

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Counting and Cardinality	Operations	Geometry	Measurement and Data	Numbers & Operations in Base 10	Algebraic Thinking
8 weeks	4 weeks	8 weeks	3 weeks	4 weeks	5 weeks

UNIT 1: Counting and Cardinality

Dear Colleagues,

Enclosed is a unit that addresses all of the Common Core Counting and Cardinality standards for Kindergarten. We took the time to analyze, group and organize them into a logical learning sequence. Thank you for entrusting us with the task of designing a rich learning experience for all students, and we hope to improve the unit as you pilot it and make it your own.

Sincerely,

Grade K Math Unit Design Team

CRITICAL THINKING COLLABORATION COMMUNICATION CREATIVITY

UNIT 1 TABLE OF CONTENTS

Overview of the grade K Mathematics Program	3
Essential Standards	4
Emphasized Mathematical Practices	4
Enduring Understandings & Essential Questions	5
Chapter Overviews	6
Chapter 1	8
Chapter 2	9
Chapter 3	10
Chapter 4	11
End-of-Unit Performance Task	12
Appendices	13

Overview of the Grade K Mathematics Program

Overview of the brude k mathematics frogram			
UNIT NAME ESSENTIAL STANDARDS	APPROX. DAYS	UNIT DESCRIPTION	
UNIT 1: Counting and Cardinality K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7	40 days or 8 wks	 In this unit, students will Recognize and order numbers 0-20. Count to tell the number of objects (to 20). Compare numbers (to 10). Write the numbers 0-20. 	
UNIT 2: Operations K.OA.1, K.OA.4	20 days or 4 weeks	In this unit, students will • Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	
UNIT 3: Geometry K.G.A.1, K.G.A.2, K.G.A.3, K.G.B.4, K.G.B.5, K.G.B.6	40 days or 8 weeks	 In this unit, students will Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). Analyze, compare, create, and compose shapes. 	
UNIT 4: Measurement and Data K.M.D.A.1, K.M.D.A.2, K.M.D.B.3	15 days or 3 weeks	 In this unit, students will Describe and compare measurable attributes. Classify objects and count the number of objects in each category. 	
UNIT 5: Numbers & Operations in Base 10 K.NBT.1	20 days or 4 weeks	 In this unit, students will Work with numbers 11-19 to gain foundations for place value. 	
Unit 6: Algebraic Thinking K.OA.2, K.OA.3, K.OA.5	25 days or 5 weeks	 In this unit, students will Solve addition and subtraction word problems. Decompose numbers in more than one way. Fluently add and subtract within 5. 	

ESSENTIAL STANDARDS

These are the standards that will be guaranteed: taught, assessed, and re-taught if necessary.

- K.CC.A.1 Count to 100 by ones and by tens.
- K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.A.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.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
 - K.CC.B.4a 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.
 - K.CC.B.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.
 - K.CC.B.4c Understand that each successive number name refers to a quantity that is one larger.
- 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 0-20, count out that many objects.
- K.CC.C.6 Identify 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.
- K.CC.C.7 Compare two numbers between 1 and 10 presented as written numerals.

EMPHASIZED MATHEMATICAL PRACTICES

These are the emphasized practices for this unit. In addition, all of them are hyperlinked to www.insidemathematics.org.

MP1: Make sense of problems and persevere in solving them

MP2: Reason abstractly and quantitatively

MP3: Construct viable arguments and critique the reasoning of others

MP4: Model with mathematics

MP5: Use appropriate tools strategically

MP6: Attend to precision

MP7: Look for and make use of structure

MP8: Look for and express regularity in repeated reasoning

ENDURING UNDERSTANDINGS & ESSENTIAL QUESTIONS

Enduring Understandings (EU), also known as BIG IDEAS, are those concepts we want students to remember ten years from now. They are the important concepts underlying the content. The goal is that after instruction, students should be able to independently answer the Essential Question with a grade-appropriate version of the Enduring Understanding. Activities should be designed to allow the student to discover the Enduring Understanding

Essential Questions (EQ) are questions based on the Enduring Understandings that we use to guide or drive instruction and assessment.

	ENDURING UNDERSTANDING	ESSENTIAL QUESTION
>	There are many ways to represent a number.	What is a number?How do I show a numerical
>	We use numbers, including written numerals, to represent quantities or position.	representation (pictorial, symbolic, objects) for given situations? How can we show numbers in
>	Number sense develops with experience.	different ways?
>	We use numbers to compare quantities.	 How many objects are in each set? How can sets of objects and numbers be compared and ordered?

CHAPTER OVERVIEWS

The Chapters of Learning should be determined by site during collaborative planning sessions within grade-level teams. Alternate chaptering decisions may be made by site.

QUICK GLANCE AT THE CHAPTERS OF LEARNING

CHAPTER	APPROX.	TEACHING TARGET	COMMON CORE STANDARD
CHAPTER 1: Counting Objects to 10 and Writing Numbers 0-10 Enduring Understandings: There are many ways to represent a number. We use numbers, including written numerals, to represent quantities or position. Number sense develops with experience.	2 wks	 Know number names and the count sequence to 20 Count to tell the number of objects to 20 Write the numbers 0-10 	K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5
CHAPTER 2: Counting Objects to 20 and Writing Numbers 0-20 Enduring Understandings: There are many ways to represent a number. We use numbers, including written numerals, to represent quantities or position. Number sense develops with experience.	2 wks	 Know number names and the count sequence Count to tell the number of objects Write the numbers 0-20 	K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5
CHAPTER 3: Compare Numbers 1-10 Enduring Understandings: We use numbers to compare quantities.	2 wks	 Comparing two numbers 1-10 to determine "greater than," "less than," or "equal to" 	K.CC.C.6, K.CC.C.7

CHAPTER	APPROX. LENGTH	TEACHING TARGET	COMMON CORE STANDARD
Chapter 4: Review	2 wks	 Know number names and the count sequence Count to tell the number of objects Write numbers 0-20 Compare numbers 	K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.CC.C.6, K.CC.C.7

FORMATIVE ASSESSMENT SUGGESTIONS:

- □ Small group informal assessment of 0-20 using kinder kit number flashcards *Have students:
 - 1. sequence 0-20
 - 2. write numbers 0-20
 - 3. demonstrate number conservation by following a verbal command (i.e. show me 5).
 - 4. compare two sets of objects (i.e. show me 5, show me 2, which set is greater/less?).

Teachers' suggestions:

- Correctly writing digits/numbers is an ongoing process that requires ongoing practice throughout the year.
- Students can practice writing numerals in the sand, with finger paint, or with a dry erase marker on the desk
- This unit should last approximately 8 weeks although the content of this unit should be taught throughout the year with activities integrated into all content areas.
- Counting to 100 by rote is an ongoing process that requires ongoing practice throughout the year.

CHAPTER 1 of 4: Counting Objects and Writing Numbers 0-10

PREREQUISITE KNOWLEDGE OR SKILLS: none

ENDURING UNDERSTANDING:

- There are many ways to represent a number.
- We use numbers, including written numerals, to represent quantities or position.
- Number sense develops with experience.

EMPHASIZED MATHEMATICAL PRACTICES:

MP1: Make sense of problems and persevere in solving them

MP2: Reason abstractly and quantitatively

MP3: Construct viable arguments and critique the reasoning of others

MP4: Model with mathematics

MP5: Use appropriate tools strategically

MP6: Attend to precision

MP7: Look for and make use of structure

MP8: Look for and express regularity in repeated reasoning

LEARNING OBJECTIVE (CCSS): SUGGESTED

VOCABULARY

CRITERIA FOR SUCCESS

- Number
- How many?

LEARNING OBJECTIVE (CC33).	# OF DAYS	ESSENTIAL QUESTIONS	(Specific requirements that students need to include, accomplish or demonstrate to be successful at the learning objective)
Counting objects to 10, writing numbers 0-10, and ordering numbers 0-10	10 days	 What is a number? How do I show a numerical representation (pictorial, symbolic, objects) for given situations? How can we show numbers in different ways? 	□ Know numbers □ Count objects to 10 □ Write numbers 0-10 □ Order numbers 0-10
	RE <i>C</i> (OMMENDED RESOURCES	
 □ Kinder kit □ Math journal (teache □ Manipulatives □ Gr. K Investigations □ Investigations Comm 	TERC Unit :	1 and 2 tion Student Activity Book, pg.	1, 3-6, 8, 9, 15, 16

ESSENTIAL QUESTIONS

CHAPTER 2 of 4: Counting Objects and Writing Numbers 0-20

PREREQUISITE KNOWLEDGE OR SKILLS: none

ENDURING UNDERSTANDING:

- There are many ways to represent a number.
- We use numbers, including written numerals, to represent quantities or position.
- Number sense develops with experience.

EMPHASIZED MATHEMATICAL PRACTICES:

MP1: Make sense of problems and persevere in solving them

MP2: Reason abstractly and quantitatively

MP3: Construct viable arguments and critique the reasoning of others

MP4: Model with mathematics

MP5: Use appropriate tools strategically

MP6: Attend to precision

MP7: Look for and make use of structure

MP8: Look for and express regularity in repeated reasoning

VOCABULARY

- Number
- How many?

CHAPTER 3 of 4: Compare Sets

PREREQUISITE KNOWLEDGE OR SKILLS: know numbers 0-20 and number conservation

ENDURING UNDERSTANDING: We use numbers to compare quantities.

EMPHASIZED MATHEMATICAL PRACTICES:

MP1: Make sense of problems and persevere in solving them

MP2: Reason abstractly and quantitatively

MP3: Construct viable arguments and critique the reasoning of others

MP4: Model with mathematics

MP5: Use appropriate tools strategically

MP6: Attend to precision

MP7: Look for and make use of structure

MP8: Look for and express regularity in repeated reasoning

VOCABULARY

- Number
- How many?
- Greater
- Less
- Equal

LEARNING OBJECTIVE (CCSS):	# OF DAYS	ESSENTIAL QUESTIONS	CRITERIA FOR SUCCESS (Specific requirements that students need to include, accomplish or demonstrate to be successful at the learning objective)			
Comparing sets	10 days	 How many objects are in each set? How can sets of objects and numbers be compared and ordered? 	□ Compare two numbers between 1 and 10□ Identify greater/lesser set			
RECOMMENDED RESOURCES						
☐ Kinder kit						
☐ Math journal (teacher created)						
☐ Manipulatives						
 Gr. K <u>Investigations</u> TERC Unit 2 						
Investigations Common Core Edition Student Activity Book, pg. 30D						

CHAPTER 4 of 4: Review and Assess

PREREQUISITE KNOWLEDGE OR SKILLS: know numbers 0-20 and number conservation

ENDURING UNDERSTANDING:

- There are many ways to represent a number.
- We use numbers, including written numerals, to represent quantities or position.
- Number sense develops with experience.
- We use numbers to compare quantities.

EMPHASIZED MATHEMATICAL PRACTICES:

MP1: Make sense of problems and persevere in solving them

MP2: Reason abstractly and quantitatively

MP3: Construct viable arguments and critique the reasoning of others

MP4: Model with mathematics

MP5: Use appropriate tools strategically

MP6: Attend to precision

MP7: Look for and make use of structure

MP8: Look for and express regularity in repeated reasoning

VOCABULARY

- Number
- · How many?
- Greater
- Less
- Equal

LEARNING OBJECTIVE (CCSS):	# OF DAYS	ESSENTIAL QUESTIONS	CRITERIA FOR SUCCESS (Specific requirements that students need to include, accomplish or demonstrate to be successful at the learning objective)		
Review and assess all concepts taught in the unit	10 days	 How far can you count? How can sets of objects and numbers be compared and ordered? 	 □ Identify, write, and order numbers 0-20 □ Count objects to 20 □ Compare number sets 		
	<u> </u>	RECOMMENDED RESOURCES			
☐ Kinder kit					
■ Math journal (teacher created)					
☐ Manipulatives					
☐ Gr. K <u>Investigat</u>	ions TERC 1 o	and 2			

END-OF-UNIT PERFORMANCE TASK

- Number recognition assessment using Kindergarten Assessment Binder given by the District.
 - Number Printing 0-20
 - Number Ordering 0-20 (whatever you have been using for the report card)
 - Comparing Sets 1-10
 - How many in a set assessment
 - How many in a set assessment (to 20)
 - Counting to 100 (whatever you have been using for the report card)

APPENDICES

This section includes hard copies of the recommended resources we included in the unit, as well as other supporting documents for your reference.

List of What's Included:

- How Many? Assessment (to 10) 1.
- 2. Matching Sets Assessment
- How Many? Assessment (to 20) 3.
- 4. Rich Tasks

Additional Resources:

- 1. Gr. K Collecting, Counting, and Measuring TERC
- 2. Technology Resources:

Five Frame: http://illuminations.nctm.org/ActivityDetail.aspx?ID=74

Ten Frame: : http://illuminations.nctm.org/ActivityDetail.aspx?ID=75

Number ordering:

http://www.sheppardsoftware.com/mathgames/earlymath/BalloonPopMathOrder.htm

Compare Numbers:

http://www.sheppardsoftware.com/mathgames/earlymath/BalloonPopComparison.htm

http://www.teacherspayteachers.com/Product/Name-In-a-Ten-Frame-388362

Counting Numbers:

http://www.teacherspayteachers.com/Product/Counting-711668

Number Recognition:

http://www.teacherspayteachers.com/Product/I-Have-Who-Has-Numbers-0-30-234350

Counting Objects:

http://www.teacherspayteachers.com/Product/Build-It-Math-Writing-Center-FREEBIE-1043478

13 Evergreen School District