

## NJDOE MODEL CURRICULUM

CONTENT AREA: Mathematics		GRADE: 4	UNIT: # 1	UNIT NAME: Use the Four Operations with Whole Numbers to Solve Problems
#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS		
1	Explain the quantitative relationship between places of a multi-digit whole number up to one million when moving from right to left.	4.NBT.1	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. <i>For example, recognize that <math>700 \div 70 = 10</math> by applying concepts of place value and division.</i>	
2	Compare numbers using $>$ , $=$ , and $<$ for two multi-digit whole numbers up to one million (presented as base ten numerals, number names, or expanded form).	4.NBT.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.	
3	Round multi-digit whole numbers up to one million to any place.	4.NBT.3	Use place value understanding to round multi-digit whole numbers to any place.	
4	Write multiplication equations from multiplicative comparisons given in words (example, 35 is 5 times as many as 7 and 7 times as many as 5) and describe a multiplication equation in words.	4.OA.1	Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	
5	Multiply or divide to solve word problems involving multiplicative comparisons.	4.OA.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	
6	Write an equation to identify the arithmetic operation written in a word problem (without solving).			
7	<b>Fluently add and subtract multi-digit whole numbers using the standard algorithm.</b>	4.NBT.4	<b>Fluently add and subtract multi-digit whole numbers using the standard algorithm.</b>	

Major Supporting Additional (Identified by PARCC Model Content Frameworks). **Bold type indicates grade level fluency requirements.** (Identified by PARCC Model Content Frameworks).

### Selected Opportunities for Connection to Mathematical Practices

1. **Make sense of problems and persevere in solving them.**  
SLO #5 Multiply or divide to solve word problem scenarios.
2. **Reason abstractly and quantitatively.**  
SLO #4 Rewrite verbal multiplicative statements as mathematical expressions.  
SLO #5 Use symbols for the unknown [e.g.,  $n$ ,  $?$ ,  $x$ ] to solve word problems.
3. Construct viable arguments and critique the reason of others.
4. Model with mathematics.
5. **Use appropriate tools strategically.**  
SLO #6 Add and subtract multi-digit whole numbers using the standard algorithm.
6. **Attend to precision.**  
SLO #3 Understand the “cut-off” digit for rounding whole numbers.
7. **Look for and make use of structure.**  
SLO #1 For multi-digit whole numbers, any place value is 10 times the value of the place to the right.  
SLO #2 Write the value of a whole number as the sum of the values that each digit represents.  
SLO #7 Look for and discern patterns when using the standard algorithm to add and subtract multi-digit whole numbers.
8. **Look for and express regularity in repeated reasoning.**  
SLO #1 For multi-digit whole numbers, any place value is 100 times that of two places to the right.

*Bold type identifies possible starting points for connections to the SLOs in this unit.*

## Greater Brunswick Charter School Grade Level Curriculum

Grade level: 4		Subject: Math			Unit #: 1		
Day	Topic	SLO CCSS	Learning Objectives	Essential Questions	Suggested Student Activities		Possible Resources (in addition to MyMath)
					Whole Group	Small Group / Stations	
1	Numbers in the thousands	2	<ul style="list-style-type: none"> <li>Recognize periods</li> <li>Identify places within periods</li> </ul>	<ul style="list-style-type: none"> <li><i>What do I need to know to read a number correctly?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson p.11</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">PARCC Online Resources</a></li> <li>My Math p.11</li> </ul>
2	Numbers in the millions	2				•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>
3	Reading and writing numbers	2	<ul style="list-style-type: none"> <li>Reading and writing number using place value as cues</li> </ul>	<ul style="list-style-type: none"> <li><i>What patterns will help me read numbers?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">PARCC Online Resources</a></li> <li>My Math p.17</li> </ul>
4	Reading and writing numbers in the millions	2				•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>
5	Compare and order multi digit numbers	2	<ul style="list-style-type: none"> <li>Determine which of numbers is the larger/smaller</li> </ul>	<ul style="list-style-type: none"> <li><i>What do I need to see to compare numbers?</i></li> <li><i>How can picturing a number line help me compare numbers?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">PARCC Online Resources</a></li> <li>My Math p.23</li> </ul>
6	Compare and order multi digit numbers	2				•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>
7	Recognize the value of same digits increase in value from right to left	1	<ul style="list-style-type: none"> <li>Apply skills to real life situations</li> </ul>	<ul style="list-style-type: none"> <li><i>Why does the same number have more value to me as it moves to the left?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">PARCC Online Resources</a></li> <li>My Math p.29</li> </ul>

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Day	Topic	SLO CCSS	Learning Objectives	Essential Questions	Suggested Student Activities		Possible Resources (in addition to MyMath)
					Whole Group	Small Group / Stations	
8	Round multi digit numbers	3	<ul style="list-style-type: none"> <li>Determine approximations for numbers</li> </ul>	<ul style="list-style-type: none"> <li><i>How can a number line help me understand if my answer is reasonable?</i></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.37</li> </ul>
9	Round multi digit numbers	3	<ul style="list-style-type: none"> <li>Round numbers to a specific place value</li> </ul>	<ul style="list-style-type: none"> <li><i>Where do I need to look to round a number?</i></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.41</li> </ul>
10	All topics reviewed		<ul style="list-style-type: none"> <li>Review</li> <li>Assessment</li> </ul>			<ul style="list-style-type: none"> <li>Review key focal points of instruction</li> <li>Assess students</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
11	Developing strategies for solving problems	4	<ul style="list-style-type: none"> <li>Use the four step method to strategize a solution</li> </ul>	<ul style="list-style-type: none"> <li><i>What 4 steps can help me understand a problem?</i></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Practice the strategy</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.43</li> <li><a href="#">PARCC Online Resources</a></li> <li><a href="#">MathGoodies Alignment to CCSS</a></li> <li><a href="#">Internet4Classrooms Alignment to CCSS</a></li> </ul>
12	Add and subtract numbers	7	<ul style="list-style-type: none"> <li>Use properties and rules to add and subtract</li> </ul>	<ul style="list-style-type: none"> <li><i>What methods do I remember from last year to add and subtract?</i></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.61</li> </ul>
13	Problems using addition and subtraction	7	<ul style="list-style-type: none"> <li>Use patterns to solve addition and subtraction problems</li> </ul>	<ul style="list-style-type: none"> <li><i>How do the 4 steps help me find a solution?</i></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.67</li> <li><a href="#">PARCC Online Resources</a></li> <li><a href="#">MathGoodies Alignment to CCSS</a></li> <li><a href="#">Internet4Classrooms Alignment to CCSS</a></li> <li><a href="#">MathPlaygroundVideo</a></li> </ul>

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					Whole Group	Small Group / Stations	
14	Problems using addition and subtraction	7		<ul style="list-style-type: none"> <li>• <i>How does making a movie in my mind for each problem help me know what is happening?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>• Lesson</li> <li>• Ind. Practice</li> <li>• i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>• My Math p.71</li> </ul>
15	Estimating	3	<ul style="list-style-type: none"> <li>• Use rounding strategies to add and subtract quickly.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How does rounding and estimating help me get to the answer?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>• Lesson</li> <li>• Guided Practice</li> <li>• Ind. Practice</li> <li>• i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>• My Math p.79</li> </ul>
16					•	<ul style="list-style-type: none"> <li>• Lesson</li> <li>• Differentiated activities</li> <li>• Ind. Practice</li> <li>• i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>• My Math p.83</li> </ul>
17	Mental arithmetic	7	<ul style="list-style-type: none"> <li>• Adding mentally</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How can adding from left to right help me add in my head?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>• Lesson</li> <li>• Guided Practice using only addition problems</li> <li>• Ind. Practice using only addition problems</li> <li>• i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>• My Math p.73</li> </ul>
18	Mental arithmetic	7	<ul style="list-style-type: none"> <li>• Subtracting mentally</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How can counting down sometimes help me subtract in my head?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>• Lesson</li> <li>• Guided Practice using subtraction problems</li> <li>• Ind. Practice</li> <li>• i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>• My Math p.73</li> </ul>
19	Adding numbers	7	<ul style="list-style-type: none"> <li>• Adding large numbers with regrouping</li> </ul>	<ul style="list-style-type: none"> <li>• <i>How is adding large numbers just like adding smaller numbers?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>• Lesson</li> <li>• Guided Practice</li> <li>• Ind. Practice</li> <li>• i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>• My Math p.87</li> </ul>

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Day	Topic	SLO CCSS	Learning Objectives	Essential Questions	Suggested Student Activities		Possible Resources (in addition to MyMath)
					Whole Group	Small Group / Stations	
20	Subtracting numbers	7	<ul style="list-style-type: none"> <li>Subtracting large numbers with regrouping</li> </ul>	<ul style="list-style-type: none"> <li><i>How is subtracting large numbers just like subtracting smaller numbers?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.93</li> </ul>
21	Subtracting numbers	7	<ul style="list-style-type: none"> <li>Subtracting with zeros in the top number</li> </ul>	<ul style="list-style-type: none"> <li><i>With what do I need to be careful when subtracting from a number with a lot of zeros?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.99</li> </ul>
22	Adding and subtracting		<ul style="list-style-type: none"> <li>Review</li> <li>Assessment</li> </ul>		•	<ul style="list-style-type: none"> <li>Review key points of content</li> <li>Assess</li> </ul>	•
23	Multiplying and Dividing	5	<ul style="list-style-type: none"> <li>Multiply or divide 2 digit numbers</li> </ul>	<ul style="list-style-type: none"> <li><i>How is multiplication faster, repeated addition?</i></li> <li><i>How are multiplication and division opposites?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.135</li> <li><a href="#">PARCC Online Resources</a></li> <li><a href="#">MathGoodies Alignment to CCSS</a></li> <li><a href="#">Internet4Classrooms Alignment to CCSS</a></li> </ul>
24				<ul style="list-style-type: none"> <li><i>How is division faster, repeated subtraction?</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.141</li> </ul>
25	Multiplication for meaning and unknowns	5	<ul style="list-style-type: none"> <li>Arrays</li> <li>Using unknowns to create equations</li> </ul>	<ul style="list-style-type: none"> <li><i>How can we represent something we don't know</i></li> </ul>	•	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.147</li> </ul>

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Unit #: 1

Day	Topic	SLO CCSS	Learning Objectives	Essential Questions	Suggested Student Activities		Possible Resources (in addition to MyMath)
					Whole Group	Small Group / Stations	
26	Write equations that can be used to solve word problems (without solving)	6	<ul style="list-style-type: none"> <li>Using equations to find unknowns and as steps to a solution</li> </ul>	<ul style="list-style-type: none"> <li>How can we show a way to find the answer?</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.153</li> </ul>
27	Write equations that can be used to solve word problems (without solving)	6	<ul style="list-style-type: none"> <li>Using equations to find unknowns and as steps to a solution</li> </ul>	<ul style="list-style-type: none"> <li>How can we show a way to find the answer?</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.157</li> <li><a href="#">PARCC Online Resources</a></li> <li><a href="#">MathGoodies Alignment to CCSS</a></li> <li><a href="#">Internet4Classrooms Alignment to CCSS</a></li> </ul>
28					<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.109</li> </ul>
29					<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.113</li> <li><a href="#">PARCC Online Resources</a></li> <li><a href="#">MathGoodies Alignment to CCSS</a></li> <li><a href="#">Internet4Classrooms Alignment to CCSS</a></li> </ul>
30					<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Lesson</li> <li>Guided Practice</li> <li>Ind. Practice</li> <li>i-Ready</li> </ul>	<ul style="list-style-type: none"> <li>My Math p.118</li> </ul>
31	All topics discussed	1-7	Skill development	Where am I having trouble understanding what to do?		Differentiated activities to address areas of skill deficiency.	i-Ready
32							
<u>Word Wall Candidates</u> Digit                      Place Value                      > < =                      Round                      Associative Commutative              Unknown                      Equation                      Variable                      Divisor Factor                      Compare                      Identity                      Zero property                      Multiple Decompose              Period							

**Grade level: 4**

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Day	Topic	SLO CCSS	Learning Objectives	Essential Questions	Suggested Student Activities		Possible Resources (in addition to MyMath)
					Whole Group	Small Group / Stations	

Authentic Application

The Price is Right!

Your Goal: To create a list of items whose total cost comes within \$2.00 of your total budget of (teacher sets the total budget).

Your Role: You are one member of your buying team that needs to research the cost of items, keep a running total of the cost for each of your lists, and determine the best match between persons and gifts.

Your Audience: Your list is made of members of the families of each of your team members.

The Situation:

- You must create a list of family and friends for whom you will buy items you believe they would like to have.
- You must have between three and eight people on each team member's list of recipients.
- You can choose a holiday for which to buy them presents (like Christmas, Columbus Day, Thanksgiving, Halloween), or select a theme into which all of the items will fit (like sports, clothes, electronics), or elect to just buy them items they need or would like to have.
- There must be at least two items you purchase for each person in multiples (like five boxes of candy, three baseball hats, four notebooks).
- All items and prices must be real, researched on-line or in catalogs.

The Final Product: You must make a chart that shows for each purchase:

- The name of the person to receive it
- The relation of that person to the team member
- The items being purchased for that person
- The cost of each item and the cost of all items for multiples (like \$25 each hat, \$75 for all three of them)
- The total cost for all items each team member will purchase
- The total cost of all items purchased by the team

Then you must write a story about why your items/gifts are good ideas for the person you have decided to receive them.

Success Criteria: To be successful, you must provide, at the end of the project:

- A complete chart listing all of the information above for each item to be purchased.
- A story that explains in enough detail so your teacher can understand why the items you are purchasing are good ideas for your people.