Kindergarten Mathematics

Unit 1 Curriculum Map:

September 8th – November 12th

ORANGE PUBLIC SCHOOLS

OFFICE OF CURRICULUM AND INSTRUCTION

OFFICE OF MATHEMATICS

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Unit Overview

Unit 1: Chapters 1, 2, & 3
In this Unit Students will
In Chapters 1 and 2 • learn to read and write numerals 1-10. • investigate how to sort objects using one attribute • look for sameness and differences with such attributes as size, number and color • develop a visual sense of small quantities and relate those quantities to number words • find two groups that have the same number of objects and are in one to one correspondence In Chapter 3 • students will begin to touch, examine, and compare objects to develop awareness of attributes, such as length, size, and weight • Children can see and feel these differences, which leads to comparing and ordering objects based on their attributes.
Essential Questions
➢ What are numbers? ➢ How can we use numbers? ➢ Why do we need to be able to count objects? ➢ How do we know if a number is more or less than another number? ➢ What is sorting? ➢ How can we tell if something is bigger, smaller?
Enduring Understandings
➢ Sorting and counting to analyze data ➢ understanding numbers ➢ subitizing a small group of objects ➢ counting while developing a visual meaning of number ➢ look a larger group of objects and estimate about how many objects are in the group ➢ reason abstractly and quantitatively ➢ model with mathematics ➢ use appropriate tools strategically ➢ attend to precision

Common Core State Standards	
K.CC.3	Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects)

- write the numerals 0-20
- use the written numerals 0-20 to represent the amount within a set.

Example: if the student has counted 9 objects, then the written numeral "9" is recorded.

- Students can record the quantity of a set by selecting a number card/tile (numeral recognition) or writing the numeral.
- Students can also create a set of objects based on the numeral presented.

Example: if a student picks up the number card "13", the student then creates a pile of 13 counters. While children may experiment with writing numbers beyond 20, this standard places emphasis on numbers 0-20.

********Due to varied development of fine motor and visual development, reversal of numerals is anticipated. While reversals should be pointed out to students and correct formation modeled in instruction, the emphasis of this standard is on the use of numerals to represent quantities rather than the correct handwriting formation of the actual numeral itself.*********

K.CC.4a	When counting objects, say the number of 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.

- implement correct counting procedures by pointing to one object at a time (one-to-one correspondence)
- Use one counting word for every object (synchrony/ one-to-one tagging)
- Keep track of objects that have and have not been counted. This is the foundation of counting.

K.CC.4b	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

- answer the question "How many are there?" by counting objects in a set and understanding that the last number stated when counting a set (...8, 9, 10) represents the total amount of objects:

EXAMPLE "There are 10 bears in this pile." (cardinality).

- understanding that numbers build by exactly one each time and that they nest within each other by this amount.

EXAMPLE a set of three objects is nested within a set of 4 objects; within this same set of 4 objects is also a set of two objects and a set of one. Using this understanding, if a student has four objects and wants to have 5 objects, the student is able to add one more- knowing that four is within, or a sub-part of, 5 (rather than removing all 4 objects and starting over to make a new set of 5).

- Students are asked to understand this concept with and without (0-20) objects.

EXAMPLE after counting a set of 8 objects, students answer the question, "How many would there be if we added one more object?"; and answer a similar question when not using objects, by asking hypothetically, "What if we have 5 cubes and added one more. How many cubes would there be then?"

K.CC.5	Count to tell the number of objects. 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.

- In order to answer “how many?” students need to keep track of objects when counting
- After numerous experiences with counting objects, along with the developmental understanding that a group of objects counted multiple times will remain the same amount, students recognize the need for keeping track in order to accurately determine “how many”.
- Depending on the amount of objects to be counted, and the students’ confidence with counting a set of objects, students may move the objects as they count each, point to each object as counted, look without touching when counting, or use a combination of these strategies. It is important that children develop a strategy that makes sense to them based on the realization that keeping track is important in order to get an accurate count, as opposed to following a rule, such as “Line them all up before you count”, in order to get the right answer.
- Some arrangements, such as a line or rectangular array, are easier for them to get the correct answer but may limit their flexibility with developing meaningful tracking strategies,
- Providing multiple arrangements help children learn how to keep track. Since scattered arrangements are the most challenging for students, this standard specifies that students only count up to 10 objects in a scattered arrangement and count up to 20 objects in a line, rectangular array, or circle.

K.MD.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

- Students describe measurable attributes of objects, such as length, weight, size, and color.
- EXAMPLE a student may describe a shoe with one attribute, “Look! My shoe is blue, too!”, or more than one attribute, “This shoe is heavy! It’s also really long.”
- Students often initially hold undifferentiated views of measurable attributes, saying that one object is “bigger” than another whether it is longer, or greater in area, or greater in volume, and so forth.
- EXAMPLE two students might both claim their block building is “the biggest.” Conversations about how they are comparing- one building may be taller (greater in length) and another may have a larger base (greater in area)- help students learn to discriminate and name these measureable attributes. As they discuss these situations and compare objects using different attributes, they learn to distinguish, label, and describe several measureable attributes of a single object.

K.MD.2	Directly compare two objects with a measurable attribute in common, to see which object has ‘more of’/‘less of’ the attribute, and describe the difference

Direct comparisons are made when objects are put next to each other, such as two children, two books, two pencils. For example, a student may line up two blocks and say, "The blue block is a lot longer than the white one." Students are not comparing objects that cannot be moved and lined up next to each other.

Similar to the development of the understanding that keeping track is important to obtain an accurate count, kindergarten students need ample experiences with comparing objects in order to discover the importance of lining up the ends of objects in order to have an accurate measurement.

As this concept develops, children move from the idea that "Sometimes this block is longer than this one and sometimes it's shorter (depending on how I lay them side by side) and that's okay." to the understanding that "This block is always longer than this block (with each end lined up appropriately)." Since this understanding requires conservation of length, a developmental milestone for young children, kindergarteners need multiple experiences measuring a variety of items and discussing findings with one another.

"Sometimes this block is longer and sometimes it is shorter"

"The dark block is always longer than this block"

K.MD.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

- Students identify similarities and differences between objects (e.g., size, color, shape) and use the identified attributes to sort a collection of objects. Once the objects are sorted, the student counts the amount in each set. Once each set is counted, then the student is asked to sort (or group) each of the sets by the amount in each set. Thus, like amounts are grouped together, but not necessarily ordered.
- EXAMPLE, **when exploring a collection of buttons:**
- First, the student separates the buttons into different piles based on color (all the blue buttons are in one pile, all the orange buttons are in a different pile, etc.).
- Then the student counts the number of buttons in each pile: blue (5), green (4), orange (3), purple (4).
- Finally, the student organizes the groups by the quantity. "I put the purple buttons next to the green buttons because purple also had (4). Blue has 5 and orange has 3. There aren't any other colors that have 5 or 3. So they are sitting by themselves."
- This objective helps to build a foundation for data collection in future grades as they create and analyze various graphical representations.

M : Major Content S: Supporting Content A : Additional Content

MIF Lesson Structure

	LESSON STRUCTURE	RESOURCES	COMMENTS
PRE TEST	**Chapter Opener** Assessing Prior Knowledge *The Pre Test serves as a diagnostic test of readiness of the upcoming chapter*	**Teacher Materials** Quick Check Pretest (Assessm't Bk) Recall Prior Knowledge **Student Materials** Student Book (Quick Check); Copy of the Pre Test; Recall prior Knowledge	Recall Prior Knowledge (RPK) can take place just before the pre-tests are given and can take 1-2 days to front load prerequisite understanding Quick Check can be done in concert with the RPK and used to repair student misunderstandings and vocabulary prior to the pre-test ; Students write Quick Check answers on a separate sheet of paper Quick Check and the Pre Test can be done in the same block *(See Anecdotal Checklist; Transition Guide)* Recall Prior Knowledge – Quick Check – Pre Test
DIRECT ENGAGEMENT	**Direct Involvement/Engagement** Teach/Learn *Students are directly involved in making sense, themselves, of the concepts – by interacting the tools, manipulatives, each other, and the questions*	**Teacher Edition** 5-minute warm up Teach; Anchor Task **Technology** Digi **Other** Fluency Practice	• The Warm Up activates prior knowledge for each new lesson • Student Books are CLOSED; Big Book is used in Gr. K • Teacher led; Whole group • Students use concrete manipulatives to explore concepts • A few select parts of the task are explicitly shown, but the majority is addressed through the hands-on, constructivist approach and questioning • Teacher facilitates; Students find the solution
GUIDED LEARNING	**Guided Learning and Practice** Guided Learning	**Teacher Edition** Learn **Technology** Digi **Student Book** Guided Learning Pages Hands-on Activity	Students-already in pairs /small, homogenous ability groups; Teacher circulates between groups; Teacher, anecdotally, captures student thinking **Small Group w/Teacher circulating among groups** Revisit Concrete and Model Drawing; Reteach Teacher spends majority of time with struggling learners; some time with on level, and less time with advanced groups Games and Activities can be done at this time

INDEPENDENT PRACTICE	**Independent Practice** *A formal formative assessment*	**Teacher Edition** Let's Practice **Student Book** Let's Practice **Differentiation Options** All: Workbook Extra Support: Reteach On Level: Extra Practice Advanced: Enrichment	**Let's Practice** determines readiness for Workbook and small group work and is used as formative assessment; Students not ready for the Workbook will use Reteach. The Workbook is continued as Independent Practice. Manipulatives **CAN** be used as a communications tool as needed. Completely Independent On level/advance learners should finish all workbook pages.
ADDITIONAL PRACTICE	**Extending the Lesson**	Math Journal Problem of the Lesson Interactivities Games	
	Lesson Wrap Up	Problem of the Lesson Homework (Workbook , Reteach, or Extra Practice)	Workbook or Extra Practice Homework is only assigned when students fully understand the concepts (as additional practice) Reteach Homework (issued to struggling learners) should be checked the next day
POST TEST	**End of Chapter Wrap Up and Post Test**	**Teacher Edition** Chapter Review/Test Put on Your Thinking Cap **Student Workbook** Put on Your Thinking Cap **Assessment Book** Test Prep	Use Chapter Review/Test as "review" for the End of Chapter Test Prep. Put on your Thinking Cap prepares students for novel questions on the Test Prep; Test Prep is graded/scored. The Chapter Review/Test can be completed • Individually (e.g. for homework) then reviewed in class • As a 'mock test' done in class and doesn't count • As a formal, in class review where teacher walks students through the questions Test Prep is completely independent; scored/graded Put on Your Thinking Cap (green border) serve as a capstone problem and are done just before the Test Prep and should be treated as Direct Engagement. By February, students should be doing the Put on Your Thinking Cap problems on their own.

TRANSITION LESSON STRUCTURE (No more than 2 days)

- **Driven by Pre-test results, Transition Guide**
- **Looks different from the typical daily lesson**

Transition Lesson – Day 1 **Objective:**	
CPA Strategy/Materials	**Ability Groupings/Pairs (by Name)**
Task(s)/Text Resources	**Activity/Description**

MIF Pacing Guide

Activity	Common Core Standards	Estimated Time	Lesson Notes
Pre-Assessment Chapter 1: Numeral Recognition	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	2 days	Pre-Assess student's levels of understanding of concept within this chapter. Students will enter these concepts at different levels. Utilize differentiated center based activities to address student's needs. Recommended Centers: Small Group Instruction: Teacher closely works with struggling learners as Para-Professional supports other centers. Counting Writing Numbers Sorting Matching Differences Technology Based Remember to place emphasis on different spatial arrangements: Linear Rectangular Array Circular Scattered
Lesson 1 - All About 1 and 2 • count groups of 1 and 2 • write the numerals 1 and 2	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Lesson 2 - Finding Matches • match and sort • look for sameness • understand not the same	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Lesson 3 - Not the Same but Different/All About 3 • understand different • sort using a single attribute • count groups of 3 • write the numeral 3	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Lesson 4- Why is This Different? All about 4 • understand differences • count groups of 4 • write the numeral 4	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Lesson 5 - All About 5 • count groups of 5 • write the numeral 5	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Lesson 6 - Spotting Small Differences • spot differences between two pictures • make subtle differences in two pictures	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Chapter 1 Test Authentic Assessment 1: Number Representation	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	3 days	

Pre-Assessment Chapter 2: Numeral Recognition	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	2 days	Pre-Assess student's levels of understanding of concept within this chapter. Students will enter these concepts at different levels. Utilize differentiated center based activities to address student's needs. Recommended Centers: Small Group Instruction: Teacher closely works with struggling learners as Para-Professional supports other centers. Counting Writing Numbers Sorting Matching Differences Technology Based Remember to place emphasis on different spatial arrangements: Linear Rectangular Array Circular Scattered Place heavy emphasis on the meaning of **Zero.**
Lesson 1- All About 6 • count from 1-6 • read and write numerals 1-6	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Lesson 2- All About 7 • count from 1 to 7 • read and write the numerals 1 to 7	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Lesson 3- All About 8 • pair number names with numerals • count from 1 to 8 • read and write the numerals 1 to 8	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	Lesson 60 min. Centers 30 min.	
Lesson 4 - Numbers 0 to 9 • pair number names with numerals • introduce the concept of 0 • use 0 to 9 to tell the number of objects • read and write the numerals 1 to 9	K.CC.2, K.CC.3, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5, K.CC.6	Lesson 60 min. Centers 30 min.	
Lesson 5- Pairing Sets with Numbers • pair up sets of objects with other sets of the same quantity • introduce one more, one less, and the same number	K.CC.3, K.CC.4b, K.CC.6	2 days Lesson 60 min. Centers 30 min.	
Lesson 6- Pairing One-to-One • pair up sets of objects one-to-one with other sets of the same quantity	K.CC.3, K.CC.4a, K.CC.4b, K.CC.6	2 days Lesson 60 min. Centers 30 min.	
Test Chapter 2 Authentic Assessment 2: Number Book	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	3 Days	

Pre-Assessment Chapter 3: Order by Size, Length, or Weight		2 days	Pre-Assess student's levels of understanding of concept within this chapter. Students will enter these concepts at different levels. Utilize differentiated center based activities to address student's needs. Recommended Centers: Small Group Instruction: Teacher closely works with struggling learners as Para-Professional supports other centers. Technology Based Comparing Ordering Lengths Ordering Weights Counting Writing Numbers
Lesson 1- Ordering Things by Size • pair up sets of objects • order objects by size	K.MD.1, K.MD.2, K.MD.3	1 days Lesson 60 min. Centers 30 min.	
Lesson 2- Comparing Sizes • use comparing words • pair up sets of objects	K.MD.1, K.MD.2	2 days Lesson 60 min. Centers 30 min.	
Lesson 3- Ordering Things By Length • order objects according to length	K.MD.1, K.MD.2	2 days Lesson 60 min. Centers 30 min.	
Lesson 4- Ordering Things by Weight • order objects according to weight	K.MD.1, K.MD.2	2 days Lesson 60 min. Centers 30 min.	
Chapter 3 Test		3 days	

Unit 1 Pacing Calendar

SEPTEMBER						
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
		1 PD Day	2 PD Day	3 PD Day	4 PD Day 12:30 Dismis-sal	5
6	7 Labor Day	8 First Day of School for Students	*9* Chapter 1 Numbers to 5	10	11	12
13	14 Administer Baseline Pre Assessment	15 ----------	*16* ----------	17 ----------	*18* ----------	19 >
20	*21*	22	23	24 Department Meeting 12:30 Dismissal	*25*	26
27	28	29	30 Administer Chapter 1 Test			

OCTOBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Chapter 2 Numbers to 10	2	3
4	5	6	7	8	9	10
11	12 Columbus Day- District Closed	13	14	15	16	17
18	19	20	21 Chapter 2 Test Numbers to 10	22 OEA/OASA Meeting 12:30 Dismis-sal	23 Chapter 3 Order by Size, Length, or Weight	24
25	26	27	28	29 12:30 Dismissal Full Day Staff plus 75 minutes	30	31

NOVEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5 NJEA Convention District Closed	6 NJEA Convention District Closed	7
8	9	10	11	12 Adminis-ter Chapter 3 Test	13	14
15	16	17	18	19		21
22	23	24	25	26	27	28
29	30					

Unit 1 Math Background

Counting is a child's entrance into the world of mathematics. It is one of the most important mathematic skills in the Kindergarten curriculum. Many children come to school with a basic understanding of counting and numbers. They can rote count to ten. Look at a small quantity of objects and relate that quantity to a number, and understand the concept of one to one correspondence.

Transition Guide References:

Chapter : 1 Numbers to 5				
Transition Topic: numbers and counting				
Chapter 1 **Authentic Assessment Pre Test**	**Objective**	**Additional Reteach Support**	**Additional Extra Practice Support**	**Teacher Edition Support**
item 1	identify objects that are the same	centers: have children sort manipulatives	p. 3, 4	p. 4, 7
item 2	draw two things that are the same	**Centers:** children will identify shapes that are the same color and size; draw two objects	p. 6, 7, 14, 15	p. 12
item 3	count and write how many	**Centers:** write numbers in shaving cream/bag of gel; calendar, and number of the day	p. 1, 2, 5, 8, 11, 13	p. 22
item 4	spotting small differences in pictures	**Centers:** Show children pictures and ask what they notice that is different	p. 14, 15	p. 28

Chapter : 2 Numbers to 10				
Transition Topic: Counting and Writing Numbers				
Chapter 2 **Authentic Assessment Pre Test**	**Objective**	**Additional Reteach Support**	**Additional Extra Practice Support**	**Teacher Edition Support**
Item 1	identify one more, identify one less	**Centers**: Grab and Count with a partner (one child grabs a handful, then the other) discuss which one grabbed more Top-It with playing cards(the player with the higher number gets the cards) Number Puzzle- Student puts strips of paper in order from 1 - 10 to create a picture abcya.com - Fuzz Bugs	p. 24, 25, 26, 28, 29, 31, 32	p. 61, 64
item 2	count and write the number that shows how many	**Centers:** Grab and Count- student grabs a handful of counters and writes how many he/she grabbed Write the Room: student counts pictures on cards and writes the number that shows how many	p. 16-22	p. 36
Chapter : 3				
Transition Topic: Ordering by Size, Weight and Length				
Chapter 3 **Authentic Assessment Pre Test**	**Objective**	**Additional Reteach Support**	**Additional Extra Practice Support**	**Teacher Edition Support**
item 1	identify/draw 2 objects that are the same size	**Centers:** identify shapes that are the same size using attribute blocks starfall.com - shapes	p. 34, 35, 36	p. 73
item 2	after being shown a tower, students will make a tower that is shorter	**Centers:** Block Area students will work with a partner to create buildings - one child will create a shorter building, the other taller starfall.com -	p. 37, 38	p. 78
item 3	given 2 classroom objects students will tell which weighs more/less	**Centers:** Given a variety of classroom objects students will sort by weight starfall.com -	p. 39, 40	p. 81

PARCC Assessment Evidence/Clarification Statements

CCSS	Evidence Statement	Clarification	Math Practices
K.CC.B.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.	i) Tasks may have a context. ii) Tasks should include a range of counting exercises to answer "how many" objects in different arrangements progressing to the more difficult action of counting out a given number of objects. iii) Interviews (individual or small group) should target students' abilities to meet this evidence statement.	MP.7

Connections to the Mathematical Practices

Practice #1: Make Sense of Problems and Persevere In Solving Them

Students:	Because Teachers:
• Analyze and explain the meaning of the problem • Actively engage in problem solving (Develop, carry out, and refine a plan) • Show patience and positive attitudes • Ask if their answers make sense • Check their answers with a different method	• Pose rich problems and/or ask open ended questions • Provide wait-time for processing/finding solutions • Circulate to pose probing questions and monitor student progress • Provide opportunities and time for cooperative problem solving and reciprocal teaching

Practice #2: Reason Abstractly and Quantitatively

Students:	Because Teachers:
• Represent a problem with symbols • Explain their thinking • Use numbers flexibly by applying properties of operations and place value • Examine the reasonableness of their answers/calculations	• Ask students to explain their thinking regardless of accuracy • Highlight flexible use of numbers • Facilitate discussion through guided questions and representations • Accept varied solutions/representations

Practice #3: Construct Viable Arguments and Critique the Reasoning of Others

Students:	Because Teachers:
• Make reasonable guesses to explore their ideas • Justify solutions and approaches • Listen to the reasoning of others, compare arguments, and decide if the arguments of others makes sense • Ask clarifying and probing questions	• Provide opportunities for students to listen to or read the conclusions and arguments of others • Establish and facilitate a safe environment for discussion • Ask clarifying and probing questions • Avoid giving too much assistance (e.g., providing answers or procedures)

Practice #4: Model with Mathematics

Students:	Because Teachers:
• Use representations to solve real life problems • Apply formulas and equations where appropriate	• Provide a variety of real world contexts • Use intentional representations

Practice #5: Use Appropriate Tools Strategically

Students:	Because Teachers:
• Select and use tools strategically (and flexibly) to visualize, explore, and compare information • Use technological tools and resources to solve problems and deepen understanding	• Make appropriate tools available for learning (calculators, concrete models, digital resources, pencil/paper, compass, protractor, etc.) • Use tools with their instruction

Practice #6: Attend to Precision

Students:	Because Teachers:
• Calculate accurately and efficiently • Explain their thinking using mathematics vocabulary • Use appropriate symbols and specify units of measure	• Recognize and model efficient strategies for computation • Use (and challenge students to use) mathematics vocabulary precisely and consistently

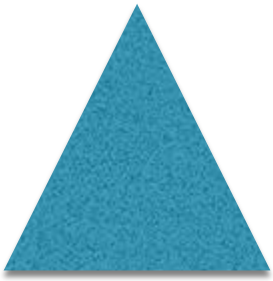
Practice #7: Look For and Make Use of Structure

Students:	Because Teachers:
• Look for, develop, and generalize relationships and patterns • Apply reasonable thoughts about patterns and properties to new situations	• Provide time for applying and discussing properties • Ask questions about the application of patterns • Highlight different approaches for solving problems

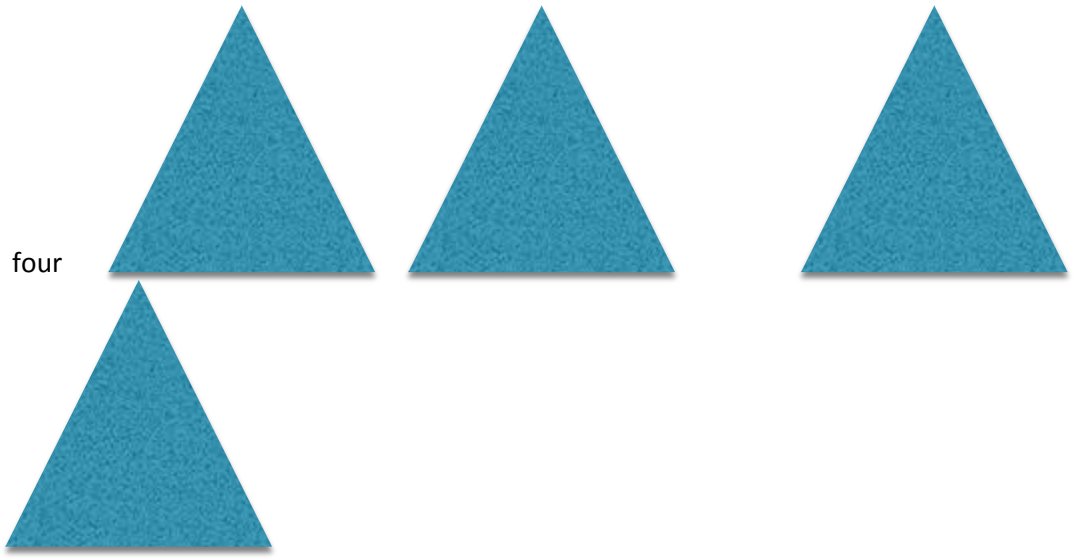
Practice #8: Look For and Express Regularity in Repeated Reasoning

Students:	Because Teachers:
• Look for methods and shortcuts in patterns and repeated calculations • Evaluate the reasonableness of results and solutions	• Provide tasks and problems with patterns • Ask about answers before and reasonableness after computations

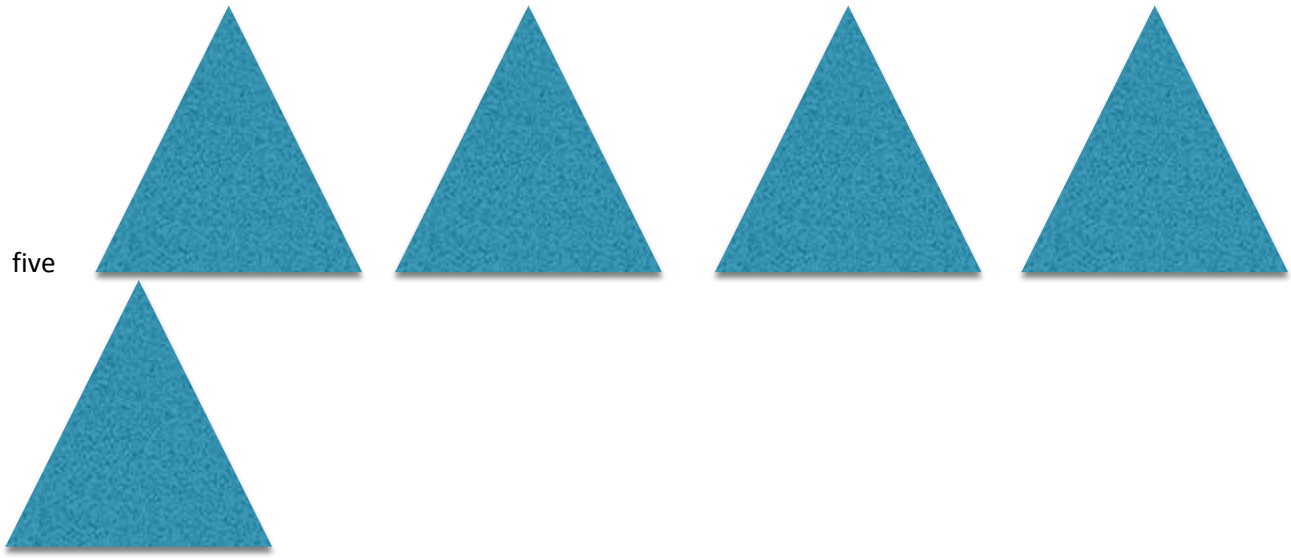
Visual Vocabulary

Visual Definition **The terms below are for teacher reference only and are not to be memorized by students.** Teachers should first present these concepts to students with models and real life examples. Students should understand the concepts involved and be able to recognize and/or use them with words, models, pictures, or numbers.
one 
two 
three 

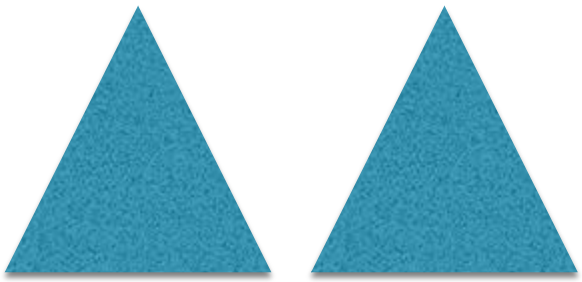
four



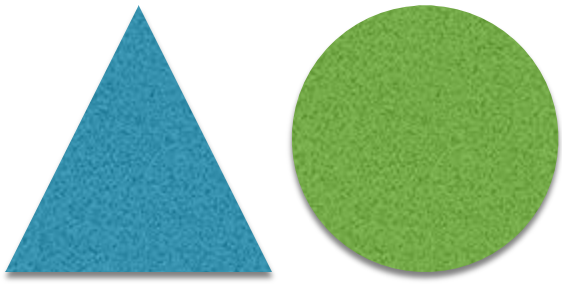
five

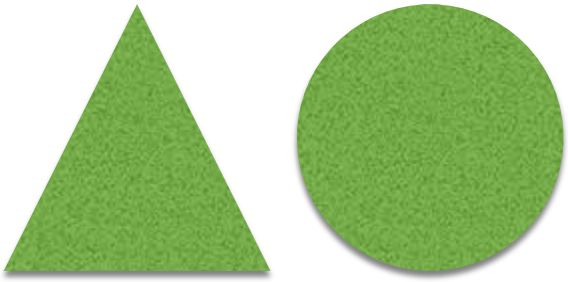


same

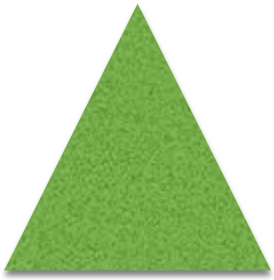


not the same



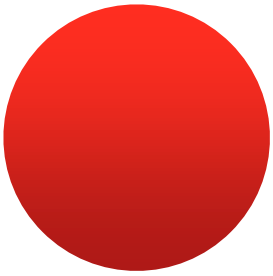


different



blue

green



red

big 

small 

bigger than 

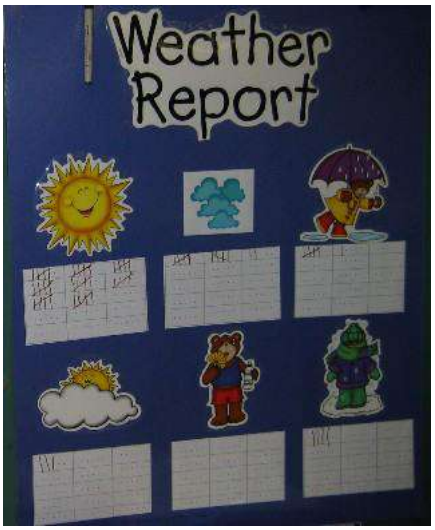
Potential Student Misconceptions

- Some students might get confused and count an object more than once
- Not all students will understand that the last number counted equals the number of objects
- Some students might have a difficult time grasping the meaning of same, different, and not the same
- Reversal of numerals is anticipated.
- Some students might have a difficult time with the concept of one more, one less
- Some students might struggle with lining up the objects at the end

Teaching Multiple Representations

The purpose of teaching through a concrete-to-representational-to-abstract sequence of instruction is to ensure students truly have a thorough understanding of the math concepts/skills they are learning. When students are given the opportunity to first develop a concrete understanding of the math concept/skill, they are much more likely to perform that math skill and truly understand math concepts at the abstract level.

Concrete and Pictorial Representations	
Date on the calendar	
counting the days of the year	
Growing Number line	

Tally Marks For Weather Data	
Daily Attendance	
Anchor Chart for Numbers/Exit Ticket	

Assessment Framework

Unit 1 Assessment / Authentic Assessment Framework				
Assessment	**CCSS**	**Estimated Time**	**Format**	**Graded ?**
Chapter 1 - Pre-Test	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	2 Days	Individual/ Small Group	Yes
Chapter 1 Test Numbers to 5	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	2 Day	Individual/ Small Group	Yes
Authentic Assessment 1- Number Representation	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	3 Days	Individual	Yes- Rubric
Chapter 2 Pre-Test	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	2 Days	Individual/ Small Group	Yes
Chapter 2 Test Numbers to 10	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5,	2 Day	Individual/ Small Group	Yes
Authentic Assessment 2- Number Book	K.CC.3, K.CC.4a, K.CC.4b, K.CC.5	3 Days	Individual	Yes- Rubric
Chapter 3 Test Order by Size, Length, Or Weight	K.MD.1; K.MD.2, K.MD.3	2 Days	Individual/ Small Group	Yes
Authentic Assessment Anecdotal Notes for Work Sampling	K.CC.3; K.CC.4a; K.CC.4b;K.CC.4c; K.CC.5; K.CC.6; K.CC.7	Ongoing	3-5 Children a day	Yes- Anecdotal Notes and Checklist Form

	PLD	Genesis Conversion
Rubric Scoring	PLD 5	100
	PLD 4	89
	PLD 3	79
	PLD 2	69
	PLD 1	59

Pre-Assessment Chapter 1: Numeral Recognition

Name: _____ Date: _____

Chapter 1 Pre-Assessment Numbers 0-5

Numeral Recognition

Task #1: Point to each number and ask student to identify. Score how many student correctly identified.

3	**5**	**0**	**1**	**4**	**2**

Score: / 6

Task #2: Ask student to orally count from 0-5.
Was the student able to count to 5? Circle: YES NO

If no, what number was the student able to count to? _____

Pre-Assessment Chapter 2: Numeral Recognition

Name: _____ Date: _____

Chapter 2 Pre-Assessment Numbers 0-10

Numeral Recognition

Task #1: Point to each number and ask student to identify. Score how many student correctly identified.

3	**5**	**0**	**1**	**4**	**2**
7	**9**	**8**	**6**	**10**	**Score:** **/11**

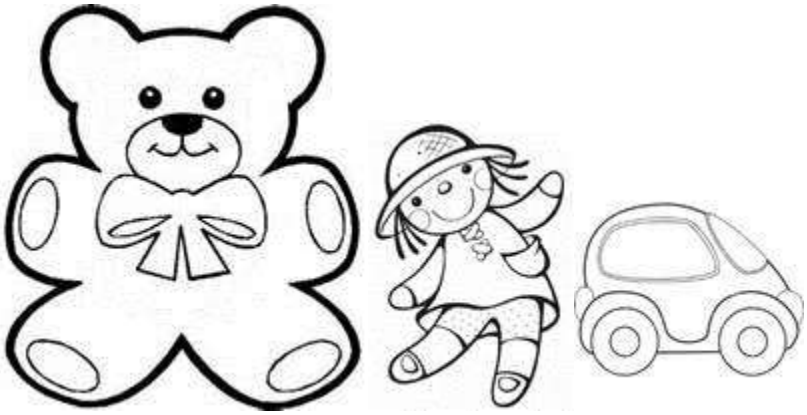
Task #2: Ask student to orally count from 0-10.

Was the student able to count to 10? Circle: YES NO

If no, what number was the student able to count to? _____

Pre-Assessment Chapter 3: Order by Size, Length, or Weight

Order the Toys



Task: You will need 3 distinct size toys. For example, a big teddy bear, a middle-sized doll, and a small toy car.
Ask the child to order the toys by size, first from biggest to smallest, and then from smallest to biggest.

***Challenge:** Give the students one of the toys they used to order. Ask them to find an object in the classroom that is bigger than the toy. Or you can ask them to find an object that is smaller than the toy.

Chapter 3 Pre-Assessment Recording Sheet

Students Name	**Completed Task?** **In this column enter Y for Yes or N for NO**

Authentic Assessment #1: Number Representation

Performance Tasks – Authentic Assessments

Task: Students will be given a sheet of paper that contains written number(s), and will then be asked to create a group that represents that/those number(s) through drawing, painting, or gluing objects. Students will then be asked to identify the written numbers and tell how many are in each of their groups.

Performance Task Scoring Rubric:

Criteria	Not Yet -	In the Process +	Proficient *
Correctly identifies written numbers.	Rarely/Never	Sometimes	Usually/Always
Creates groups containing the correct amount.	Rarely/Never	Sometimes	Usually/Always

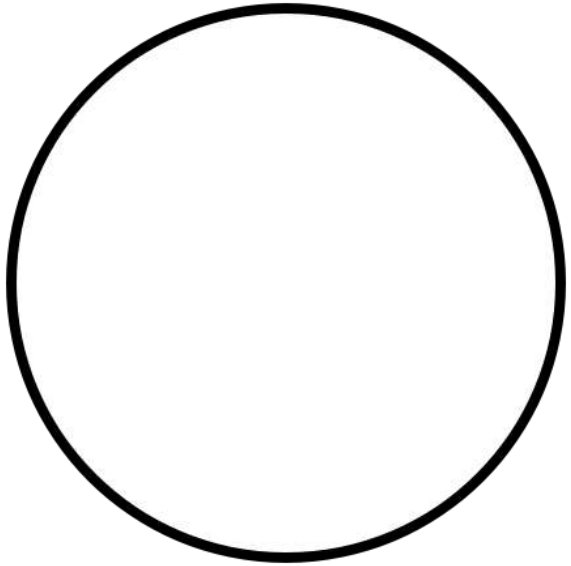
Student Skills The following rubric evaluates how your student performed while using the various student skills needed to complete the above task.

Criteria	Not Yet -	In the Process +	Proficient *
Follow Directions	Rarely/Never	Sometimes	Usually/Always
Demonstrates Effort	Rarely/Never	Sometimes	Usually/Always
Uses age appropriate lan-guage to explain learning or rationale	Rarely/Never	Sometimes	Usually/Always
Works Independently	Rarely/Never	Sometimes	Usually/Always

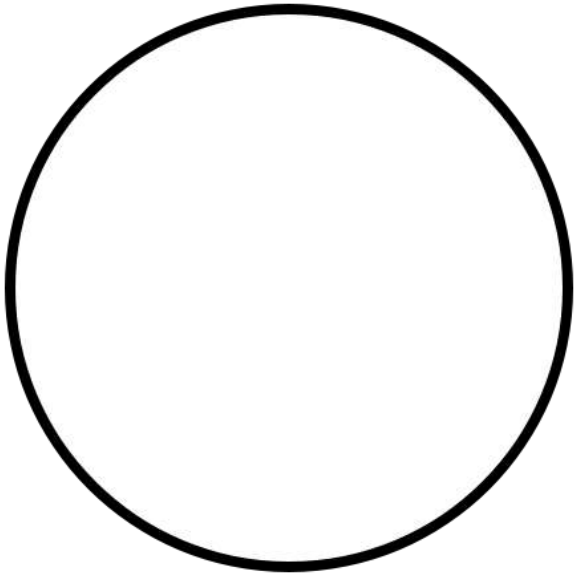
Number Representation

Name: _____ Date: _____

Directions: Ask students to draw, glue, or place the correct number of objects inside the circle based on the number below the circle. Once they are finished, point to a number and ask them to identify.



1



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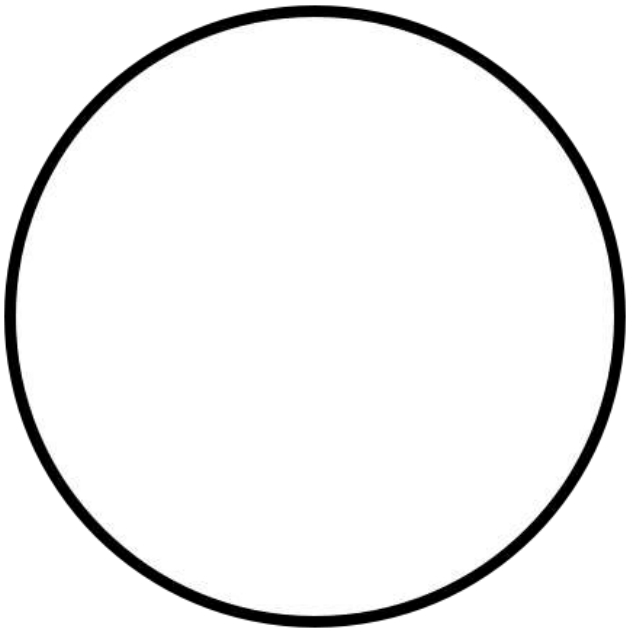

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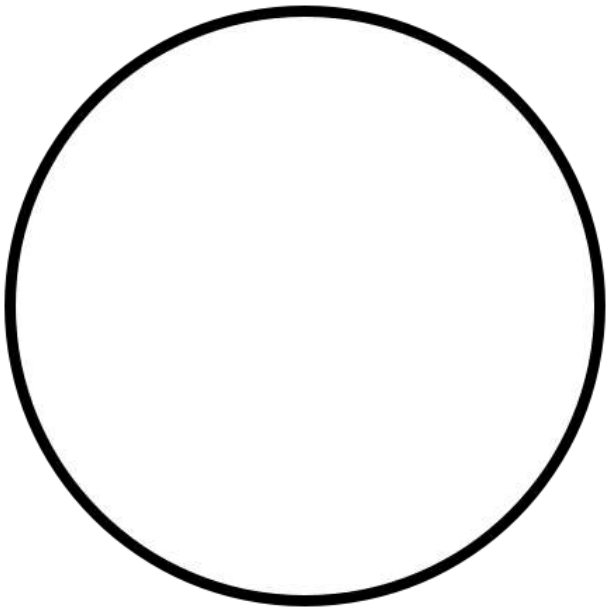

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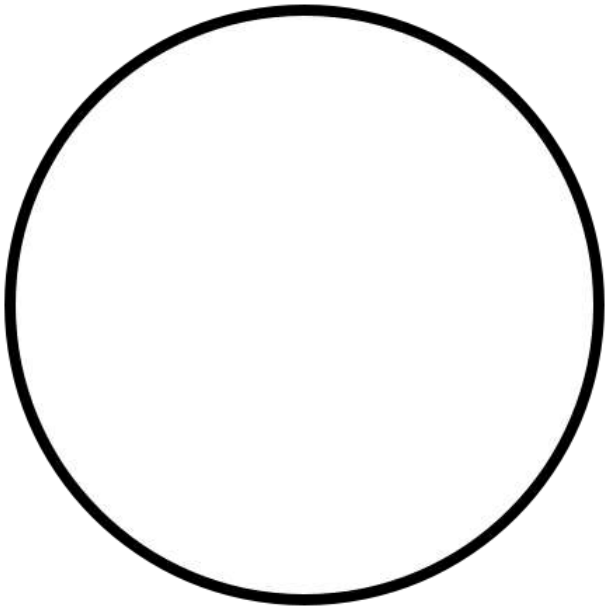
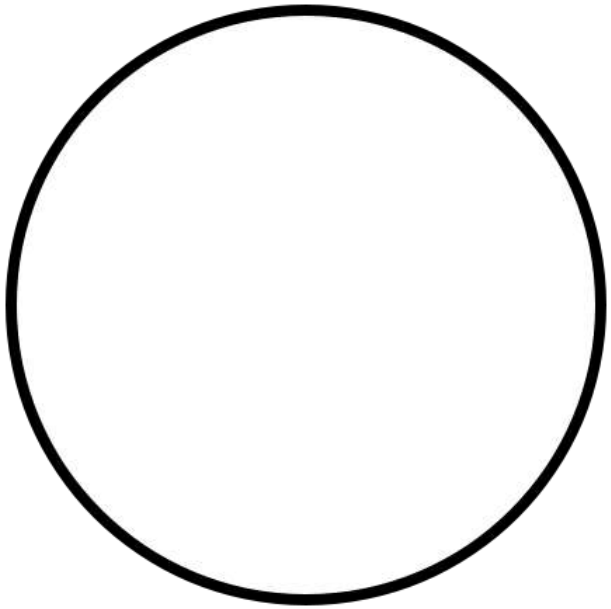


0



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Authentic Assessment #2: Number Book

Task: Students will be given a packet with 11 pages. The first page is the cover. The remaining pages are numbers 1-10. Students will color the square, write the corresponding number next to the square and will have the choice to draw, glue collage materials, or use sticker to represent that number.

Performance Task Scoring Rubric:

Criteria	Not Yet -	In the Process +	Proficient *
Correctly writes the number based on how many cubes are represented on the page.	Rarely/Never	Sometimes	Usually/Always
Creates groups containing the correct amount.	Rarely/Never	Sometimes	Usually/Always

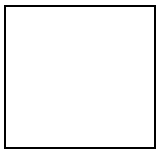
Student Skills The following rubric evaluates how your student performed while using the various student skills needed to complete the above task.

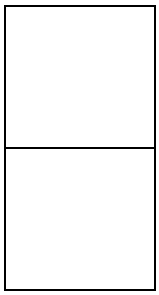
Criteria	Not Yet -	In the Process +	Proficient *
Follow Directions	Rarely/Never	Sometimes	Usually/Always
Demonstrates Effort	Rarely/Never	Sometimes	Usually/Always
Uses age appropriate language to explain learning or rationale	Rarely/Never	Sometimes	Usually/Always
Works Independently	Rarely/Never	Sometimes	Usually/Always

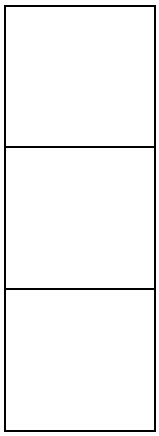
My Counting Book

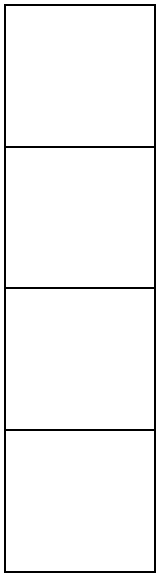
Name:

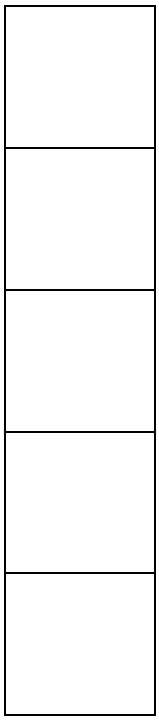
Math Investigations
Kindergarten Counting Book

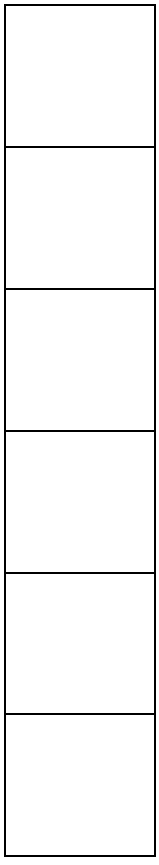


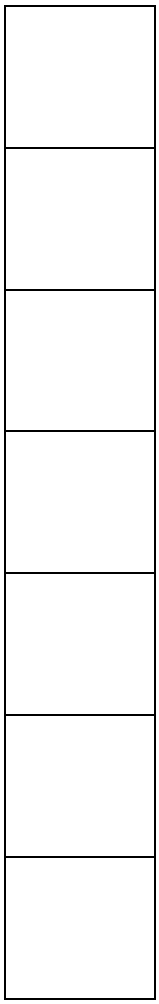


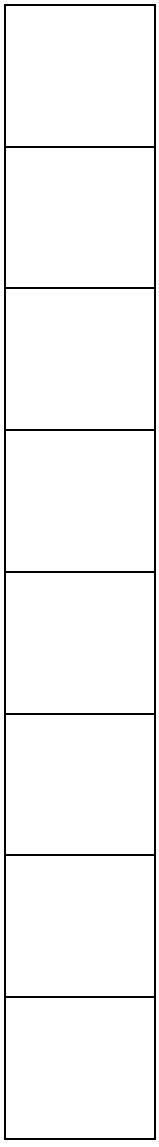


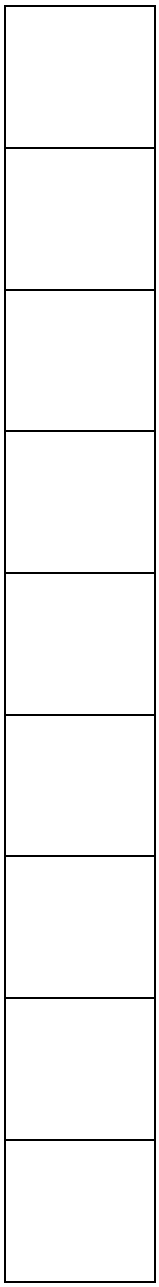


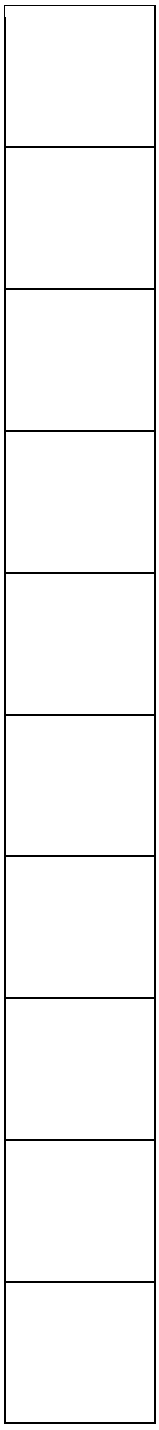












Additional Assessment Resources

Number Representation Assessment Link:
http://jfmueller.faculty.noctrl.edu/toolbox/examples/ardolino08/number%20representation.pdf

Number Book Assessment Link: **http://investigations.terc.edu/**

Extensions and Sources

Math in Focus *School to Home Connections*:
*Chapter 1 Numbers to 5
*Chapter 2 Numbers to 10
*Chapter 3 Order by Size, Length, or Weight
Math in Focus *Extra Practice & Enrichment*

Model Curriculum- http://www.nj.gov/education/modelcurriculum/

Georgia Department of Education: Games to be played at centers with a partner or small group.
http://ccgpsmathematicsk-5.wikispaces.com/Kindergarten

Engage NY: *For additional resources to be used during centers or homework.
https://www.engageny.org/sites/default/files/resource/attachments/math-gk-m1-full-module.pdf

Suggested Literature

Fish Eyes by, Lois Ehlert

Ten Little Puppies by, Elena Vazquez

Zin! Zin! Zin! A Violin! by, Lloyd Moss

My Granny Went to the Market by, Stella Blackstone and Christopher Corr

Anno's Couting Book by, Mitsumasa Anno

Chicka, Chicka, 1,2,3 by, Bill Martin Jr.; Michael Sampson; Lois Ehlert

How Dinosaurs Count to 10 by Jane Yolen and Mark Teague

10 Little Rubber Ducks by Eric Carle

Ten Black Dots by Donald Crews

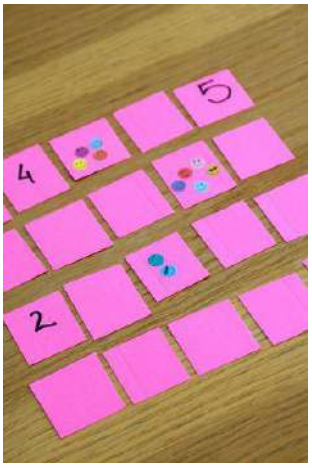
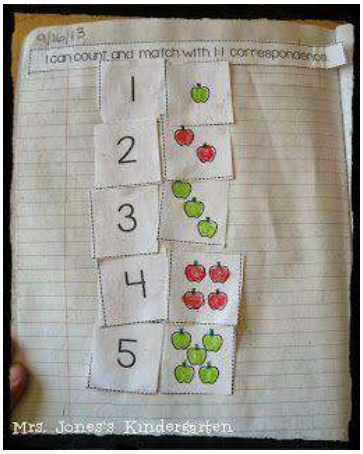
Mouse Count by Ellen Stoll Walsh

Count! by Denise Fleming

General Resources

Center	Ideas
	Number Practice: Children clip numbered clothespins to the section with the corresponding set of dots
	Students will clip the correct number of clothespins to the corresponding number.
	Using beads, and pipe cleaners with numbers attached, students will add the correct number of beads to the pipe cleaners.

Center	Ideas
	No- Mess Finger Painting: Fill sealable bags with just enough paint or hair gel to form an even layer when laid flat. Children use the bag like a piece of paper, drawing with their fingers or a q-tip to make strokes or numbers by displacing the paint or hair gel. Place the bag on a contrasting sheet of paper to achieve the most visible results. Then "erase" and start over.
	Write numbers on styrofoam cups from 1-10. Challenge students to put them in order from 1 to 10 and/or from 10 to 1 by stacking them and making a number tower. This quick activity gives your kids a chance to identify numbers and put them in order.
	Shaving Cream Fun! Children use their fingers to form strokes or numbers in a small amount of shaving cream in a tray or even just on the table or dark piece of construction paper.

Center	Ideas
	Number Memory: Mix up the cards thoroughly. Lay the cards on the floor or on a tabletop in rows. Make 4 rows with 5 cards in each row. Have students take turns turning over two cards. If the cards are a match (a card with the numeral 3 written on it and a card with a picture of 3 objects), they have a match and can keep the pair. If the cards are not a match, both cards must be turned over and returned to their original positions. Then the next player takes a turn. Keep playing until all of the matches have been found. *Can be played in pairs or a small group.
	Read the number, place the correct number of cubes under the number in the space provided.
	Students cut out the numbers and pictures and match the number to the correct corresponding picture. They then glue their work onto a sheet of paper or in a math notebook if you keep one.

Center	Ideas
	Students look at the number on the husk and match the correct amount of candy corn to represent the "kernels." If you do not want to use candy corn, you can use holiday erasers or counters.