NEW HANOVER TOWNSHIP

MATH CURRICULUM
GRADE 3

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New Hanover Township School

Grade: 3

Content Area: Mathematics

Domain: Number and Operations in Base Ten

Stage 1: Desired Results

Common Core Standards

1

Use place value understanding and properties of operations to perform multi-digit arithmetic.

- 3.NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.
- 3.NBT.2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 3.NBT.3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

1 A range of algorithms may be used.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

- 3.OA.8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.[3]
- 3.OA.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

3 This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order.

Essential Understandings	Content Skills
Topic 1 Numeration	
1-1, 2, 3: Our number system is based on groups of ten. Whenever we get ten in one place value, we move to the next greater place value.	1-1: Students will read and write 3-digit and 4-digit numbers.
1-2 Place value can be usd to name numbers in different ways. Uses of numbers include telling how many and showing a date or an address.	1-2: Studdents will name numbers in different ways.
1-3: The place value periods units, thousands, millions, and so forth, are used to read and write	1-3: Students will read and write numbers in the ten and hundred thousands.

large numbers.	
1-4: Each whole number can be associated with a unique point on the number line. Zero is the least whole number. The distance between any two consecuative whole numbers on a given number line is the same.	1-4: Students locate and compare whole numbers on the number line.
1-5: Equal distances on the number line must correspond to equal distances in the numbers. The scale on soe graphs is a number line.	1-5: Students identify the pattern on a number line or graph scale, and calculate missing labels.
1-6: Place value can help you compare whole numbers.	1-6: Students will compare 3-digit and 4-digit whole numbers.
1-7: Place value can help you order whole numbers.	1-7: Students will order 3-digit and 4-digit whole numbers.
1-8 Some problems can be solved by generating a list of outcomes and organizing that list in a systematic way so all outcomes are accounted for.	1-8: Students will make an organized list to represent information giving in a problem.
Topic 2 Number Sense: Addition and Subtration	
2-1, 2: Some real world problems involving joining, separating, part-part-whole, or comparison can be solved using addition. Two or more numbers can be added in any order and the sum of any nubmer and 0 is that number.	2-1: Students use concrete materials and concepts of addition to model the Commutative, Associative, and Identity Properties of Addition.
2-2: Fact families show addition and subtraction relationships.	2-2: Students recognize situations when subtraction is used to solve a problem and write number sentences.
2-3, 4: There is more than one way to do a mental calculation. Techniques for doing addition calculations mentally, like breaking apart numbers and making tens, involve changing the number or expressions so the calculation is easy to do mentally and has the same answer as the orginial calcuation.	2-3: Students solve problems by adding with mental math. 2-4: Students will solve problems by subtracting with mental math.
2-5: Rounding is a process for finding the multiple of 10, 100, 100 and so on, closest to a given number.	2-5: Students round two-digit and three-digit whole numbers to the nearest ten or hundred by comparing to the number halfway between or by using place value.
2-6: There is more tha none way to estimate a sum. Rounding gives one way to estimate sums.	2-6: Students will solve problems by estimating sums.
2-7: There is more than one way to estimate a difference. Using rounding and substituting compatible numbers are two ways to estiamte differences by replacing number with other numbers that are close and easy to compure with mentally.	2-7: Students will solve problems by estimating differences.
2-8: An equation shows a balance between what is on the right side and what is on the left side of the equal sign.	2-8: Students will decide whether both sides of an euqation are equal and they will determine the value of an unknown number in an equation.
2-9: Answer to problems should always be checked for reasonableness, and this can be done in	2-9: Students will solve word problems and check for their reasonableness.

different ways. One way is to use estimation when appropriate. Another way is to check the answer against the question and conditions in the problem.	
Topic 3: Using Place Value to Add and Subtract	
3-1: The expanded algorithm for adding 3-digit numbers breaks the problem into a series of easier problems based on place value. Answer to the simpler problems are added together to determine the final sum.	3-1: Students solve 3-digit addition problems using an expanded algoruthm.
3-2, 3: Models and the standard algoruthm for adding 3-digit numbers are just an extension to the hundreds place of the models and standard algorithm for adding 2-digit numbers.	3-2: Students add 3-digit numbers using place value using value blocks or pictures and record the results using the standard addition algorithm. 3-3: Students add 3 digit numbers using paper and pencil methods and use addition to solve problems.
3-4: Three or more whole numbers can be added in any order.	3-4, 8: Students add 3 or more 2 and 3 digit numbers using paper and pencil methods and use addition to solve problems.
3-5: Information in a problem can often be shown using a picture or diagram and used to understand and solve the problem. Some problems can be solved by writing and completing a number sentence or equation.	3-5: Students draw a picture to solve a problem.
3-6: The expanded algorithm for subtracting 3-digit numbers breaks the subtraction problem int a series of easier problems based on place value. Answer to the simpler problems are used to find the final difference.	3-6: Students solve 3-digit subtraction problems by breaking time into smaller, easier subtraction problems.
3-7, 8: Models and the standard algorithm for subtracting 3-digit numbers are just an extension to the hundreds place of the models and standard algorithm for subtracting 2-digit numbers.	3-7: Students subtract 3-digit numbers using place value blocks or pictures and record the results using the standard subtraction algorithm.
3-8: In the traditional subtraction algorithm for 3-digit numbers, sometimes it is necessary to rename 1 hundred as 10 tens or 1 ten as 10 ones.	
3-9: Place value relationships can help simplify subtracting across zero.	3-9: Students subtract 3-digit numbers using paper and pencil methods and use subtraction to solve problems.
3-10: Information in a problem can often be shown using a pircture or diagram an used to understand and solve the problem.	3-10: Students solve problems by writing anumber sentence based on apicture they have drawn describing the problem.

Understanding by Design

Essential Questions

Topic 1: Numeration

1-1, 2, 3: How are greater numbers read and written?

1-1, 6, 7: How can whole numbers be compared and ordered?

1-4, 5: How can you locate numbers, write, and complete patterns on a number line?

1-8: How can you solve problems by making an organized list?

Topic 2: Number Sense Addition and Subtraction
2-1: How can sums and differences be found mentally?
2-1: How can sums and difference be estimated?
2-1: Can addition properties be used to show relationships that always hold true?
2-2: When do you subtract?
2-3 How can you break apart numbers or make a ten to add 2-digit numbers using mental math?
2-4: When can you subtract with mental math?
2-5: How can you round numbers?
2-6: Can you estimate sums?
2-7: How can you estimate differences?
2-8: What other ways can you think about equations?
2-9: How do I check for reasonableness?

Topic 3: Using Place Value to Add and Subtract
3-1, 2: How can you add 3 digit numbers?
3-3, 4: How can you use addition to solve problems?
3-5: How can you solve a problem by drawing a picture?
3-6: How can you break a large subtraction problem into smaller, simpler ones?
3-7: How can you use models to subtract 3-digit numbers with regrouping?
3-8: How can you subtract 3-digit numbers using paper and pencil?
3-9: How can you subtract from a 3 digit number with zeros?
3-10: How can a picture help you write a number sentence?

Misconceptions

Topic 1 Numeration:
1-1: Difficulty translating a zero within a number to expanded form.
1-2: Difficulty grouping tens into a higher place value.
1-3: Confused the term period with the punctuation mark.
1-3: Difficulty telling how six-digit numbers are alike and different.
1-4: Difficulty understanding the differences in spaces on various number lines.
1-5: Unsure how to find differences between two numbers.
1-6: Difficulty using comparison symbols.
1-6, 7: Compare numbers from the right side first instead of left.
1-8: Do not use order to create a list of outcomes.

Topic 2 Number Sense: Addition and Subtraction
2-1: End with different sums but adding with the same addends.
2-2: Students do not start subtraction with the whole.
2-3, 4: Difficulty breaking addition and subtraction problems into a series of steps that are easier to accomplish mentally.
2-5: Unsure of how to round if a number is exactly between two tens.
2-6: Difficulty deciding when to round numbers to the nearest ten or hundred.
2-8: Unable to determine addition and subtraction facts related to an image.
2-9: Difficulty checking for reasonableness.
Topic 3: Using Place Value and Add and Subtract
3-1: Difficulty breaking up or describing numbers using concepts of place value.
3-2: Difficulty regrouping 10 or more tens as hundreds.

3-3, 4: Difficulty writing number sentences. 3-4: Difficulty regrouping 20 or more ones into a tens or tens into hundreds. 3-5, 10: Difficulty using part-part-whole relationship in a diagram or determining which number answers the questions. 3-6: The parts do not add up to the original number. 3-7: Omit zeroes in tens place when subtracting. 3-8: Difficulty regrouping twice within one problem. 3-9: Difficulty regrouping over a zero.

Stage 2: Evidence of Learning	
Summative Traditional Assessment	**Summative Performance Tasks**
•Pre-test •Mid-Year test •Post-test •Chapter (Topic) test •Quizzes •Performance Assessment Master •Basic Facts Timed Tests •Quick Check Master •Daily Common Core Review	•Projects •Performance Task Master

Formative Assessments
•Daily Math Problems •Math Terms Dictionary •Spiral Review •Observation •Exit Questions •Classwork/Homework •Oral Questioning •Student Demonstrations (stations/centers) •Problem Solving •Notetaking

Learning Plan	
Interdisciplinary Connections	**Technology Connections**
•Social Studies: Research heights of famous structures and use numbers to describe these structures. •Suggested Texts: Magic Squares and More, Fiji Facts and Figures	•Smartboard activities •E-tools on www.pearsonsuccessnet.com

•Social Studies: Have students research to find the number of days students attend school in two different countries. Have them record the number of days for each country. Then have students compare them and also with the United States. Have them write statements and number sentences describing what they have found.	

Unit Resources
•Scott Foresman Envision Text •Student workbooks •Smartboard •Vocabulary Cards •Trade books/Story books •Envision Maath Series Problem of the Day •Spiral Review •Performance Assessment Master

New Hanover Township School

Grade: 3

Content Area: Mathematics

Domain: Operations and Algebraic Thinking

Stage 1: Desired Results
Common Core Standards

NHTS Math Curriculum: Grade 3

Represent and solve problems involving multiplication and division.

- 3.OA.1.Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*

- 3.OA.2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*

- 3.OA.3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]

- 3.OA.4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*

Understand properties of multiplication and the relationship between multiplication and division.

- 3.OA.5. Apply properties of operations as strategies to multiply and divide.[2] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*

- 3.OA.6.Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

Multiply and divide within 100.

- 3.OA.7.Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

- 3.OA.8.Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.[3]

- 3.OA.9.Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

1

Use place value understanding and properties of operations to perform multi-digit arithmetic.

- 3.NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.

- 3.NBT.2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

3.NBT.3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

2

- [1] See Glossary, Table 2. Students need not use formal terms for these properties.

- [3] This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order.

Essential Understandings	Content Skills
Topic 4 Meanings of Multiplication	
4-1: Some real-world problems involving joining and seperating equal groups or comparison can be solve using multiplication. Reptead addition involved joining equal groups and is one way to think about multiplication.	4-1: Students will write multiplication number sentences for given equal group situations using the x symbol.
4-2: Some real-world problems involving joining or seperating equal group or comparison can be solved using multiplication. An array involveds joing equal groups and is one way to think about multiplication.	4-2: Students will write multiplcation sentences for arrays and use arrays to find products.
4-3: Tow numbers can be multiplied in any order and the product remains the same.	4-3: Students will write multiplication setnences for arrays, use arrays to find products, and use the Communitive Property of Multiplication.
4-4: Some real-world problems involving joining or separating equal groups or comparison can be solving using multiplication.	4-4: Students will write math stories for given multiplication facts.
4-5: Mathematical explanations can be given using words, pictures, numbers, or symbols.	4-5: Students will use objects, words, pictures, numbers, and technology to provide a writeen explanation reflecting their understanding.
Topic 5 Multiplication Facts: Use Patterns	
5-1: There are patterns in the products for multiplication with factors of 2 and 5.	5-1: Students will use patterns to multiply with 2 and 5 as factors.
5-2: There are patterns in the products for multiplication facts with a factor of 9.	5-2: Students will use patterns to multiply with 9 as a factor.
5-3: There are patterns in the products for multiplcation facts with factors of 0 and any number is 0. The product of 1 and any number that number.	5-3: Students will use patterna and properties to multiply with 0 and 1 as factors.
5-4: There are patterns in the products for multlipcation facts with factors of 2, 5, and 9.	5-4: Students will use patterns to find products with factors of 2, 5, and 9.
5-5: Patterns can be used to solve multiplication facts.	5-5: Students will use patterns to multiply with 10 as a factor.
5-6: Basic multiplication facts and place-value patterns can be used to find products when one factor is a multiple of ten.	5-6: Students will use basic multiplication facts and number patterns to multiply by multiples of 10.
5-7: Sometimes the answer to one problem/question is needed to find the answer to another problem/question.	5-7: Students will solve for one problem and use the solution to complete a second problem.
Topic 6 Use Known Facts	
6-1: The Distributive Property can be used to break a large array into two smaller arrays.	6-1: Students will use the Distributive Property to simplify multiplication problem by breaking apart large arrays that represent multiplcation facts into smaller

	arrays that represent other multiplication facts.
6-2: Basic multiplication facts with 3 as a factor can be found by breaking apart the unknown fact into known facts. The answer to the known facts are added to get the final product.	6-2: Students will use known facts to find products with 3 as a factor.
6-3: Basic mutliplication facts with 4 as a factor can be found by breaking apart the unknown fact into known facts. The answers to the known facts are added to get the final product.	6-3: Students will use known facts and doubles to find products with 4 as a factor.
6-4: Basic multiplication facts with 6 or 7 as a factor can be found be breaking apart the unknown fact into known facts. The asnwer to the known facts are added to get the final product.	6-4: Students will use known facts to find products with 6 and 7 as factors.
6-5: Basic multiplication facts with 8 as a factor can be found by breaking apart the unknown fact into known facts. The answer to the known facts are added to get the final product.	6-5: Students will use known facts and doubles to find products with 8 as a factor.
6-6: Three or more number can be grouped and multiplied in any order.	6-6: Students will multiply three number and use the Associative Property of Multiplication.
6-7: Patterns and known facts can be used to find unknown multiplication facts.	6-7: Students will use known facts and patterns to find products.
6-8: Finding the number of combinations that are possible between the members of one group and the members of another group is one meaning of multiplication.	6-8: Students will objects, pictures, and multiplication to find the number of possible combinations of data or objects in a problem.
6-9: Some problems can be solved by first finding and solving a sub-problem(s) and then using that answer(s) to solve the orginal problem.	6-9: Students will solve multiple-step problems.
Topic 7 Meanings of Division	
7-1, 2, 5: Some real-world problems involving joining or seperating equal groups or comparison can be solve using division.	7-1, 2: Students will use models to solve division problems involving sharing and record solutions using division number sentences.
7-3: Any division problem can be though of as a multiplciation fact showing a missing factor. Then, an answer can be found using a multiplication table.	7-3: Students will use multiplication tables to find answers to division problems.
7-4: Frequently word problems can be solved by writing equations that represent the quantitative relationship involved.	7-4: Students will solve word problems by writing equations that represent the problem situations.
7-5: Sharing and repeated subtraction both involved separating equal groups and are two ways to think about division.	7-5: Students will write and solve number stories involving division.
7-6: Information in a problem can often be shown my using objects to act it out of by using a picture or diagram in order to understand and solve the problem.	7-6: Students will solve problems by using objects and drawing a picture.

Topic 8 Division Facts 8-1: Multiplication and division have an inverse relationship. 8-2, 3, 4: The inverse relationship between multiplication and division can be used to find division facts; every division fact has a related multiplication fact. 8-5: Some problems can be solving by first finding and solving one then using the answer(s) to solve the original problem.	8-1: Students will give a multiplication fact, state a related division fact and vice versa. 8-2, 3, 4: Students will give quotients for division facts with divisors of 2 through 9. 8-5: Students will use previously learned skills to solve multiple-step problems.

Understanding by Design
Essential Questions
4: What are different meanings of multiplication?
4: How are addition and multiplication related?
4-1: How can you find the total number of objects in equal groups?
4-2: What are arrays and how do they show multiplication?
4-3: What happens when you multiply two numbers and then switch the order of the factors?
4-4: How can you write a story to describe a multiplication fact?
4-5: How do you write a good mathematical explanation?
5: What patterns can be used to find certain multiplication facts?
5-1: How can you use patterns to multiply by 2 and 5?
5-2: How can patterns be used to find 9's facts?
5-3: What are the patterns in multiples of 1 and 0?
5-4: What patterns can help you remember multiplication facts for 2's and 5's?
5-5: What are the patterns in multiples of 10?
5-6: How can basic facts help us when we multlipy a single digit number by a multiple of 10?
5-7: How can you tell when to answer more than one question to solve a problem?
6: How can unknown multiplication facts be found using known facts?
6-1, 2, 3, 4, 5: How can the Distributive Property help you break apart an array to multiply with other facts?
6-6: How can you multiply three numbers?
6-7: How can you use strategies to multiply?
6-8: How can you find all the possible combinations of objects in a given set?
6-9: How can you figure out what question needs to be answered first in ia multiple-step problem?

NHTS Math Curriculum: Grade 3

7: What are different meaning of division?
7, 7-2, 7-3: How is division related to other operations?
7-1: How can you think of division as sharing?
7-4: How can you describe a problem situation using an equation?
7-5: What kinds of stories involve division situations?
7-6: How can you use objects and draw a picture to solve a problem?
8-1, 2, 3, 4: How can an unknown division fact be found by thinking of a related multiplication fact?
8-5: How can you solve problems that involve more than one step?

Misconceptions

Topic 4 Meanings of Multiplication

4-1: Students may not understand that if the groups are not equal, addition is the way to solve the problem. If the three bags of goldfish had 8, 7, and 5, each group of gish would be added seperately.
4-2: Students may not see that objects in rows and colums in an array must be equal in order multiply.
4-3: Difficulty deciding when to use multiplication.
4-4: Difficulty using the connection between multiplication and repeated addition.
4-5: Difficulty writing explanations of solutions.

Topic 5 Multiplication Facts: Use Patterns

5-1: Difficulty skip counting to find products.
5-2: Attempt to apply 9's pattern to all facts.
5-3: Confuse the Zero Property of Addition with the Zero Property of Multiplication.
5-4: Difficulty identifying multiples of 2.
5-5: Difficulty finding patterns in multiples of 10.
5-6: Confused when a product of a basic fact ends in a zero.
5-7: Difficulty using correct sequence to solve problems.

Topic 6

6-1: Difficulty breaking a multiplication fact into the sum of two other multiplication facts.
6-2, 3, 4, 5: Difficulty recognizing the number of counters has not changed. The rows have been shifted apart.
6-6: Students use factors more than once. Difficulty grouping factors.
6-7: Difficulty using two strategies to find the same answer.
6-8: Difficulty naming combinations without repeating.
6-9: Difficulty sequencing multiple-step problems.

Topic 7 Meanings of Division

7-1: A group is not always evenly divisible.
7-2: Some students may stop after the first subtraction.
7-2, 3: Confuse which number is the answer.
7-4: Check that students understand that they can use different equations to represent a given problem and that they unknown value will be in a different position depending on the operation they choose to use.
7-5: Difficulty explaining how stories are different.
7-6: Students may not understand how to find the number of hidden tiles.

Topic 8 Division Facts

8-1: Confuse fact families.
8-2, 3: Difficulty using vertical division notation.
8-4: Difficulty thinking of the fact family to solve.
8-5: Difficuly answering and understanding hidden questions.

Stage 2: Evidence of Learning

Summative Traditional Assessment	Summative Performance Tasks
•Pre-test •Mid-Year test	•Projects •Performance Task Master

•Post-test •Chapter (Topic) test •Quizzes •Performance Assessment Master •Basic Facts Timed Tests •Quick Check Master •Daily Common Core Review	

Formative Assessments
•Daily Math Problems •Math Terms Dictionary •Spiral Review •Observation •Exit Questions •Classwork/Homework •Oral Questioning •Student Demonstrations (stations/centers) •Problem Solving •Notetaking

Learning Plan	
Interdisciplinary Connections	Technology Connections
Science: Have students research which Apollo missions, besides Apollo 11, successfully landed humans on the moon. Have them record the names of the astronauts on the crews. Have them write a division word problem related to the total number of astronaunts, the amount on each crew, and the number of missions. Then have students write a division sentence for the problem.	•Smartboard activities •E-tools on www.pearsonsuccessnet.com

Unit Resources
•Scott Foresman Envision Text •Student workbooks •Smartboard •Vocabulary Cards •Trade books/Story books •Envision Math Series Problem of the Day •Spiral Review •Performance Assessment Master

New Hanover Township School

Grade: 3

Content Area: Mathematics

Domain: Number and Operations - Fractions

Stage 1: Desired Results

Common Core Standards

Develop understanding of fractions as numbers.

- 3.NF.1. Understand a fraction 1/*b* as the quantity formed by 1 part when *a* whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by a parts of size 1/*b*.

- 3.NF.2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.

  - Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.

  - Represent a fraction *a*/*b* on a number line diagram by marking off a lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.

- 3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

  - Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

  - Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model.

  - Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*

  - Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

1 Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8.

Represent and solve problems involving multiplication and division.

- 3.OA.1.Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*

- 3.OA.2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*

- 3.OA.3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

- 3.OA.4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*

Essential Understandings	Content Skills
Topic 9 Understanding Fractions	
9-1: A region can be divided into equal-sized parts in different ways. Equal-sized parts of a region have the same area but not necessarily the same shape.	9-1: Students will identify regions that have been divided into equal-sized parts and divide regions into equal sized parts.
9-2, 3, 7: A fraction describes the division of a whole (region, set, segment) into equal parts. The bottom number in a fraction tells how many equal parts the whole is divided into. The top number tells how many equal parts are indicated. A unit fraction has a number of 1.	9-2: Students will associate the model, symbol, and words to describe a fractional part of a whole region. 9-3: Students will associate the model, symbol, and words used to describe a fractional part of a set.
9-4: Finding a unit-frational part of a whole is the same as dividing the whole by the denominator of the fraction.	9-4: Students will find a fraction part of a set.
9-5: Some points between whole numbers on a number line can be labled with fractions or mixed numbers. The denominator of the fraciton can be determined by counting the number of equal parts between two consecuative whole numbers.	9-5: Students will identify fractional parts and mixed numbers on a number line.
9-6: A part of a whole can be analyzed to shoose a benchmark fraction that approximates the part.	9-6: Students use benchmark fraction s to estimate fractional parts.
9-7: A fraction is relative to the size of the whole.	9-7: Associate the model, symbol, and words used to describe a fractional part of the length of an object.
9-8: Some problems can be solved by recording and organzing data in a table and by finding and using numberical patterns in the table.	9-8: Students will make a table and look for a pattern to solve a problem.
Topic 10 Fraction Comparison and Equivalents	
10-1: If two fractions have the same denominator, the fraction with the greater numerator is the greater fraction.	10-1: Students will use models and quantitative reason to compare fractions with the same denominator.
10-2: If two fractions have the same numerator, the fraction with the lesser denominator is the greater fraction.	10-2: Students will use models the reasoning to compare fractions withthe same numerator.
10-3: Fractions can be compared to each other by comparing the t o benchmark number suck as 0, 1/2, and 1.	10-3: Students will use benchmark numbers to compare fraction with the same numerator or the same denominator.

10-4: You can compare two fraction by marking their locations on a number line. 10-5: The same fractional amount can be represented by an infinite set of different but equivalent. 10-6: There are many fraction names for each point on a number line. These points can be used to name equivalent fractions. 10-7: If a fraction aligns with a whole number on a numberline or to a whole number fraction strip, the whole number is equivalent to that fraction. 10-8: A fraction is relative to the size of the whole. Models can be used to compare fractional amounts. 10-9: Information in a problem can oftne be shown using a picture or diagram and used to understand and solve the problem.	10-4: Students will use number lines to compare fractions with like denominators or like numerators. 10-5: Students will use models to find equaivalent fractions. 10-6: Students willuse numbe rlines to identify equivalent fractions. 10-7: Students will use fraction strips and number lines to find fraction names for whole numbers. 10-8: Students will compare and order fractions to solve problems. 10-9: Students will draw a picture to solve problems.

Understanding by Design
Essential Questions
9: What are diferent interpretations of a fraction? 9-1: How can you divide a region into two equal parts? 9-2: How can you write a fraction to name part of a whole? 9-3: How can you write a fraction to name part of a set? 9-4: How do you find a fractional part of a set? 9-5: How can you find fractions on a number line? 9-6: How to you estimate parts? 9-7: How can you write a fraction to name part of a length? 9-8: How can you use a pattern in a table to help you solve a problem? 10-1: What are different ways to compare fractions? 10-1: How can you comapre fractions that have the same denominators? 10-2: How can you compare fractions with the same numerator? 10-3: How can benchmark numbers be used to compare fractions? 10-4: How can you compare fractions on a number line? 10-5: How can different fractions name the same number? 10-6: What do equivalent fraction look like onthe number line? 10-7: How can whole numbers be described using fraction names? 10-8: How can you compare and order fractions? 10-9: How can you solve a problem by drawing a picture?

Misconceptions
9-1: Students may think any region divided into two parts is divided into halves. 9-2: Students may reverse the numerator and denominator. 9-3: Students may not understand that 7/8 is the quantity formed by 7 parts of 1/8. 9-4: Studenst are confused when there is more than one item in each equal part. 9-5, 10-2: Students do no understand a higher denominator means a smaller piece of the whole. 9-6: Difficulty naming benchmark fractions. 9-7: Confuse wholes in a diagram for the denominator. 9-8: Difficulty interpreting or applying the pattern of a table. 10-1: Compare only denominators and find two different numbers equal. 10-3: Difficulty finding which fraction is closer to 0 or 1. 10-4: Fraction comparisons are only valid when the fractions refer to the same whole. 10-5: Students may think that there are fractions that name 1/2 with every different denominator. 10-6: Students may think the numbers they see on the number line are the only numbers there are. 10-7: One whole fraction strip and a number line from 0 to 1 are two different models that represent one whole. 10-8: Students may believe that fractions with lesser denominators are always greater than fractions with greater denominators. 10-9: Students' drawings may not match the given information.

Stage 2: Evidence of Learning	
Summative Traditional Assessment	Summative Performance Tasks
▲ Pre-test ▲ Mid-Year test ▲ Post-test ▲ Chapter (Topic) test ▲ Quizzes ▲ Performance Assessment Master ▲ Basic Facts Timed Tests ▲ Quick Check Master ▲ Daily Common Core Review	▲ ? ▲ Performance Task Master

Formative Assessments
•Daily Math Problems •Math Terms Dictionary •Spiral Review •Observation •Exit Questions •Classwork/Homework •Oral Questioning •Student Demonstrations (stations/centers) •Problem Solving •Notetaking

Learning Plan	
Interdisciplinary Connections	**Technology Connections**
Social Studies: Have students design a flag for your community that is made up of equal parts. They should choose the number of equal parts, the color for each part, and a meaning of the colors. Students should draw their flag and write a statement about the number of equal parts an the meaning of the colors they chose. Science/Art: Cut the bottom off of an egg carton lengthwise. Give each student one half. Paint and create a caterpillar. Students describe their caterpillar's segments using fractions. Then have them compare using <, >, and =.	•Smartboard activities •E-tools on www.pearsonsuccessnet.com

Unit Resources
•Scott Foresman Envision Text •Student workbooks •Smartboard •Vocabulary Cards •Trade books/Story books •Envision Math Series Problem of the Day •Spiral Review •Performance Assessment Master

New Hanover Township School

Grade: 3

Content Area: Mathematics

Domain: Geometry

Stage 1: Desired Results
Common Core Standards
Reason with shapes and their attributes. 3.G.1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. 3.G.2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*

Essential Understandings	Content Skills
Topic 11 Two Dimensional Shapes and Their Attributes	
11-1: Lines and line segments are sets of points in space that can be used to describe parts of other geometric lines, shapes, and solids.	11-1: Students will identify lines and line segments and explore their different relationships.
11-2: An angle is formed by two rays with a common endpoint.	11-2: Students will identify and classify angles in relation to right angles.
11-3: Plane shapes have many properties that make them different from one another.	11-3: Students will identify and classify polygons.
11-4: Plane shapes have may properties that make them different from one another.	11-4: Students will identify and classify triangles.
11-5: Polygons can be described and classified by their sides and angles.	11-5: Students will identify and classify quadrilaterals.
11-6: Polygons can be put together or taken apart to make other polygons.	11-6: Students will create new shapes by combining shapes or by separating shapes.
11-7: Polygons can be put together or taken apart to make other polygons.	11-7: Students will make a new shape by cutting apart a shape and rearranging the pieces.
11-8: Some problems can be solved by breaking apart or changing the problem into simpler ones, solving the simpler ones, and using those solutions	11-8: Students will solve a problem by first solving a simpler problem.

to solve the orignial problem. 11-9: Commonalities in attributes of objectst or situations can be found and used to make a nd test generalizations about relationships.	11-9: Students will identify commonalities amound objects or situations to make and test generalizations.

Understanding by Design
Essential Questions
11: How can two-dimensional shapes be described, analyzed, and classified? 11-1: How can you identify points and lines using a number line? 11-2: How can you describe angles? 11-3: What is a polygon? 11-4: How can you describe triangles? 11-5: How can you describe quadrilaterals? 11-6: What shapes can you combine to make a hexagon? 11-7: How can you use a square to make a pentagon? 11-8: How can you sole a simpler problem in order to solve a given problem? 11-9: What generalization can be made from a group of polygons?

Misconceptions
11-1: Students confuse a figure and a line. 11-1: Difficulty finding parellel lines. 11-2: Difficulty communicating explanations of angles. 11-3: Students might thing a closed figure with a curved line is a polygon. 11-4: Confuse obtuse, acute, and right triangle attributes. 11-5: Difficulty identifying quadrilaterals that are oriented differently. 11-6, 7: Difficulty visualizing another way to combine triangles or shapes. 11-8: Cannot identify simpler problems that relate. 11-9: Make generalizations based on a feature that is only common to some of the items in a set.

Stage 2: Evidence of Learning	
Summative Traditional Assessment	Summative Performance Tasks
▲ Pre-test ▲ Mid-Year test ▲ Post-test ▲ Chapter (Topic) test ▲ Quizzes ▲ Performance Assessment Master ▲ Basic Facts Timed Tests ▲ Quick Check Master ▲ Daily Common Core Review	▲ Projects ▲ Performance Task Master

NHTS Math Curriculum: Grade 3

Formative Assessments
•Daily Math Problems •Math Terms Dictionary •Spiral Review •Observation •Exit Questions •Classwork/Homework •Oral Questioning •Student Demonstrations (stations/centers) •Problem Solving •Notetaking

Learning Plan	
Interdisciplinary Connections	Technology Connections
Literature: Perfect Patterns WorldScapes Readers Art: Have students research John Gillin's home using print and electronic sources. Have them record information about all of the geometric shapes angles, and lines found in the building design. Then hae students create design for a room with four walls with at least one corner that does not have a right angle.	•Smartboard activities •E-tools on www.pearsonsuccessnet.com

Unit Resources
•Scott Foresman Envision Text •Student workbooks •Smartboard •Vocabulary Cards •Trade books/Story books •Envision Math Series Problem of the Day •Spiral Review •Performance Assessment Master

New Hanover Township School

Grade: 3

Content Area: Mathematics

Domain: Measurement and Data

Stage 1: Desired Results
Common Core Standards

NHTS Math Curriculum: Grade 3

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

- 3.MD.1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
- 3.MD.2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[1] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[2]

Represent and interpret data.

- 3.MD.3.Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
- 3.MD.4.Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

- 3.MD.5. Recognize area as an attribute of plane figures and understand concepts of area measurement.
- A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
- A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.
- 3.MD.6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
- 3.MD.7. Relate area to the operations of multiplication and addition.
- Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
- Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
- Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths *a* and *b* + *c* is the sum of *a* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning.
- Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.
- **Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.**
- 3.MD.8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
- [1] Excludes compound units such as cm3 and finding the geometric volume of a container.
- [2] Excludes multiplicative comparison problems (problems involving notions of "times as much"; see Glossary, Table 2).
- **Reason with shapes and their attributes.**
- 3.G.1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
- 3.G.2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*

Essential Understandings	Content Skills
Topic 12 Time	
12-1: Time can be expressed using different units that are related to each other. A.M. and P.M. Are used to designate certain time periods.	12-1: Students will tell time to the nearest half hour and quarter hour using analog and digital clocks and identify time as A.M. or P.M.
12-2: The minute hand takes 5 minutes to move from one number to the next on a typical clock face. The minute hand takes 1 minute from one mark to the next on a typical clock face.	12-2: Studnets will tell time to the neartes minute using analog and digital clocks.
12-3: There are different unites for measuring time. Many times can be expressed in more than one way.	12-3: Students will perform simple conversions for units of time.
12-4: Elapsed time can be found by finding the total amount of time that passes between a starting time and an ending time.	12-4: Students will find elapsed time in intervals of minutes.
12-5: Some problems with the intital data point unknown can be solved by starting with the end result, reversing the steps and processes, and working backward to find the initial data point.	12-5: Students will use the strategy work backward to solve problems.
Topic 13 Perimeter	13-1: Studnets willuse standard units to find the perimeter of a shape.
13-1: The distance around a figure is its perimeter. To find the perimeter for a polygon, add the lengths of the sides.	13-2: Students will select appropriate tools and units to find perimeter.
13-2: In a given measurement situation, the types of measuring tool and the measurement units it contains determine the appropriateness of the tool.	13-3: Students will use standard unites to find perimeter of a common shape.
13-3: To find the perimeter of a polygon, add the lengths of the sides.	13-4: Students will match shapes to a given perimeter and learn that different shapes can have the same perimeter.
13-4: Shapes can be made with a given perimeter. Different shapes can have the same perimeter.	13-5: Students will solve a problem through the process of try, check, and revise.
13-5: Some problems can be solve by making a reasoned first try for what the answer might be and then, through additional reasoning, arrive at the correct answer.	
Topic 14 Area	
14-1: The amount of space inside a shape is its area and are can be estimated or found using square units.	14-1: Students will measure the area of a shape by counting the number of square units that cover a region.
14-2: Square units can be used to create shapes with given areas.	14-2: Students use unites to make figures with given areas.
14-3: Standard measurement unites are used for consistency in finding and communicating measurements.	14-3: Students will use standard units of area and counting to measure the area of a shape.

14-4: The amount of space inside a shape is its area and area can be estimated or found using square units. Formulas exist for finging the area of some polygons.	14-4: Students will find that area of rectangles by counting square units or by using a formula.
14-5: The areas of rectangles can be used to model the Distributive Property.	14-5: Students willuse the areas of rectangles to model the Distributive Property.
14-6: Some problems can be solved by breaking apart or chanign the problem into simpler ones, sovling the simple ones, and using those solutions to sovle the original problem.	14-6: Students will solve complex problems asking for the area of irregular shapes.
14-7: The area of some irregular shapes can be found by breaking apart the original shape into other shapes for which the area can be found. Area can be estimated to the square inch.	14-7: Students will find area of irregular shapes.
14-8: There are relationships between the perimeter and are of a polygon.	14-8: Students will compare different rectangles with the same area to discover the change in perimeter.
14-9: The are of a figure isi the number of square units that cover the figure. Equal area parts of a figure can be used to model unit fractions.	14-9: Students will use equal areas of parts of figures to model unit fractions.
14-10: In a given measurement situation, the type of measuring tool and the measurement units it contains determine the appropriateness of the tool	14-10: Students will select appropriate units and tools for measuring the area of given items.
Topic 15 Liquid Volume	
15-1, 2: Capacity is a measure of the amount of liquid a container can hold.	15-1: Students will choose an appropriate unit and tool, estimate, and measure in cups, pints, quarts, and gallons. Students will identify objects which hold about a cup, a pint, a quart, or a gallon.
15-2: Different units can be used to estiamte or measure capacity. The most appropriate unit to use is often the one with which the measurement can be expressed using the least whole number.	15-2: Students will choose an appropriate unit and tool, estimate, and mesaure in milliliters and liters. Students identify objects that hold about a liter or milliliter.
15-3: Mass is a measure of quantiy of matter in an object. Weight and mass are different.	15-3: Students choose an appropriate unit and tool, estimate, and measure in grams and kilgrams. Students identify objects with a mass of about one gram or one kilogram.
15-4: The weigh tof an object is a mesaure of who heaving an object is.	15-4: Students will choose an appropriate unit and tool, ,estiamte, and measure in ounces, pounds, and tons. Students identify objects that weigh about an ounce, a pound, or a ton.
15-5: Information in a problem can often be shown using a picture or diagram and used to understand and solve the problem. Some problems can be solved by writing and completing a number sentence or equation.	15-5: Students draw a picture to solve a problem involving unites of capacity and mass.
Topic 16 Data	
16-1: Line plots allow data to be compared more	16-1: Students will use a line plot to organize the

easilyt than in a list or table. 16-2: Line plots can use sued to organize and represent collected measurement data. 16-3: Each type of graph is most appropriate for certain kinds of data. Pictographs and bar graphs make it easy to compare data. 16-4: Each type of graph is most appropriate for certain kinds of data. The key for a pictograph determines the number of pictures needed to represent each nubmer in a set of data. 16-5: Each type of graph is most appropriate for certain kinds of data. In a bar graph, the scale determines how long the bar needs to be to represent each number in a set of data. 16-6: Some problems can be solve by making, reading, and analyzing a graph.	reasults of an experiment. 16-2: Students will generate data by measuring lengths to the nearest fourth of an inch and make line plots to organize their data and draw conclusions. 16-3: Students will read and interpret data from a pictograph and a bar graph. 16-4: Students will make a pictograph from a table or tally chart. 16-5: Students wil lmake a bar graph to represent the data in a table or tally chart. 16-6: Students will solve problems by using table and graphs to draw conclusions.

Understanding by Design
Essential Questions
12: How can lengths of time be measured and found? 12-1: How can you tell time to the nearest quarter hour or half hour? 12-2: How can you tell time to the nearest minute? 12-3: How can you change units of time? 12-4: How can you find elapsed time? 12-5:How can you work backward to solve a problem? 13-1, 2, 3: How can perimeter be measured and found? 13-4: What shapes can you make when you know the perimeter? 13-5: How can you use the strategy Try, Check, and Revise to solve problems? 14-1: What does area mean? How do you measure it? What are different ways to find the area of a shape? 14-2: What units describe area? 14-3: How can you measure area using standard units? 14-4: How do you measure the amount of space a figure covers? 14-5: How can you break apart rectangles to represent the Distributive Property? 14-6: How can you use simpler problems to solve a problem? 14-7: How can you find the area of an irregular figure? 14-8: How can rectangles with the same area have different perimeters? 14-9: How can you use equal areas to model unit fractions? 14-10: How can you select appropriate measurement units and tools? 15-1: What are the customary units for measureing capacity and weight? What are the metric units for measuring capacity and mass? 15-2: What metric units describe how much a container holds?

15-3: What metric units describe mass?
15-4: What customary units describe how heavy something is?
15-5: How can you solve a problem by drawing a picture?

16: How can data be represented, interpreted, and analyzed?
16-1: How do you make and use a line plot?
16-2: How can you make line plots to organize and represent data you have collected?
16-3: How can you read graphs?
16-4: How do you determine how much a symbol in a pictograph represents?
16-5: How can you choose a scale to make a bar graph?
16-6: What conclusions can you draw from tables and graphs?

Misconceptions

12-1: Difficulty learning different ways to tell the same time.
12-2: Trouble counting by 5's and transitioning to 1's.
12-3: Students may not understand the method for changing weeks to days.
12-4: Difficulty finding elapsed times that include hours and miutes.
12-5: Difficulty working backwards to solve a problem.

13-1: May count segments incorrectly.
13-2: More than one tool or unit can be used to find perimeter.
13-3: Students only add lengths that are labeled.
13-4: Difficulty making a shape with a given perimeter.
13-5: Difficulty revising their tries by analyzing their checks.

14-1: Lose track of the squares that are counted already.
14-2: Areas measured in square centimeters are not necessarily smaller than areas measured in square inches.
14-3: Unable to find that two different shapes have the same area.
14-4: Difficulty using l x w = area.
14-5: Difficulty breaking a rectangle into two smaller ones without changing the area.
14-6: Difficulty using simpler problems.
14-7: May not be able to visualize breaking an irregular shape into different sets of rectangles without changing area.
14-8: Difficulty seeing why one rectangle has a larger or smaller area than another.
14-9: Difficulty finding a way to divide a rectangle into three equal parts.
14-10: Difficulty determining reasonableness of units and tools.

15-1: Difficulty choosing an estimate of capacity.
15-2: May not realize that they must fill the liter container all the way every time they fill it.
15-3: Difficulty c.hoosing appropriate estimation of mass
15-4: Difficulty understanding approximations of weight.
15-5: Difficulty understanding a diagram and its parts.

16-1: Difficulty deciding how many x's to draw.
16-2: Difficulty understanding the number of x's refers to the number of pencils that are a given length and not the length itself.

16-3: Difficulty reading pictographs.
16-4: Difficulty determining how many symbols to draw.
16-5: Difficulty with units of more than 1 in a bar graph.
16-6: Difficulty writing a comparison problem.

Stage 2: Evidence of Learning	
Summative Traditional Assessment	Summative Performance Tasks
⅄ Pre-test ⅄ Mid-Year test ⅄ Post-test ⅄ Chapter (Topic) test ⅄ Quizzes ⅄ Performance Assessment Master ⅄ Basic Facts Timed Tests ⅄ Quick Check Master ⅄ Daily Common Core Review	⅄ Projects ⅄ Open Ended Word Problems ⅄ Performance Task Master ⅄ Math Vocabulary Dictionary ⅄

Formative Assessments
•Daily Math Problems •Math Terms Dictionary •Spiral Review •Observation •Exit Questions •Classwork/Homework •Oral Questioning •Student Demonstrations (stations/centers) •Problem Solving •Notetaking

Learning Plan	
Interdisciplinary Connections	Technology Connections
Social Studies: Have students use research materials to find a list of an pictures of their state symbols. Five each student a sheet of grid paper. Have each student draw a symbol. Then have the student estimate the area of the drawing of the symbol. Post papers on a state symbols bulletin board.	•Smartboard activities •E-tools on www.pearsonsuccessnet.com

Unit Resources
•Scott Foresman Envision Text •Student workbooks •Smartboard •Vocabulary Cards •Trade books/Story books •Envision Math Series Problem of the Day •Spiral Review •Performance Assessment Master