

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 $700 \div 70 = 10$ 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	Fluently add and subtract multi-digit whole numbers using the standard algorithm.	4.NBT.4	Fluently add and subtract multi-digit whole numbers using the standard algorithm.	

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"> Recognize periods Identify places within periods 	<ul style="list-style-type: none"> <i>What do I need to know to read a number correctly?</i> 	•	<ul style="list-style-type: none"> Lesson p.11 Guided Practice Ind. Practice i-Ready 	<ul style="list-style-type: none"> PARCC Online Resources My Math p.11
2	Numbers in the millions	2				•	<ul style="list-style-type: none"> Lesson Ind. Practice i-Ready
3	Reading and writing numbers	2	<ul style="list-style-type: none"> Reading and writing number using place value as cues 	<ul style="list-style-type: none"> <i>What patterns will help me read numbers?</i> 	•	<ul style="list-style-type: none"> Lesson Guided Practice Ind. Practice i-Ready 	<ul style="list-style-type: none"> PARCC Online Resources My Math p.17
4	Reading and writing numbers in the millions	2				•	<ul style="list-style-type: none"> Lesson Ind. Practice i-Ready
5	Compare and order multi digit numbers	2	<ul style="list-style-type: none"> Determine which of numbers is the larger/smaller 	<ul style="list-style-type: none"> <i>What do I need to see to compare numbers?</i> <i>How can picturing a number line help me compare numbers?</i> 	•	<ul style="list-style-type: none"> Lesson Guided Practice Ind. Practice i-Ready 	<ul style="list-style-type: none"> PARCC Online Resources My Math p.23
6	Compare and order multi digit numbers	2				•	<ul style="list-style-type: none"> Lesson Ind. Practice i-Ready
7	Recognize the value of same digits increase in value from right to left	1	<ul style="list-style-type: none"> Apply skills to real life situations 	<ul style="list-style-type: none"> <i>Why does the same number have more value to me as it moves to the left?</i> 	•	<ul style="list-style-type: none"> Lesson Guided Practice Ind. Practice i-Ready 	<ul style="list-style-type: none"> PARCC Online Resources My Math p.29

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

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

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

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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	
26	Write equations that can be used to solve word problems (without solving)	6	<ul style="list-style-type: none"> Using equations to find unknowns and as steps to a solution 	<ul style="list-style-type: none"> How can we show a way to find the answer? 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Lesson Guided Practice Ind. Practice i-Ready 	<ul style="list-style-type: none"> My Math p.153
27	Write equations that can be used to solve word problems (without solving)	6	<ul style="list-style-type: none"> Using equations to find unknowns and as steps to a solution 	<ul style="list-style-type: none"> How can we show a way to find the answer? 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Lesson Ind. Practice i-Ready 	<ul style="list-style-type: none"> My Math p.157 PARCC Online Resources MathGoodies Alignment to CCSS Internet4Classrooms Alignment to CCSS
28					<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Lesson Guided Practice Ind. Practice i-Ready 	<ul style="list-style-type: none"> My Math p.109
29					<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Lesson Guided Practice Ind. Practice i-Ready 	<ul style="list-style-type: none"> My Math p.113 PARCC Online Resources MathGoodies Alignment to CCSS Internet4Classrooms Alignment to CCSS
30					<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Lesson Guided Practice Ind. Practice i-Ready 	<ul style="list-style-type: none"> My Math p.118
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							

Word Wall CandidatesDigit
Commutative
Factor
DecomposePlace Value
Unknown
Compare
Period> < =
Equation
IdentityRound
Variable
Zero propertyAssociative
Divisor
Multiple

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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.