gumdrops, straws, etc.) and drawing
	snapes.
	K.G.6.
	Compose simple shapes to form larger shapes. For example, "Can you join these
	two triangles with full sides touching to make a rectangle?"
	Repeat Standards
	V CC 1
	Count to 100 by ones and by tens.
	K.CC.2
	Count forward beginning from a given number within the known sequence
	(instead of having to begin at 1).
	K CC 3
	Write numbers from 0 to 20. Represent a number of objects with a written
	numeral 0-20 (with 0 representing a count of no objects).
	K CC 4

Source: Adapted from Erickson, 2008.

2013-2014				
	Understand the relationship between numbers and quantities; connect counting			
	to cardinality.			
	a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.c. Understand that each successive number name refers to a quantity that is one larger.			
	K.CC.5 Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.			
	K.CC.6Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to ten objects.)			
	K.CC.7 Compare two numbers between 1 and 10 presented as written numerals.			
	K.MD.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)			

		2013 2014		
Suggested	Learning Experiences	Assessments	Differentiation	Resources
Timolino	or of the test	Suggested and*Required	(For Support and	
Timenne		Suggested and Required	(For Support and	
			Extension)_	
	Continue to model counting strategies, along with one-to-	Teacher Observation		
Spiral	one correspondence using concrete objects, pictorial			
throughout	representations and numerals	Math Expressions		
the module	representations, and numerals.	Teacher Assessment Guide		
the module	Madal accepting on to 20 minute a conjute of managements and			
	Model counting up to 20, using a variety of movements and	Formative Assessment.		
	objects to represent oral counting.	Check Understanding(Included		
		in each lesson)		
	Continue to model the relationship between quantities and	Quick Quizzes		
	written numerals. Begin with relating the written numeral			
	to concrete models. Then move to relating the written	Unit Tests		
	numeral to pictorial representations.			
	· · · · · · · · · · · · · · · · · · ·			
	Students count a set of objects and match the quantity to a			
	written numeral			
	written numeral.			
	Continue to write and represent numbers 0-20.			
	Sort and classify shapes by attributes.			
	Students relate one shape to another as they note similarities			
	and differences between and among them.			
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Source: Adapted from Erickson, 2008.

		2015 2014		_
Suggested	Learning Experiences	Assessments	Differentiation	Resources
Timeline		Suggested and*Required	(For Support and	
			Extension)	
	Model counting by tens using pictorial representations		Math Expressions:	Grade K Unpacked Standards
Days 1-5	and finally rote counting. (G: 2)	Teacher Observation	Unit 3 and 5	
				Math Expressions Common
	Model counting by tens using ten frames.	Math Expressions	Refer to Differentiated	Core: Unit 3
		Teacher Assessment Guide	<i>Instruction</i> pages in T.E. or	
	Use a hundred's chart as students skip count by ten.	Formative Assessment:	on Think Central	Think Central: (Tools (Primary):
	Use music peems, rhymes or literature to enhance rote	in each lasson)	PTI Tiar 1.2.3 Plackling	Number Charts
	counting by tens	in euch lesson)	Masters	Number Charts
	counting by tens.	Ouick Ouizzes	Widsters	Hands-On Standards Common
	Model rote counting by tens during transitions.	2	Differentiated Instruction	Core
		Unit Tests	Cards	
				www.dreamboxlearning.com
				Waterbury Public School
				Elementary Math Resources
				Module 2 Supplemental Lessons

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		2013-2014		
Suggested	Learning Experiences	Assessments	Differentiation	Resources
Timeline		Suggested and*Required	(For Support and	
			Extension)	
	Use matching or counting strategies to determine	Teacher Observation	Refer to Differentiated	Grade K Unpacked Standards
Days 6-15	whether a set of objects is greater than, less than, or		Instruction pages in T.E. or	· · · · · · · · · · · · · · · · · · ·
	equal to another set of objects. Then move to comparing	Math Expressions	on Think Central	Math Expressions Common
	two numbers between 1 and 10 presented as written	Teacher Assessment Guide		Core: Unit 4
	numerals. (G: 1, 2)	Formative Assessment:	RTI- Tier 1,2,3 Blackline	
		Check Understanding(Included	Masters	Think Central: iTools (Primary):
	Model using teddy bears, dominoes, base ten block units,	in each lesson)		Counters, Base-Ten Blocks,
	dice etc.		Differentiated Instruction	Number Charts
		Quick Quizzes	Cards	
	Use drawings or dot cards to identify and compare groups.			Hands-On Standards Common
		Unit Tests		Core
	Use number tiles, number cards, number charts etc. to			descendes descendes services
	compare numerals between 1 and 10.			www.dreamboxlearning.com
				Module 2 Supplemental Lessons
				Module 2 Supplemental Lessons

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Suggested Timeline	Learning Experiences	Assessments Suggested and*Required	Differentiation (For Support and	Resources
Days 16-30	Represent and solve addition and subtraction stories within5 (then 10), using objects and drawings. (G:4, 5)Apply partners strategies to solve addition situations.Students demonstrate the understanding of how objects can be joined (addition) and separated (subtraction) by representing addition and subtraction situations in various ways.Add To: 7 children are playing in the park. 2 children joined them. How many children are playing in the park? $7 + 2 = \Box$ Take From: 9 children are playing in the park? 7 children go home. How many children are in the park now? $9 - 7 = \Box$ *Before introducing symbols (+, -, =) and equations, kindergarteners require numerous experiences using joining (addition) and separating (subtraction) vocabulary in order to attach meaning to the various symbols. For example, when explaining a solution, kindergartens may state, 	Teacher Observation <u>Math Expressions</u> Teacher Assessment Guide <i>Formative Assessment:</i> <i>Check Understanding(Included</i> <i>in each lesson)</i> <i>Quick Quizzes</i> <i>Unit Tests</i>	Extension) Refer to Differentiated Instruction pages in T.E. or on Think Central RTI- Tier 1,2,3 Blackline Masters Differentiated Instruction Cards	Grade K Unpacked Standards <u>Math Expressions Common</u> <u>Core:</u> Unit 2, 3, Think Central: iTools (Primary): Counters, Base-Ten Blocks, Number Charts <u>Hands-On Standards Common</u> <u>Core</u> <u>www.dreamboxlearning.com</u> Module 2 Supplemental Lessons

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Suggested	Learning Experiences	Assessments	Differentiation	Resources
Timeline		Suggested and*Required	(For Support and	
			Extension)	
Days 31-40	Represent and solve addition and subtraction within 5	Teacher Observation	Refer to Differentiated	Grade K Unpacked Standards
	(then 10), using equations.		Instruction pages in T.E.	
	(G:4, 5)	Math Expressions	or on Think Central	Math Expressions Common
		Teacher Assessment Guide		<u>Core:</u> Unit 2, 3,
		Formative Assessment:	RTI- Tier 1,2,3	
	Relate sets of counters, teddy bears, snap cubes pictures etc. to	Check Understanding(Included	Blackline Masters	Think Central: iTools (Primary):
	solve addition and subtraction equations.	in each lesson)		Counters, Base-Ten Blocks,
			Differentiated	Number Charts
		Quick Quizzes	Instruction Cards	
				Hands-On Standards Common
		Unit Tests		Core
	Use circle drawings to model addition and subtraction			
	equations.			www.dreamboxlearning.com
				Module 2 Supplemental Lessons

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Suggested Timeline	Learning Experiences	Assessments Suggested and*Required	Differentiation (For Support and	Resources
Days 41-50	Represent teen numbers as ten ones and some more ones. (G: 3, 6) Keeping each count as a single unit, kindergarteners use 10 objects to represent "10" rather than creating a unit called a ten (<i>unitizing</i>) : 10 can be thought of as a bundle of ten ones - called a "ten." 1 2 3 4 5 4 5 6 9 9 0 9 7 14 = 10 ones and 4 more ones Use counters, teddy bears, and number cards to represent teen numbers. Children count a teen number of objects, then group 10 objects as ten ones and see how many more ones are in the number. Student leaders point to each teen number on Number Pattern Poster and class shows the tens and ones with their fingers. Create drawings to represent teen numbers.	Teacher Observation <u>Math Expressions</u> Teacher Assessment Guide Formative Assessment: Check Understanding(Included in each lesson) Quick Quizzes Unit Tests	Refer to <i>Differentiated</i> <i>Instruction</i> pages in T.E. or on <i>Think Central</i> RTI- Tier 1,2,3 Blackline Masters Differentiated Instruction Cards	Grade K Unpacked StandardsMath Expressions Common Core: Unit 3, 4, and 5Think Central: iTools (Primary): Counters, Base-Ten Blocks, Number ChartsHands-On Standards Common Corewww.dreamboxlearning.comModule 2 Supplemental Lessons

Source: Adapted from Erickson, 2008.

Suggested	Learning Experiences	Assessments	Differentiation	Resources
Timeline			(For Support and	
		Suggested and*Required	Extension)	
Days 51-60	Compose simple shapes to form larger shapes. (G:7)	Teacher Observation	Refer to Differentiated	Grade K Unpacked Standards
			Instruction pages in T.E.	
	Build shapes from components to model real world shapes	Math Expressions	or on Think Central	Math Expressions Common
	using clay, toothpicks, marshmallows etc	Teacher Assessment Guide		<u>Core:</u> Unit 3, 4 and 5
		Formative Assessment:	RTI- Tier 1,2,3	
	Use pattern blocks and tangrams to put shapes together in	Check Understanding(Included	Blackline Masters	Think Central: 11 ools (Primary):
	different ways to compose a new snape.	in each lesson)	Differentiated	Number Charts
	Work with a partner. Both students use 3 or 4 shapes to make a	Quick Quizzos	Instruction Cards	Number Charts
	new shape. They will conv their partners shape and repeat	Quick Quizzes	Instruction Cards	Hands-On Standards Common
	new shape. They will copy then paralels shape and repeat.	Unit Tests		Core
	Students look for objects their classroom that are made of			
	several shapes put together. Ask them to draw pictures			www.dreamboxlearning.com
	showing some of these objects.			
				Module 2 Supplemental Lessons
		*D (
		*Performance Assessments		

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