Dear Colleagues,

Enclosed is a unit that addresses all of the Common Core **Measurement and Data** 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*
# UNIT 4 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 .................................................................................................. 7

Chapter 2 .................................................................................................. 8

Chapter 3 .................................................................................................. 9

End-of-Unit Performance Task ................................................................. 10

Appendices .............................................................................................. 11
## Overview of the Grade K Mathematics Program

<table>
<thead>
<tr>
<th>UNIT NAME</th>
<th>ESSENTIAL STANDARDS</th>
<th>APPROX. DAYS</th>
<th>UNIT DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNIT 1:</strong> Counting and Cardinality</td>
<td>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</td>
<td>40 days or 8 weeks</td>
<td>In this unit, students will...&lt;br&gt;• Recognize and order numbers 0-20.&lt;br&gt;• Count to tell the number of objects (to 20).&lt;br&gt;• Compare numbers (to 10).&lt;br&gt;• Write the numbers 0-20.</td>
</tr>
<tr>
<td><strong>UNIT 2:</strong> Operations</td>
<td>K.OA.1, K.OA.4</td>
<td>20 days or 4 weeks</td>
<td>In this unit, students will...&lt;br&gt;• Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</td>
</tr>
<tr>
<td><strong>UNIT 3:</strong> Geometry</td>
<td>K.G.A.1, K.G.A.2, K.G.A.3, K.G.B.4, K.G.B.5, K.G.B.6</td>
<td>40 days or 8 weeks</td>
<td>In this unit, students will...&lt;br&gt;• Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).&lt;br&gt;• Analyze, compare, create, and compose shapes.</td>
</tr>
<tr>
<td><strong>UNIT 4:</strong> Measurement and Data</td>
<td>K.MD.A.1, K.MD.A.2, K.MD.B.3</td>
<td>15 days or 3 weeks</td>
<td>In this unit, students will...&lt;br&gt;• Describe and compare measurable attributes.&lt;br&gt;• Classify objects and count the number of objects in each category.</td>
</tr>
<tr>
<td><strong>UNIT 5:</strong> Numbers &amp; Operations in Base 10</td>
<td>K.NBT.1</td>
<td>20 days or 4 weeks</td>
<td>In this unit, students will...&lt;br&gt;• Work with numbers 11-19 to gain foundations for place value.</td>
</tr>
<tr>
<td><strong>Unit 6:</strong> Algebraic Thinking</td>
<td>K.OA.2, K.OA.3, K.OA.5</td>
<td>25 days or 5 weeks</td>
<td>In this unit, students will...&lt;br&gt;• Solve addition and subtraction word problems.&lt;br&gt;• Decompose numbers in more than one way.&lt;br&gt;• Fluently add and subtract within 5.</td>
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</tbody>
</table>
ESSENTIAL STANDARDS
These are the standards that will be guaranteed: taught, assessed, and re-taught if necessary.

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

K.MD.A.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. For example, directly compare the heights of two children and describe one child as taller/shorter.

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

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.*

<table>
<thead>
<tr>
<th><strong>ENDURING UNDERSTANDING</strong></th>
<th><strong>ESSENTIAL QUESTION</strong></th>
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</thead>
</table>
| ➢ Measurement describes the attributes of objects and events. | • Why do I measure?  
• How do I measure? |
| ➢ Objects can be sorted by similarities and classified. | • In what ways can these objects be sorted? |
## 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

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>APPROX. LENGTH</th>
<th>TEACHING TARGET</th>
<th>COMMON CORE STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHAPTER 1: Measurement</strong>&lt;br&gt;Enduring Understanding: Measurement describes the attributes of objects and events.</td>
<td>1 wk</td>
<td>• Objects have measurable attributes</td>
<td>K.MD.A.1, K.MD.A.2</td>
</tr>
<tr>
<td><strong>CHAPTER 2: Sorting and Classifying</strong>&lt;br&gt;Enduring Understanding: Objects can be sorted by similarities and classified.</td>
<td>2 wks</td>
<td>• Objects can be sorted • Sorted objects can be classified into categories</td>
<td>K.MD.B.3</td>
</tr>
<tr>
<td><strong>CHAPTER 3: Review</strong></td>
<td>1 wk</td>
<td>• Objects have measurable attributes • Objects can be sorted • Sorted objects can be classified into categories</td>
<td>K.MD.A.1, K.MD.A.2, K.MD.B.3</td>
</tr>
</tbody>
</table>

### FORMATIVE ASSESSMENT SUGGESTIONS:

- Small group informal assessment on measurement, sorting, and classifying
  - *Have students:
    1. Measure objects by one or more measurable attributes (such as length, weight, and height)
    2. Compare two objects using their measurable attributes (such as more/less or taller/shorter)
    3. Classify and count 10 given objects into categories
CHAPTER 1 of 3: Measurement

PREREQUISITE KNOWLEDGE OR SKILLS: number sense 0-10

ENDURING UNDERSTANDING: Measurement describes the attributes of objects and events.

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

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<tr>
<th>PREREQUISITE KNOWLEDGE OR SKILLS: number sense 0-10</th>
<th>ENDURING UNDERSTANDING: Measurement describes the attributes of objects and events.</th>
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<tbody>
<tr>
<td>EMPHASIZED MATHEMATICAL PRACTICES:</td>
<td>VOCABULARY</td>
</tr>
<tr>
<td>MP1: Make sense of problems and persevere in solving them</td>
<td>• Length</td>
</tr>
<tr>
<td>MP2: Reason abstractly and quantitatively</td>
<td>• Weight</td>
</tr>
<tr>
<td>MP3: Construct viable arguments and critique the reasoning of others</td>
<td>• Height</td>
</tr>
<tr>
<td>MP4: Model with mathematics</td>
<td>• Tall/Short</td>
</tr>
<tr>
<td>MP5: Use appropriate tools strategically</td>
<td>• Small/Big</td>
</tr>
<tr>
<td>MP6: Attend to precision</td>
<td>• More/Less</td>
</tr>
<tr>
<td>MP7: Look for and make use of structure</td>
<td>• Heavy/Light</td>
</tr>
<tr>
<td>MP8: Look for and express regularity in repeated reasoning</td>
<td>• Long</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>LEARNING OBJECTIVE (CCSS):</th>
<th>SUGGESTED # OF DAYS</th>
<th>ESSENTIAL QUESTIONS</th>
<th>CRITERIA FOR SUCCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ Measure objects by one or more attribute</td>
<td>5 days</td>
<td>• Why do I measure?</td>
<td>Measure objects by one or more attributes</td>
</tr>
<tr>
<td>➢ Compare objects by one or more attributes</td>
<td></td>
<td>• How do I measure?</td>
<td>Compare objects by one or more attributes</td>
</tr>
</tbody>
</table>

RECOMMENDED RESOURCES

- Math journal (teacher created)
- Manipulatives
- Gr. K Investigations TERC Unit 4
- Gr. K Investigations and the Common Core State Standards book, pg. CC15-CC26 (Session 1.6A-1.6C)
### PREREQUISITE KNOWLEDGE OR SKILLS: number sense 0-10, color, shapes, more, less

### ENDURING UNDERSTANDING: Objects can be sorted by similarities and classified.

### 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

- Sort
- Classify
- Size (big, medium, small)
- Same
- Different

## CHAPTER 2 of 3: Sorting and Classifying

### LEARNING OBJECTIVE (CCSS):

| **Sort and classifying** | **5 days** | **In what ways can these objects be sorted?** | **Sort objects**  
**Classify and count objects** |

### CRITERIA FOR SUCCESS

- (Specific requirements that students need to include, accomplish or demonstrate to be successful at the learning objective)

### RECOMMENDED RESOURCES

- Math journal (teacher created)
- Manipulatives
- Gr. K Investigations TERC Unit 4 and 7
- Investigations Common Core Edition Student Activity Book, pg. 18, 44
## CHAPTER 3 of 3: Review and Assess

**PREREQUISITE KNOWLEDGE OR SKILLS:** number sense 0-10, color, shapes, more and less

**ENDURING UNDERSTANDING:**
- Measurement describes the attributes of objects and events.
- Objects can be sorted by similarities and classified.

**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

Review all from chapter 1 & 2

<table>
<thead>
<tr>
<th>LEARNING OBJECTIVE (CCSS)</th>
<th>SUGGESTED # OF DAYS</th>
<th>ESSENTIAL QUESTIONS</th>
<th>CRITERIA FOR SUCCESS</th>
</tr>
</thead>
</table>
| ➢ Review and assess concepts taught in the unit | 5 days | • Why do I measure?  
• How do I measure?  
• In what ways can these objects be sorted? | • Measure objects  
• Sort objects  
• Classify and count objects |

### RECOMMENDED RESOURCES

- Math journal (teacher created)
- Manipulatives
- Gr. K Investigations TERC Unit 4 and 7
END-OF-UNIT PERFORMANCE TASK

- Measure and compare objects using nonstandard units of measurement
- Sorting and classifying objects in three ways (what ever you use for report cards)
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:
1. Measurement Assessment

Additional Resources:
1. Technology Resources:
http://www.teacherspayteachers.com/Product/Measure-and-Compare-172326

http://www.teacherspayteachers.com/Product/Measuring-Abes-Hat-203992

http://www.teacherspayteachers.com/Product/Collecting-Organizing-and-Displaying-Data-using-Candy-Hearts-202903