

<b>Name of Lesson:</b> EM 6.8 – Number Sentences with Parentheses		
<b>Your Name:</b> Kelly Grahl		<b>Date of Lesson:</b> Monday 3/21/16
<b>Time:</b> 9:30 – 10:30am		
<b>Topic:</b> Students use parentheses in number sentences.		
<b>Focus for MT/FI Observations:</b> Time management and efficiency! Content of small groups, especially the earliest group, clarity of instruction/ appropriateness of differentiation. Management of transitions and direction clarity.		
<b>Context:</b> Students are prefacing their first exposure to the order of operations with this lesson on the meaning and importance of parentheses in number sentences. This lesson and in future lessons, instruction aims at using parentheses and order of operations to build summary number sentences for number stories.		
<b>Resource:</b> <i>Everyday Math : Third Grade - Teachers Manual; Everyday Math: Third Grade – Student Journal</i>		
<b>Common Core State Standards:</b>	<b>Learning Goals:</b> <i>What, specifically, will students know and be able to do at the end of this lesson?</i>	<b>Assessments:</b> <i>How will you know if students met the learning goal and how will you evaluate the quality of students' performance?</i>
<a href="#">CCSS 3.OA.7</a>	<b>SWBAT</b> use different strategies to solve multiplication facts.	<b>Student:</b> Students practice solving multiplication facts, efficiently on their whiteboards.  <b>Instructor:</b> Instructor will lead discussion, particularly highlighting using resources in the room (multiplication fact posters) to assist students in their work.
<a href="#">CCSS 3.OA.7</a> <a href="#">CCSS 3.OA.8</a> <a href="#">CCSS 3.NBT.2</a>	<b>SWBAT</b> explain how parentheses affect number sentences.  <b>SWBAT</b> accurately solve number sentences that include parentheses.  <b>SWBAT</b> insert parentheses into a given equation to make it true.	<b>Student:</b> Students will discuss the meaning of parentheses in mathematical contexts. Students will apply their understanding of parentheses, in differentiated Guided Math centers, MJ p. 207, and Home Link 6-8 to solve given number sentences and make number sentences true.  <b>Instructor:</b> Instructors will lead discussion around this concept and observe student thinking. Instructors will review student work. Instructors will differentiate as needed.
<a href="#">ISTE TEACHERS 2</a>	<b>INSTRUCTORS</b> will use <i>prezi</i> , <i>goformative</i> , and <i>teacher made youtube videos</i> to enhance and extend mathematics in and outside the classroom.	
<a href="#">ISTE STUDENTS 1</a>	<b>SWBAT</b> apply the use of parentheses in differentiated Everyday Math practice activities in the GoFormative app.	
<b>Vocabulary:</b> parentheses, number sentences, product, sum, difference		

**Materials:** Math Journal (p.207 and 208), white board, markers, *readiness* (MM p.G12 and number cards), *enrichment* (MM p.205), and *extra practice* (MM p.206), Ipad cart

**Duration:** 60 minutes

Teaching Sequence:

Time/Task	Instructional Moves (Include key questions you want to ask.)	Considerations																									
<b>Mental Math</b> (2-5 min)	<p>Today we're going to practice solving multiplication facts mentally. I'm going to show you a multiplication fact. Figure out the product and when you know it, look at me to show me you know.</p> <p><math>6 \times 2 = 12</math> , <math>4 \times 5 = 20</math> , <math>3 \times 3 = 9</math> , <math>6 \times 6 = 36</math> , <math>100 \div 10 = 100</math> , <math>3 \times 6 = 18</math> , <math>42 \div 7 = 6</math> , <math>8 \times 7 = 56</math> , <math>32 \div 8 = 4</math></p>	<p><a href="#"><u>PREZI EM 6-8</u></a></p>																									
<b>Math Message</b> (10 min)	<p><b>Show students these sentences (next slide of Prezi):</b>  <i>Let's eat Grandpa.</i>  <i>Nina fed Tom the gray cat.</i></p> <p>Everyone read this sentence. How many different meanings can you find for each?            Turn and talk with the person sitting next to you.</p> <p><b>Students share [We use commas to make our sentences more clear]</b></p> <p>When we write number sentences, they can sometimes be interpreted in more than one way too. Mathematicians use parentheses to make number sentences more clear. We're going to talk about parentheses today in our math groups.</p>																										
<b>Guided Math Groups</b> (50 min)	<table border="1"> <thead> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Triangles</td> <td>Carpet</td> <td>Table 3</td> <td>Table 4</td> <td>Table 2</td> </tr> <tr> <td>Rhombuses</td> <td>Table 2</td> <td>Carpet</td> <td>Table 3</td> <td>Table 4</td> </tr> <tr> <td>Circles</td> <td>Table 4</td> <td>Table 2</td> <td>Carpet</td> <td>Table 3</td> </tr> <tr> <td>Rectangles</td> <td>Table 3</td> <td>Table 4</td> <td>Table 2</td> <td>Carpet</td> </tr> </tbody> </table> <p><b>Carpet:</b> Mr. G – Parentheses practice  <b>Table 2:</b> Rainbow Table – Ipad activity  <b>Table 3:</b> Math Journal p.207  <b>Table 4:</b> Math Boxes – Math Journal p.208</p>		1	2	3	4	Triangles	Carpet	Table 3	Table 4	Table 2	Rhombuses	Table 2	Carpet	Table 3	Table 4	Circles	Table 4	Table 2	Carpet	Table 3	Rectangles	Table 3	Table 4	Table 2	Carpet	<p>Make sure that this is displayed <i>at all times</i> during rotations.</p> <p>Remind students of expectations:            [With Mr. G @ carpet, otherwise you're at your seat working on your own or with a partner]</p> <p>Remind students of table assignments.</p> <p>Have bell next to you on carpet</p>
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	<p><b>Focus</b></p> <p><b>Grahl</b></p>	<p><b>Display next slide of Prezi.</b></p> <p>Mathematicians use parentheses in number sentences to tell us what math to do first. Let's look at these two number sentences:</p> <p><b><math>(25 - 8) + 7 = ?</math>    <math>25 - (8 + 7) = ?</math></b></p> <p><i>What do you notice that is similar about these two number sentences?</i>  <i>What do you notice that is different?</i></p> <p><b>Solve both problems using color coded markers.</b> <math>(25 - 8) + 7 =</math></p> <p><b>Display the number story on Prezi</b></p> <p>Let's read this number story:  <i>Talia lost 8 of 25 pens, but then she bought 7 more.</i></p> <p>What happened first in this number story? Since Talia lost 8 pens first, we would want to put parentheses around <math>25 - 8</math> to match.</p> <p>Everyone take your slate and solve this problem:</p> <p><b><math>50 - (10 - 4) = ?</math></b></p> <p><i>What did you do first? What was your solution?</i></p> <p>Okay, turn your whiteboards over. Let's look at these two number sentences:</p> <p><b><math>42 - 4 + 11 = 49</math>    <math>42 - 4 + 11 = 27</math></b></p> <p>Both of these number sentences are missing parentheses. We have to figure out where to put them in.</p> <p><i>What could we do first to figure out where the parentheses should go?</i>  <i>How do you know whether you placed the parentheses correctly?</i></p> <p>Everyone take your slate and insert parentheses to make these problems true:</p> <p><b><math>30 - 10 \times 2 = 10</math>    <math>30 - 10 \times 2 = 40</math></b></p> <p>You are each going to work on page 207 at the next station. At the top it tells you to solve the problems. For problems 7 – 10 you are going to put in the parentheses to make the problems true.</p>	
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## RING BELL, SWITCH GROUPS

	<p><b>Extra Practice, Enrichment</b></p> <p><b>Tabaka</b></p>	<p>Enrichment Activity is on Ipads in GoFormative:  <a href="#">6.8 – Dot Patterns with Number Sentences (Rectangles)</a></p> <p>Extra Practice Activity on Ipads in GoFormative:  <a href="#">6.8 – Practicing with Parentheses (Triangles, Rhombuses, Circles)</a></p>	<p><b>PREPARATION:</b> 8 I-Pads</p>
<p><b>Assessment Check-In</b></p>	<p>Expect children to correctly interpret the parentheses and solve Problems 1 - 6 on MJ p.207.</p> <p>Do not expect all children to correctly insert parentheses to make number sentences true in Problems 7 – 11.</p>		
<p><b>Closure</b> (5 min)</p>	<p><i>How do parentheses change the way mathematicians interpret a number sentence? <b>Turn and talk</b></i></p>		
<p><b>Home-Link 6.8</b></p>	<p>I have created a Homelink review video for families and students to view to assist with homework. The link is provided below. These videos are posted on our class website, as well as emailed out to students each afternoon before students get their homework.</p> <p><a href="#">Homelink 6.8 – Parentheses Puzzles</a></p>		
<p><b>EEE FRAMEWORK EXPLANATION</b></p>	<p>This lesson <i>extends</i> learning by creating opportunities for students and families to learn outside of school via a youtube video made by the instructor. The video gives students the opportunity to learn along with their families and reinforce concepts learned in school. This bridges learning between the school (teacher-student) context and the home (parent/guardian-student) context and provides some common understanding of material for parents to help reinforce with students.</p> <p>This lesson <i>engages</i> students in learning by providing students in the goformative center with less distractions (pencils, erasing, and paper) while also increasing the tools available to students (color, shapes, text). Providing differentiated goformative centers motivates students by providing a different modality (amongst three other paper/pencil math centers).</p>		