

## 4<sup>th</sup> Grade Math Curriculum Bundle # 3

Multiplication Arrays	<b>Suggested Dates</b> October 5 – October 23 (14 days)
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<b>Big Idea/Enduring Understanding</b>	<b>Guiding Questions</b>
Multiplication can be represented in picture, word, and number form to find a total.	Can array models be used to find a product? How are arrays and measuring area related? When can you use multiplication to answer a question?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

<b>Knowledge &amp; Skills with Student Expectations</b>	<b>District Specificity/Examples</b>	<b>Suggested Resources</b> (See note above) <b>Teachers will use Math Investigations as the main instructional resource.</b> District resources are listed and categorized to indicate suggested uses. Any additional resources must be aligned with the TEKS.	
<b>4.4 The student multiplies and divides to solve meaningful problems involving whole numbers.</b>  4.4A Model factors and products using arrays and area models.	Including but not limited to <ul style="list-style-type: none"> <li>• create various concrete models of arrays</li> <li>• investigate the relationship of the dimensions (rows and columns) to the factors of a given number</li> <li>• determine the area of a model by multiplying length times width</li> <li>• distinguish between 3 x 8 and a 8 x 3 array (row vs column)</li> <li>• compare and create different arrays and area models (such as 4x3 and 3x4 and 6 x 2 and 2 x 6 and 1 x 12 and 12 x 1) as equivalence sets (different factors of the same product)</li> <li>• use correct terminology when describing models</li> <li>• interpret multiplication as repeated addition or multiples</li> <li>• verbally describes the relationship of division and multiplication in the models using correct</li> </ul>	<u><b>Math Investigations</b></u>  <u>Factors, Multiples and Arrays</u> Unit 1  Investigations 1 Sessions 1 – 4 pages 26 – 46  (You will need to make a set of array cards M9-M29. Make 1 set per pair of students. Laminate and place in Ziploc Bags.)  <u><b>Factors, Multiples and Arrays</b></u> Unit 1  Investigations 2 Sessions 1 – 3 pages 59 – 75	<u><b>Whole Group Lessons</b></u>  <u>Envision</u> Topic 3 Lesson 1  <u><b>Small Group Lessons/Centers</b></u>  <u>Kamico</u> Seating Array Pages 97 – 115  <u>Region IV Prep</u> Representing Multiplication and Division Lessons Pages 59 – 71

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<p><b>4.4 The student multiplies and divides to solve meaningful problems involving whole numbers.</b></p> <p>4.4B Represent multiplication and division situations in picture, word, and number form.</p> <p>Teacher Note: This bundle focus is on multiplication, but includes division as the inverse operation of multiplication. Make sure students know basic multiplication facts.</p>	<p>terminology</p>		<p><b><u>Small Group Lessons/Centers</u></b></p> <p><u>Kamico</u> Writing Solution Sentences p116 – 124</p>
<p><b>4.4 The student multiplies and divides to solve meaningful problems involving whole numbers.</b></p> <p>4.4C Recall and apply multiplication facts through 12 x 12.</p>	<p>Including but not limited to</p> <ul style="list-style-type: none"> <li>• apply various multiplication strategies to help recall multiplication facts</li> <li>• apply multiplication facts with efficiency</li> </ul>		<p><b><u>Whole Group Lessons</u></b></p> <p><u>Envision</u> Topic 3 Lesson 2 - 3</p> <p><b><u>Small Group Lessons/Centers</u></b></p> <p><u>Kamico</u> Multiplication Seek-N-Find pages 125 – 129</p>
<p><b>4.11 The student applies measurement concepts. The student is expected to estimate and measure to solve problems involving length, (including perimeter) and area. The student uses measurement tools to measure capacity/volume and weight/mass.</b></p> <p>4.11A Estimate and use measurement tools to determine length (including perimeter), area, capacity and weight/mass using standard units, SI (metric) and customary.</p> <p>Teacher Note: Focus on area.</p> <p>*It is recommended that measurement be taught at least once a week.</p>	<p>Including but not limited to:</p> <ul style="list-style-type: none"> <li>• understand measure means to decide "what" is to be measured and select the appropriate unit</li> <li>• estimates length, area</li> <li>• identify tools and units needed to measure length (perimeter), area, and solve problems</li> <li>• use tools to measure and find perimeter and area</li> <li>• demonstrates measurement using a variety of different units and tools</li> <li>• measure using different starting point on measuring tools</li> <li>• identifies what concept (perimeter, area, is being asked in a real life situations (ex: the amount of carpet needed to cover the square dining room floor)</li> <li>• know abbreviations for all metric units</li> </ul>	<p><b><u>Math Investigations</u></b></p> <p><u>Size, Shape, and Symmetry</u> Unit 4</p> <p>Investigations 4 Sessions 4 – 6 pages 127 - 145</p> <p>Teacher Note: Do not worry about Crazy Cakes at this time. It will be introduced later.</p>	<p><b><u>Small Group Lessons/Centers</u></b></p> <p><u>Kamico</u> Measure Marathon game previously mentioned</p>

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<p><b>4.14 The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school.</b></p> <p>4.14B Solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.</p>	<p>Including but not limited to</p> <ul style="list-style-type: none"> <li>• <b>Process skill to be addressed with relevant content.</b></li> </ul>		<p><b><u>Whole Group Lessons</u></b></p> <p><u>Envision</u> Topic 6 Lesson 5</p> <p><b><u>Small Group Lessons/Centers</u></b></p> <p><u>Kamico</u> Put Your Plan In Place Pages 465 – 473</p>
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