UNIT PLAN

Grade Level:	5
Unit #:	2
Unit Name:	Number Sense
Time:	17 lessons, 20 days

Big Idea/Theme: Number sense is used to develop, enhance, and organize mathematical thinking.

Culminating Assessment:
Students will create a flipbook, PowerPoint, video, or poster analyzing and classifying numbers by completing the student data collection sheet titled "Who Am I? Student data collection sheet" which includes the following:

- Prime and composite numbers.
- Divisibility rules.
- Factors and multiples.
- Addition and multiplication properties.
- Compatible numbers.

Materials: "Who Am I?" Student data collection sheet (attached)
"Who Am I?" rubric for grading data collection sheet (attached).

Unit Understanding(s)	**Unit Essential Question(s):**
Students will understand that… • Divisibility rules can be used to identify numbers as prime, composite, or neither. • There are relationships between factors and multiples. • Connections can be made between addition and multiplication properties. • Different strategies should be applied to classify numbers and solve problems.	• How can divisibility rules help identify numbers as prime, composite, or neither? • What is the difference between a factor and a multiple? • How are multiplication and addition properties similar and different? • How does the knowledge of multiplication and addition properties help solve problems? • How are multiplication and addition related?

Students will know… / Students will be able to…

- Use even numbers which are composite except for 2.
- Use the fact that 1 is neither prime or composite.
- Generate strategies to find the GCF and LCM of two whole numbers.
- Apply the knowledge of properties to solve a variety of problems.
- Recall and apply divisibility rules to identify prime and composite numbers.
- Use order of operations to solve problems (Note: This is not a standard, but needs to be covered for student success.)
- Describe the characteristics of a composite number.
- Describe the characteristics of a prime number.
- Compare characteristics of prime and composite numbers.
- Determine if a number is prime, composite or neither.
- Explain the meaning of multiples.
- Divide whole numbers with fluently to apply the divisibility rules.
- Use the divisibility rule for 3, 6, and 9.
- Identify commutative and associative properties of addition and multiplication.
- Identify the distributive property of multiplication.
- Create examples of each property.
- Connect these rules to whole numbers.
- Apply inverse operations.

Standard Vocabulary	**MOOTB Vocabulary**
Composite	Addend
Dividend	Analyze
Divisibility	Associative property
Division	Commutative property
Divisor	Distributive property
Even	Equation
Evenly divisible	Generalization
Factors	Identity property of addition
Greatest Common Factor	Identity property of multiplication
Least Common Multiple	Inverse relationship
Multiples	Number sentence
Odd	Pattern
Prime	Prime number
Product	Relationship
Quotient	Represent
	Sum
	Variable
	Venn diagram
	Verify
	Zero product property of multiplication

South Carolina Academic Standards:
5-2.6 Classify numbers as prime, composite or neither.
5-2.7 Generate strategies to find the greatest common factor and the least common multiple of two whole numbers.
5-2.9 Apply divisibility rules for 3, 6, and 9.
5-3.4 Identify applications of commutative, associative, and distributive properties with whole numbers.
5-1.1 Analyze information to solve increasingly more sophisticated problems.
5-1.2 Construct arguments that lead to conclusions about general mathematical properties and relationships.
5-1.3 Explain and justify answers based on mathematical properties, structures, and relationships.
5-1.5 Use correct, clear, and complete oral and written mathematical language to pose questions, communicate ideas, and extend problem situations.
5-1.6 Generalize connections between new mathematical ideas and related concepts and subjects that have been previously considered.
5-1.7 Use flexibility in mathematical representations.
5-1.8 Recognize the limitations of various forms of mathematical representations.

Interim Assessment (formative)

- Exit Slips
- Graphic Organizers
- Individual and Group Activities and Work
- Journals
- Quizzes
- Section Tests
- ActiVotes
- White boards
- Checklists
- Rubrics
- Movement-Stand up if…, sit down if…, etc.

Key Criteria (to meet the standard/rubric)

	4-Math Wizard	3-Math Apprentice	2-Math Novice	1-Math Rookie
Prime or Composite	**- I correctly identified my number as prime or composite. - I wrote a description that used my math vocabulary correctly to explain why my number is prime or composite.**	**- I correctly identified my number as prime or composite. - I wrote a description that used some of my math vocabulary correctly to explain why my number is prime or composite.**	**- I correctly identified my number as prime or composite. - I wrote a description that did not use my math vocabulary, and did not explain why my number is prime or composite.**	**- I did not correctly identify my number as prime or composite. - I did not write a description to explain why my number is prime or composite.**
Divisibility Rules	**-I correctly identified my number as divisible by or not divisible by 2,3,5,6,9,10. -I wrote a description correctly using my math vocabulary to explain why or why not my number is divisible by 2,3, 5, 6,9, 10.**	**- I correctly identified my number to be divisible by or not divisible by four of the six rules. - I wrote a description that correctly used my math vocabulary to explain why or why not my number is divisible by the four numbers from above.**	**- I correctly identified my number to be divisible by or not divisible by two of the six rules. - I wrote a description that used some of my math vocabulary to explain why or why not my number is divisible by the two numbers from above.**	**- I attempted, but I did not correctly identify my number to be divisible by or not divisible by any of the six rules. - I did not provide a description.**
Multiples	**- I correctly identified first ten multiples for my number.**	**-I correctly identified ten multiples for my number.**	**- I only identified five multiples for my number.**	**-I attempted by did not correctly identify any of the multiples for my number.**
Factors	**- I correctly identified all factors for my number. - I correctly identified the prime factorization for my number.**	**- I correctly identified all of the factors for my number. - I identified some of the prime factorization for my number.**	**- I identified some of the factors for my number. - I attempted to prime factor my number.**	**- I attempted, but did not correctly identify the factors for my number. - I attempted to prime factor my number.**
Properties	**- I created three equations and they are correctly identified as distributive, commutative, and associative.**	**- I created three equations and two are correctly identified as distributive, commutative, or associative.**	**- I created three equations, but did not correctly identify them as distributive, commutative, or associative.**	**- I attempted to create equations, but did not identify any of them correctly as distributive, commutative, or associative.**
Presentation	**- I displayed all of my work correctly and attractively by using one of the following choices; PowerPoint, Video, Flipbook, or Poster.**	**- I displayed all of my work with few mistakes and attractively by using one of the following choices; PowerPoint, Video, Flipbook, or Poster.**	**- I displayed some of my work with mistakes and used one of the following choices; PowerPoint, Video, Flipbook, or Poster.**	**- My display had many mistakes and/or did not use one of the following choices; PowerPoint, Video, Flipbook, or Poster.**
Comments				

Materials

- MOOTB Values and Variables Lessons A 1-8, 24-25 and 28-30
- Values and Variables B Lessons 1-4
- "Who Am I?" Student data collection sheet (attached)
- "Who Am I?" rubric for grading data collection sheet (attached)

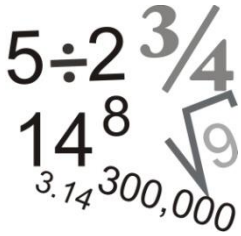
To access the Gap Lessons for this unit, go under the O drive:

*District 2 Lesson Plans for Math
* 5th Grade Math
* Unit 2 Number Sense

- Order of Operations Gap Lesson

Who Am I?

Student Checklist



_____ Choose a number between 20 and 100.

_____ Identify the number as Prime or Composite.

_____ Identify if your number is divisible by 3, 6, and/or 9.

_____ List factors for your number, and circle the GCF.

_____ List the first 10 multiples for your number, and circle the LCM.

_____ Prime factor your number.

_____ Using the place value chart, describe your number.

_____ Create an equation using the distributive property that solves to equal your number.

_____ Create an equation using the commutative property that solves to equal your number.

_____ Create an equation using the associative property that solves to equal your number.

_____ Display this information using one of the following options. (PowerPoint, Flip camera video, flipbook, Poster, Pop-up book) If there is another way that you would like to present your mystery number please ask your teacher for permission.