

# MATHEMATICS COMMON CORE CURRICULUM UNIT #4 Grade K\*

## North Smithfield School Department

**TITLE OF UNIT:** Counting, Addition, Subtraction & THE TEENS!

**GRADE :** K

**DATE PRESENTED:** \_\_\_\_\_ **DATE DUE:** \_\_\_\_\_

**LENGTH OF TIME:** 7 Weeks (5 weeks of explicit of instruction and 2 weeks of assessment & re-teaching)

**OVERVIEW OF UNIT:**

Students will use the numbers 0 – 70 to complete a variety of counting and number activities such as oral counting, 1:1 counting, number writing, number representation and begin to understand the relationship between numbers and quantities. They will decompose numbers up to 10 and find 10 using the numbers 1 to 9. Students will continue their exploration of addition and subtraction within 5. The teen numbers will be taught through composing and decomposing the numbers from 11 to 19.

**ESSENTIAL QUESTIONS**

- What number patterns do you hear? Twenty-one, twenty-two, twenty-three,...
- How many different ways can you break a number into two groups (decompose it)?
- How does (one child’s strategy) relate to (another child’s strategy)?
- How many different ways can you break a number into two groups (decompose it)?
- How does (one child’s strategy) relate to (another child’s strategy)?
- What is addition?
- What is subtraction?
- How do you know when to add or subtract?
- Consider the numerals 11-19: There are ten ones, and how many more?
- What patterns do you see?
- How do the teen numbers differ from the single-digit numbers?
- How might your ten-frame help you count?

**STANDARDS: Common Core Math Standards – Grade level domains K-5**

<p><b>Counting and Cardinality</b> <b>CC</b></p> <p style="color: red;">K.CC.1</p>	<p><b>Operations and Algebraic Thinking</b> <b>OA</b></p> <p style="color: red;">K.OA.3 K.OA.4 K.OA.5</p>	<p><b>Number and Operations in Base Ten</b></p> <p style="color: red;">NBT</p> <p style="color: red;">K.NBT.1</p>	<p><b>Number and Operations – Fractions</b></p> <p style="color: red;">NF</p>	<p><b>Measurement and Data</b></p> <p style="color: red;">MD</p>	<p><b>Geometry</b> <b>G</b></p>
		□		□	□
				<p><b>Modeling with Geometry</b> <b>G-MG</b></p>	

**STANDARDS: Mathematical Practices grades K-12**

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

**FOCUS MATHEMATICS STANDARDS:**

- Know number names and the count sequence. K.CC.1
- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. K.OA.3,4,5
- Work with numbers 11-19 to gain foundations for place value. K.NBT.1

**Applied Learning Standards:**

problem solving
communication
critical thinking
research
reflection/ evaluation

**Expectations for Student Learning (High School only):**

**ENDURING UNDERSTANDING:**

At the end of this unit, students will be able to decompose numbers and find ten using the number 1-9. They will be able to add and subtract fluently within 5 and compose/decompose numbers from 11 to 19.

**PRIOR KNOWLEDGE:**

- Have developed number recognition and counting skills and learn the relationship between numbers and the quantity they represent.
- Have learned to use numbers to compare quantities and solve problems.

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### STUDENT OBJECTIVES, SKILLS and/or NEW KNOWLEDGE:

- Saying the number names in a count sequence is a rote process. While it is foundational to counting, it does not indicate understanding of the relationship between quantity and number.
- Oral and written patterns exist in the counting sequence (e.g., +1 pattern, +10 pattern, etc.)
- Numbers can be composed and decomposed in many ways.
- Addition is putting things together and adding to.
- A new value is produced by adding/subtracting one or more values from a quantity.
- Teen numbers compose and decompose into ten ones and some more (or further) ones. (
- Moving from counting by ones to interpreting quantities as ‘ten and some more’ is foundational and a significant milestone in the understanding of the base-ten system. Tens are not yet understood as a unit; this quantity is seen as ten ones.
- There are patterns in the ways numbers are formed.

### SUGGESTED PROBLEMS:

### ACTIVITIES, PRODUCTS, PERFORMANCE, and ASSESSMENTS: see curriculum introduction

- |                                       |                            |  |   |
|---------------------------------------|----------------------------|--|---|
| 1. Application to real world problems | 6. Graphic organizers      | 14. Problem/Performance based/common tasks               | 18. Technology                                    |
| 2. Creating charts/collecting data    | 7. Graphing                | 15. Real-life applications involving graphing            | 19. Summarizing and note-taking                   |
| 3. Collaboration - interpersonal      | 8. Interviews              | 16. Represent numbers                                    | 20. Tests and quizzes                             |
| 4. Conferencing                       | 9. Journals                | 17. Rubrics/checklists (mathematical practice, modeling) | 21. Writing genres Arguments/ opinion Informative |
| 5. Exhibits                           | 10. KWL charts             |  |   |
|                                       | 11. Mathematical Practices |  |   |
|                                       | 12. Modeling ★             |  |   |
|                                       | 13. Oral presentations     |  |   |

### HIGHER ORDER THINKING SKILLS: Web’s Depth of Knowledge 2 – 4 or Bloom’s Taxonomy

#### Web’s Depth of Knowledge

- skill/conceptual understanding
- strategic reasoning
- extended reasoning

#### Bloom’s Taxonomy

- apply
- analyze
- synthesize/create
- evaluate

### ADDITIONAL RESOURCES: see curriculum for specifics

### VOCABULARY

#### Counting and Cardinality

- |                     |            |            |
|---------------------|------------|------------|
| • Count             | • Numeral  | • Quantity |
| • Counting sequence | • Object   | • Remove   |
| • Digit             | • One more | • Tens     |
| • Match             | • Ones     | • Total    |
| • Number            | • Organize | • Zero     |

#### Operations and Algebraic Thinking

- |                  |                |               |
|------------------|----------------|---------------|
| • Add to         | • Equation     | • Remove      |
| • Addend         | • How many?    | • Separate    |
| • Break apart    | • Join         | • Strategies  |
| • Combinations   | • Make fives   | • Subtract    |
| • Combine        | • Make tens    | • Sum         |
| • Count back     | • Mental image | • Symbols     |
| • Count on       | • Minus        | • Take away   |
| • Counting up to | • Part         | • Total       |
| • Decompose      | • Plus         | • Use doubles |
| • Equal to       | • Put together | • Whole       |

#### Number and Operations in Base Ten

- Break apart
- Decompose
- Pattern
- Ten and some more

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**LESSON PLAN for UNIT \_\_\_\_\_**

**LESSONS**

- Lesson # 1 Summary:**
  
  - Lesson #2 Summary:**
  
  - Lesson #3 Summary:**
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**OBJECTIVES for LESSON # \_\_\_\_\_**

- Materials/Resources:**
  
- Procedures:**
  - **Lead –in**
  
  - **Step by step**
  
  - **Closure**
  
- Instructional strategies:** see curriculum introduction
  
- Assessments:** see curriculum introduction
  - **Formative**
  
  
  - **Summative**