Common Core Learning Standards
GRADE 5 Mathematics
NUMBER & OPERATIONS IN BASE TEN

Common Core Learning Standards	Concepts	Embedded Skills	Vocabulary
Understand the place value system.	**place value**	Define a number in one place as 1/10 of its value in the place to its left.	▪ place value names ▪ base ten ▪ value (of digit) ▪ decimal ▪ digit
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.		Define a number in one place as 10 times its value in the place to its right.	

SAMPLE TASKS

I. What number is ten times greater than 128? _____
Explain how you know.

_____

_____

II. What number is one-tenth as much as 83? _____
Explain how you know.

_____

_____

III. Billy said that the number 0.05 has a value 10 times greater than 0.005.
A. Is he correct? Explain your answer.

_____

_____

_____

B. What number is ten times greater than 0.5? _____

Explain your answer.

_____

_____

_____

Common Core Learning Standards	Concepts	Embedded Skills	Vocabulary
Understand the place value system.	**powers of 10**	Explain the pattern in the number of zeros in a product when multiplying by powers of 10.	▪ powers of ten ▪ exponents ▪ product ▪ place value names ▪ base ▪ decimal ▪ digit ▪ scientific notation
		Explain the pattern in moving the decimal point when multiplying or dividing by powers of 10.	
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 1.		Write whole number exponents to denote powers of 10.	

SAMPLE TASKS

I. Lynn was asked to multiply 7 x 600. Explain how you would help her solve it mentally.

_____

_____

II. A marker costs $0.15. How much will 10 markers cost? _____

How much will 100 markers cost? _____

How much will 1,000 markers cost? _____

Explain the pattern you notice with your answers above.

_____

_____

III. Mrs. Russo wrote two expressions on the board.

4.325×10^3 $4.325 \div 10^2$

A. Find the value of the expression 4.325×10^3. Explain how you found your answer.

_____

_____

B. Find the value of the expression $4.325 \div 10^2$. Explain how you found your answer.

_____

_____

Common Core Learning Standards	Concepts	Embedded Skills	Vocabulary
Understand the place value system.	**decimals to the thousandths**	Read and write decimals to the thousandths using base 10 numerals.	▪ base-ten numerals ▪ number names ▪ expanded form/notation ▪ expanded form with multiplication ▪ place value names ▪ standard form/notation ▪ word form/notation ▪ decimal ▪ digit
		Read and write decimals to the thousandths using number names.	
5.NBT.3a. 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).		Read and write decimals to the thousandths using expanded form (with fractions of 1/10, 1/100, and 1/1000 to denote decimal places).	

SAMPLE TASKS

I. Write the following number in expanded form using multiplication so that every value uses one factor from the factor bank.

637.415

_____

Factor Bank	
1,000	$\frac{1}{10}$
100	$\frac{1}{100}$
10	$\frac{1}{1{,}000}$
1	

II.

Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
4	6	8	.	7	2	1

Use the place value chart above to write the number in the following ways:

A. base-ten numeral: _____

B. number name: _____

_____

C. expanded form with multiplication: _____

_____

III. Write the number four hundred seventy-six and three hundred ninety- five thousandths in expanded form with multiplication.

_____

Common Core Learning Standards	Concepts	Embedded Skills	Vocabulary
Understand the place value system. **5.NBT.3b.** Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**Comparing decimals**	Compare two decimals to the thousandths using greater than, less than, and equal to symbols.	▪ greater than ▪ less than ▪ equal to ▪ place value names ▪ decimal ▪ digit

SAMPLE TASKS

I. Jackson and Nate ran a 200-meter race. Their times, in seconds, are listed below.

Jackson: 34.067 Nate: 34.56

Which runner had the fastest time? Explain your answer.

_____

_____

II. Circle all of the decimals below that make the following number sentence true: 17.2 > _____.

17.025 17.212 17.18 17.009 17.25

Choose **ONE** of the decimals you circled above, and explain how you know that it makes the number sentence true.

_____

III. Mrs. Jones wrote these two decimals on the board:

3.46 3.460

Mary claims that 3.460 is greater than 3.46. Sally says they are worth the same. Who is correct? Explain how you know.

_____

_____