TCSS Common Core Curriculum

Katie Brown – Elementary Math Academic Coach
State provides us with the following:

**Common Core Georgia Performance Standard**

MCC2.OA.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

**Resources That Support the Standards**

- Frameworks
- Learning Village
- Wikis
- Grade Level Overviews
Troup County provides teachers with the following:

**Instructional Resource Website**

- Curriculum Maps (includes standards and when to teach them)
- Resource Ideas
- Professional Development
- TCSS Teacher Videos
- Assessment Ideas
- 121 Pages and 10,532 Files
Let’s Take a Quick Glance
### CCGPS

<table>
<thead>
<tr>
<th>Standard</th>
<th>Example/Vocabulary</th>
<th>System Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCC2.OA.2</td>
<td>Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</td>
<td>The Hands-On Standards lessons can also be used in whole group as introductory lessons.</td>
</tr>
</tbody>
</table>

In first grade, students learned to add and subtract within 20 using strategies such as counting on, making ten, decomposing a number leading to a ten, using the relationship between addition and subtraction, and creating equivalent but easier sums. Students had to demonstrate fluency for addition and subtraction within 10.

### Essential Questions

- What mental math strategies can I use to help me add quickly and accurately?
- What mental math strategies can I use to help me subtract quickly and accurately?
- What are some strategies for learning my addition facts?
- What are some strategies for learning my subtraction facts?

### Example/Vocabulary

**MCC2.OA.2**

- In this standard, fluently means accurately (correct answer), efficiently (within 4 - 5 seconds), and with flexibility (using strategies such as making 10 or breaking apart numbers).
- Research indicates that teachers can best support students’ memorization of sums and differences through varied experience making ten, breaking numbers apart and working on mental strategies rather than repetitive timed tests. It is appropriate to assess these facts with a timed test.

Mental strategies help students make sense of number relationships as they are adding and subtracting within 20. Some strategies are as follows:

#### Examples of Addition Strategies:

- **Doubles:** Adding two of the same number together, such as 5 + 5 or 7 + 7.
- **Doubles plus one:** Finding hidden doubles in expressions where one addend is one more than the other, such as 5 + 6 (thinking 5 + 5 + 1).
- **Doubles plus two:** Finding hidden doubles in expressions where one addend is two more than the other, such as 5 + 7 (thinking 5 + 5 + 2).
- **Doubles minus one:** Locating doubles in expressions where one addend is one more than the other, such as 5 + 6 (but thinking 6 + 6 - 1).
- **Doubles minus two:** Locating doubles in expressions where one addend is two more than the other, such as 5 + 7 (but thinking 7 + 7 - 2).
- **Combinations of Ten:** Students learn to recognize expressions equating ten such as 6 + 4 and 7 + 3 for use in other strategies.
- **Counting Up:** This is only used when adding 1 or 2 to a given number; 9 + 2 would be “9,...10,...11”.
- **Making Tens:** (9 + 7 = 10 + 6)

### System Resources

- **Whole Group**
  - Addition Strategy Notebook
  - Subtraction Strategy Notebook
- **RBY**:
  - **Does**
  - **What’s My Place, What’s My Value?**
- **Harcourt Math**:
  - 4.1 (using properties of operations)
  - 4.2 (using counting on)
  - 4.3 (using double & doubles + 1)
  - 4.4 (using making ten)
  - 5.1 (using counting back)
  - 5.2 (using fact families)
  - 5.3 (using relating + and -)
- **Think Math**:
  - Chapter 1: Lessons 4, 5, and 9
  - Chapter 2: Lessons 1, 3, 4, 5, 6, and 7
- **Learning Village**:
  - Order is Important pg. 35
  - Incredible Equations pg. 31
- **Fluency Kit**:
  - Strategies Section
  - Building Towards Fluency
  - Hitting the Target Number
<table>
<thead>
<tr>
<th>CCGPS</th>
<th>Example/Vocabulary</th>
<th>System Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MCC2.OA.2</strong></td>
<td>Examples of Subtraction Strategies</td>
<td>differentiated activities</td>
</tr>
<tr>
<td></td>
<td>• Counting Back: Beginning with the minuend, count back the number you are subtracting.</td>
<td>fluency kit</td>
</tr>
<tr>
<td></td>
<td>• Counting Up: Begin with the number you are subtracting and count up to the other number; 12 – 9 could be, “9,...10, 11, 12”. The answer would be three because we counted up three numbers.</td>
<td>games section – students practice using strategies</td>
</tr>
<tr>
<td></td>
<td>• Think Addition/Fact Families: Think of related addition problems when confronted with subtraction facts; if you see 7 – 5 you would think 5 + 2 = 7.</td>
<td>other lessons:</td>
</tr>
<tr>
<td></td>
<td>• Decomposing a Number Leading to a Ten: (14 – 6 = 14 – 4 – 2 = 10 – 2 = 8)</td>
<td>nine plus</td>
</tr>
<tr>
<td>Developing Fluency for Addition &amp; Subtraction within 20:</td>
<td></td>
<td>eleven more</td>
</tr>
<tr>
<td><strong>Example:</strong> 9 + 5 =</td>
<td></td>
<td>four in a row – game 1</td>
</tr>
<tr>
<td>Student A</td>
<td>Counting On</td>
<td>four in a row – game 2</td>
</tr>
<tr>
<td>Counting On</td>
<td>I started at 9 and then counted 5 more. I landed on 14.</td>
<td>subtraction table</td>
</tr>
<tr>
<td>Student B</td>
<td>Decomposing a Number-Leading to a Ten</td>
<td>addition table</td>
</tr>
<tr>
<td></td>
<td>I know that 9 and 1 is 10, so I broke 5 into 1 and 4. 9 plus 1 is 10. Then I have to add 4 more, which is 14.</td>
<td>pair share</td>
</tr>
<tr>
<td><strong>Example:</strong> 13 – 9</td>
<td>Using the Relationship between Addition and Subtraction</td>
<td>doubles bump</td>
</tr>
<tr>
<td></td>
<td>I know 9 plus 4 equals 13. So 13 minus 9 is 4.</td>
<td>near 20</td>
</tr>
<tr>
<td></td>
<td>Student B</td>
<td>magic star</td>
</tr>
<tr>
<td></td>
<td>Creating an Easier Problem</td>
<td>magic triangle</td>
</tr>
<tr>
<td></td>
<td>Instead of 13 minus 9, I added 1 to each of the numbers to make the problem 14 minus 10. I know the answer is 4. So 13 minus 9 is also 4.</td>
<td>magic square</td>
</tr>
<tr>
<td></td>
<td>vocabulary</td>
<td>fact family sheet</td>
</tr>
<tr>
<td></td>
<td>mental strategies</td>
<td>differentiated resources</td>
</tr>
<tr>
<td></td>
<td>fact families</td>
<td>rekenrek activities (these activities come from the red book that came with rekenreks)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Lesson 5, 6, 7, 8, 9, 10, 11, 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fluency fun (scroll to pg.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>doubles fun (scroll to pg.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>number relationships and addition facts (scroll to pg.11)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>click here for other lessons and assessments</td>
</tr>
<tr>
<td>Standard</td>
<td>Additional Resources for Professional Development</td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>MCC2.NBT.1</td>
<td>Thinking about place value in 2nd Grade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BLAST Professional Development Video 2.NBT.1-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Math Misconceptions 2.NBT.1-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teaching Student Centered Mathematics K-3, John Van de Walle and LouAnn Lovin, pages 122-156</td>
<td></td>
</tr>
<tr>
<td>MCC2.NBT.2</td>
<td>BLAST Professional Development Video 2.NBT.1-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Math Misconceptions 2.NBT.1-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teaching Student Centered Mathematics K-3, John Van de Walle and LouAnn Lovin, pages 122-156</td>
<td></td>
</tr>
<tr>
<td>MCC2.NBT.3</td>
<td>Thinking about place value in 2nd Grade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BLAST Professional Development Video 2.NBT.1-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Math Misconceptions 2.NBT.1-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teaching Student Centered Mathematics K-3, John Van de Walle and LouAnn Lovin, pages 122-156</td>
<td></td>
</tr>
<tr>
<td>MCC2.NBT.4</td>
<td>BLAST Professional Development Video 2.NBT.1-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Math Misconceptions 2.NBT.1-4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thinking about place value in 2nd Grade</td>
<td></td>
</tr>
<tr>
<td>MCC2.OA.2</td>
<td>Teaching Student Centered Mathematics K-3, John Van de Walle and LouAnn Lovin, pages 65-76; 94-111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to Use a Rekenrek Video</td>
<td></td>
</tr>
</tbody>
</table>
Operations and Algebraic Thinking (2.OA)

Resources
2.OA.1
- Teaching Student Centered Mathematics K-3, Van de Walle and Lovin:
  - Chapter 3: Developing Meaning for the Operations and Solving Story Problems, p. 65-80; p. 86-91
  - Chapter 6: Strategies for Whole Number Computation, p.163-169
- Illustrative Mathematics: A Pencil and a Sticker
- NCTM Illuminations Lessons: Comparing Connecting Cubes, How Many More Fish, Take Away
- Lessons / Activities: Antelope Addend
- Interactive activities: Grand Slam Math
- One- and Two-Step Word Problems: 1 2 3 4 5
  Thanks Jennifer Snellgrove

2.OA.2
- Teaching Student Centered Mathematics K-3, Van de Walle and Lovin
  - Activity 3.2 Missing Part Subtraction, page 74
  - Activity 3.3 More Than Two Addends, pages 76-77
  - Activity 4.7 Double Dice Plus One, page 102
  - Activity 4.8 Make Ten on the Ten-Frame, pages 103
  - Activity 4.11 Say the Ten Fact, page 106
  - Activity 4.15 Missing-Number Worksheets, pages 110-111
- Finding Fact Families
- Lessons / Activities: Number Relationship Mat, Fact Family Unifix Trains, Make Ten Dot Cards, Doubles Plus One, Doubles Minus One, Addition Snap, Go Fish For Doubles
- Interactive Activities: Alien Addition, Addition Machine

2.OA.3
- Teaching Student Centered Mathematics K-3, Van de Walle and Lovin:
  - Fair Shares for Two, p. 292

Assessment Tasks
CC Tasks from NC
OA.1
- formative
- task
- classroom assessment questions
- Open Ended

OA.2
- Fact Fluency Test 1
- Fact Fluency Test 2
- Fact Fluency Test 3
- Fact Fluency Test 4
- Fact Fluency Test 5
- task 1
- directions
- Assessment Task 1
- Assessment Task 2
- Assessment Task 3
- Open Ended

OA.3
- classroom assessment questions
- Open Ended

OA.4
- classroom assessment questions
Pacing Calendar

~ September 2014 ~

1. Labor Day

2. MCC2.NBT.3
   Base-ten numerals, number names, and expanded form to 1,000

3. MCC2.NBT.4
   Compare two three-digit numbers

7.

8.

9. MCC2.NBT.4
   Compare two three-digit numbers

10.

11. MCC2.OA.3
    Even and Odd

14.

15.

16.

17. MCC2.OA.3
    Even and Odd

18.

19. MCC2.OA.2 and MCC2.MD.6
    Fluently add and subtract within 20; use a number line to add and subtract up to 20

21.

22.

23.

24. MCC2.OA.2 and MCC2.MD.6
    Fluently add and subtract within 20; use a number line to add and subtract up to 20

28.

29.

30. Notes:
    MCC2.OA.2 and MCC2.MD.6
In Closing

State provides us with:

- Common Core Georgia Performance Standards (WHAT students need to learn)
- Support resources

As a system we:

- take standards and create a curriculum that works for our system
- help teachers better understand the standards and what the students need to learn within a grade level and beyond
- provide a wealth of resources on our website that allows them to have autonomy when choosing HOW they are going to teach the standards