NJDOE MODEL CURRICULUM			
CONTENT AREA: Mathematics	**GRADE: 5**	**UNIT: # 1**	**UNIT NAME: Understanding the Place Value System**

#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Evaluate numerical expressions with parentheses, brackets or braces.	5.OA.1
2	Write numerical expressions when given a word problem or a scenario in words and use words to interpret numerical expressions.	5.OA.2
3	Explain the "ten times" or 1/10 relationships for place values in multi-digit numbers moving right or left across the places.	5.NBT.1
4	Recognize and explain patterns of the number of zeros and the placement of the decimal point in a product or quotient when a number is multiplied or divided by powers of 10.	5.NBT.2
5	Compare decimals to thousandths based on the value of the digits in each place using the symbols >, =, < when presented as base ten numerals, number names, or expanded form.	5.NBT.3
6	Round a decimal to any place.	5.NBT.4
7	Use the standard algorithm to multiply 3-digit whole numbers by 1-digit whole numbers.	**5.NBT.5**
8	Calculate whole number quotients with 4-digit dividends and 2-digit divisors and explain answers with equations, rectangular arrays, and area models.	5.NBT.6

Major Content **Supporting Content** **Additional Content** (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 #2 Explain the correspondences between expressions represented in word problems or scenarios and numerical expressions.
2. **Reason abstractly and quantitatively.**
   SLO #1 Know and flexibly apply the properties of operations to evaluate numerical expressions with parentheses, brackets and braces.

SLO #2 Understand and make sense of quantities and their relationships to one another in numerical expressions and numerical expressions represented in word problems.
SLO #3 Understand and make sense of the relationships of place values and the quantities they represent.
SLO #4 Understand and make sense of the quantities of zeros and the placement of the decimal point in a product or quotient when a number is multiplied or divided by a power of 10.
SLO #5 Understand and make sense of the relationship of decimals to the thousandths and the quantities they represent.
SLO #6 Understand and make sense of the quantity when rounding decimals to any place.
SLO #8 Use quantitative reasoning that entails creating a coherent representation of division problems using 4-digit dividends and 2-digit divisors in equations.

3. Construct viable arguments and critique the reasoning of others.
SLO #3 Justify and explain conclusions made about place value relationships in multi-digit numbers.
SLO #4 Make conjectures and build logical statements involving the patterns of the number of zeros and the placement of the decimal point when a number is multiplied or divided by a power of 10.
SLO #8 Explain and justify conclusions (in the form of equations, arrays, and models) made about dividing 4-digit dividends and 2-digit divisors.

4. Model with mathematics.
SLO #2 Apply previously learned concepts about numerical expressions and word problems in order to solve problems that involve both.

5. Use appropriate tools strategically.

6. Attend to precision.
SLO #3 Communicate precisely the place value relationships in multi-digit numbers.
SLO #5 State the meaning of the <,>, or = symbols when comparing decimals to the thousandths place.
SLO #8 Calculate whole number quotients accurately and efficiently.

7. Look for and make use of structure.
SLO #1 Look for and discern a pattern or structure when evaluating numerical expressions with parentheses, brackets, and braces.
SLO #3 Look for and discern a pattern involving place value (“ten times” or “1/10” relationship).
SLO #4 Look for and discern a pattern involving the number of zeros and the placement of the decimal point when a number is divided or multiplied by a power of 10.
SLO #7 Look for and discern a pattern when using the standard algorithm to multiply 3-digit whole numbers by 1-digit whole numbers.
SLO #8 Look for and discern a pattern when dividing 4-digit dividends and 2-digit divisors.

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8. Look for and express regularity in repeated reasoning.

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

Code #	Common Core State Standards
5.OA.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
5.OA.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.
5.NBT.1	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
5.NBT.2	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
5.NBT.3	Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
5.NBT.4	Use place value understanding to round decimals to any place.
5.NBT.5	Fluently multiply multi-digit whole numbers using the standard algorithm.
5.NBT.6	Find whole number quotients of whole numbers with up to four digit dividends and two digit divisors, using strategies based on place value, the properties of operations and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

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