Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.	
Content Domain: **Number and Operations in Base Ten**	
Target C [m]: Understand the place value system. (DOK 1, 2) Tasks for this target ask students to explain patterns in the number of zeroes for powers of 10, including simple calculations with a base of 10 and whole-number exponents, as well as tasks that demonstrate a generalization of the pattern for larger whole-number exponents (e.g., How many zeroes would there be in the answer for 10^{42}?). Other tasks for this target ask students to write, compare, and round decimals to thousandths. Some decimals should be written in expanded form. Comparing and rounding may be combined in some items to highlight essential understandings of connections (e.g., What happens if you compare 3.67 and 3.72 after rounding to the nearest tenth?).	
Standards: 5.NBT.A, 5.NBT.A.1, 5.NBT.A.2, 5.NBT.A.3, 5.NBT.A.3a, 5.NBT.A.3b, 5.NBT.A.4	**5.NBT.A Understand the place value system.** **5.NBT.A.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.A.2** Explain patterns in the number of zeroes 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.A.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.A.4** Use place value understanding to round decimals to any place.
Related Below-Grade and Above-Grade Standards for Purposes of Planning for Vertical Scaling: 4.NBT.A, 4.NBT.A.1, 4.NBT.A.2, 4.NBT.A.3	**Related Grade 4 Standards** **4.NBT.A Generalize place value understanding for multi-digit whole numbers.** **4.NBT.A.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. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*

6.NS.B, 6.NS.B.2, 6.NS.B.3, 6.NS.C, 6.NS.C.7, 6.NS.C.7a, 6.NS.C.7b	**4.NBT.A.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. **4.NBT.A.3** Use place value understanding to round multi-digit whole numbers to any place. **Related Grade 6 Standards** **6.NS.B Compute fluently with multi-digit numbers and find common factors and multiples.** **6.NS.B.2** Fluently divide multi-digit numbers using the standard algorithm. **6.NS.B.3** Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. **6.NS.C Apply and extend previous understandings of numbers to the system of rational numbers.** **6.NS.C.7** Understand ordering and absolute value of rational numbers. **a.** Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right*. **b.** Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write –3 ºC > –7 ºC to express the fact that –3 ºC is warmer than –7 ºC*.
DOK Level(s):	1, 2

Achievement LEVEL Descriptors:	
RANGE Achievement Level Descriptor (Range ALD) Target C: Understand the place-value system.	**Level 1** Students should be able to read and write decimals to the thousandths using base-ten numerals, number names, and expanded form and round decimals to the hundredths.
	Level 2 Students should be able to use repeated reasoning to understand 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. They should be able to explain patterns in numbers of zeroes and/or placement of a decimal point when a number is multiplied or divided by 10.
	Level 3 Students should be able to use whole-number exponents to denote powers of 10; use repeated reasoning to understand and explain patterns in numbers of zeroes and/or placement of a decimal point when a number is multiplied or divided by powers of 10; read, write, and compare two decimals to the thousandths using base-ten numerals, number names, and expanded form, using the symbols >, =, and < to record the results of the comparison; and round decimals to any place.
	Level 4 Students should be able to combine multiplying by powers of 10, comparing, and rounding to highlight essential understandings.
Evidence Required:	1. The student represents powers of 10 by using whole-number exponents. 2. The student reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form. 3. The student compares two decimals to the thousandths by using >, =, and < symbols. 4. The student rounds decimals to the nearest whole number, tenth, or hundredth.
Allowable Item Types:	Equation/Numeric; Multiple Choice, single correct response; Matching Tables
Allowable Stimulus Materials:	>, <, or = symbols; multi-digit numbers less than or equal to 1,000,000; base-ten models; decimals to the thousandths (except when rounding, which can be to the hundredths)
Construct-Relevant Vocabulary:	round, digit, value, greater than, less than, equal to, equivalent, expression, expanded form, hundredths, tenths, thousandths, word form
Allowable Tools:	None
Target-Specific Attributes:	For division problems with whole numbers, numbers are limited to 4-digit dividends and 2-digit divisors. Reading, writing, and comparing decimal numbers should not exceed the thousandths place. Decimal numbers can be rounded to the hundredths. Use positive exponents only.
Non-Targeted Constructs:	None

Accessibility Guidance:	Item writers should consider the following Language and Visual Element/Design guidelines[1] when developing items. Language Key Considerations: • Use simple, clear, and easy-to-understand language needed to assess the construct or aid in the understanding of the context • Avoid sentences with multiple clauses • Use vocabulary that is at or below grade level • Avoid ambiguous or obscure words, idioms, jargon, unusual names and references Visual Elements/Design Key Considerations: • Include visual elements only if the graphic is needed to assess the construct or it aids in the understanding of the context • Use the simplest graphic possible with the greatest degree of contrast, and include clear, concise labels where necessary • Avoid crowding of details and graphics Items are selected for a student's test according to the blueprint, which selects items based on Claims and targets, not task models. As such, careful consideration is given to making sure fully accessible items are available to cover the content of every Claim and target, even if some item formats are not fully accessible using current technology.[2]
Development Notes:	Much of the evidence for this target and standards will be measured in Claim 3. For example, a student may be asked to explain patterns in the number of zeroes of the product/quotient when multiplying/dividing a number by powers of 10. 5.NBT.A.1 will not be assessed in isolation. It will be combined with other standards in order to assess this standard in a more meaningful way.

[1] For more information, refer to the General Accessibility Guidelines at: http://www.smarterbalanced.org/wordpress/wp-content/uploads/2012/05/TaskItemSpecifications/Guidelines/AccessibilityandAccommodations/GeneralAccessibilityGuidelines.pdf

[2] For more information about student accessibility resources and policies, refer to http://www.smarterbalanced.org/wordpress/wp-content/uploads/2014/08/SmarterBalanced_Guidelines.pdf

Task Model 1 **Response Type: Equation / Numeric** **DOK Level 1** **5.NBT.A.2** Explain patterns in the number of zeroes 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. **Evidence Required:** 1. The student represents powers of 10 by using whole-number exponents. **Tools:** None	**Prompt Features:** The student is prompted to enter a power of 10 that is equivalent to a whole number. **Stimulus Guidelines:** • Numbers reflect whole number powers of 10. • Numbers are less than or equal to 1,000,000. **TM1** **Stimulus:** The student is presented with a multi-digit whole number that is a power of 10. **Example Stem 1:** Enter 10,000 as a power of 10. **Example Stem 2:** What power of 10 makes this expression equal to 5000? $5 \times 10^{\square}$ **Rubric:** (1 point) The student enters the correct value (e.g., 10^4; 3). **Response Type:** Equation/Numeric

Task Model 2a **Response Type:** **Multiple Choice, single correct response** **DOK Level 1** **5.NBT.A.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). **Evidence Required:** 2. The student reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form. **Tools:** None	**Prompt Features:** The student is prompted to identify the expanded form of a given decimal number (up to the thousandths). **Stimulus Guidelines:** • Numbers are less than or equal to 1,000,000. • Item difficulty can be adjusted via these example methods: o The number of digits used in prompt o The presence or absence of zeroes in the number o The order in which place values are presented **TM2a** **Stimulus:** The stem will present a decimal number written as a base-ten numeral. **Example Stem:** Which expression is equal to 473.923? A. $(4 \times 100) + (7 \times 10) + (3 \times 1) + (9 \times \frac{1}{1}) + (2 \times \frac{1}{10}) + (3 \times \frac{1}{100})$ B. $(4 \times 100) + (7 \times 10) + (3 \times 1) + (9 \times 10) + (2 \times 100) + (3 \times 1{,}000)$ C. $(4 \times 100) + (7 \times 10) + (3 \times 1) + (9 \times \frac{1}{10}) + (2 \times \frac{1}{100}) + (3 \times \frac{1}{1000})$ D. $(4 \times 100{,}000) + (7 \times 10{,}000) + (3 \times 1{,}000) + (9 \times 100) + (2 \times 10) + (3 \times 1)$ **Rubric:** (1 point) The student selects the correct expression (e.g., C). **Response Type:** Multiple Choice, single correct response

Task Model 2b **Response Type: Equation / Numeric** **DOK Level 1** **5.NBT.A.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). **Evidence Required:** 2. The student reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form. **Tools:** None **Version 3 update:** Added example stem 3 to use decimals in expanded notation.	**Prompt Features:** The student is prompted to enter a decimal (up to the thousandths) that is represented in expanded form. **Stimulus Guidelines:** • Numbers are less than or equal to 1,000,000. • Item difficulty can be adjusted via these example methods: o The number of digits used in prompt o The presence or absence of zeroes in the number o The order in which place values are presented **TM2b** **Stimulus:** The student is presented with a decimal number in expanded form. **Example Stem 1:** Enter a number equal to the value of the expression. $(4 \times 100) + (7 \times 10) + (3 \times 1) + (9 \times \frac{1}{10}) + (2 \times \frac{1}{100}) + (3 \times \frac{1}{1000})$ **Example Stem 2:** Enter a number equal to the value of the expression. $(4 \times 100) + (3 \times 1) + (2 \times \frac{1}{100}) + (7 \times 10) + (9 \times \frac{1}{10}) + (3 \times \frac{1}{1000})$ **Example Stem 3:** Enter a number equal to the value of the expression. (7 x 10) + (4 x 1) + (5 x 0.1) + (3 x 0.01) **Rubric:** (1 point) The student correctly enters the decimal number that is equivalent to the expression (e.g., 473.923; 473.923; 74.53). **Response Type:** Equation/Numeric

Task Model 2d

Response Type:
Matching Tables

DOK Level 2

5.NBT.A.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).

Evidence Required:
2. The student reads and writes decimals to the thousandths using base-ten numerals, number names, and expanded form.

Tools: None

Prompt Features: The student is prompted to determine whether various expansions of decimal numbers from place value number names are equal to the decimal number.

Stimulus Guidelines:
- Numbers are up to the thousandths place.
- Numbers are less than or equal to 1,000,000.
- Item difficulty can be adjusted via this example method:
  - Place values are presented in descending, ascending, or random order.

TM2d
Stimulus: The student will be presented with a decimal number in numeric form.

Example Stem: Determine whether each expression is equivalent to 638.4. Select Yes or No for each expression.

	Yes	No
63 tens + 8 ones + 4 tenths		
63 hundreds + 8 ones + 4 tenths		
6 hundreds + 3 tens + 84 tenths		
6 hundreds + 38 ones + 4 tenths		

Rubric: (1 point) The student identifies equal expansions for the number (e.g., Y, N, Y, Y).

Response Type: Matching Tables

Task Model 3a

Response Type:
Matching Table

DOK Level 2

5.NBT.A.3b
Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Evidence Required:
3. The student compares two decimals to the thousandths by using >, =, and < symbols.

Tools: None

Version 3 Update:
Changed TM3a from an equation/numeric response type to a matching table response type. Updated the stimulus and stem to match the new format. Retired TM3b.

Prompt Features: The student is prompted to compare two pairs of decimals.

Stimulus Guidelines:
- Decimals can be to the thousandths place.
- Numbers are less than or equal to 1,000,000.
- Allowable symbols are >, =, and <.
- Item difficulty may be adjusted via this example method:
  - The numbers selected for each comparison

TM3a
Stimulus: The student is presented with two pairs of decimals and directed to compare them using (<, >, or =).

Example Stem:
Select the symbol (<, >, or =) that correctly compares each pair of numbers.

	<	**>**	**=**
0.03 ☐ 0.3			
187.36 ☐ 187.35			

Rubric: (1 point) The student selects the correct symbols (e.g., <, >).

Response Type: Matching Table

Task Model 3c **Response Type: Multiple Choice, single correct response** **DOK Level 2** **5.NBT.A.3b** Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. **Evidence Required:** 3. The student compares two decimals to the thousandths by using >, =, and < symbols. **Tools:** None	**Prompt Features:** The student is prompted to identify a decimal that correctly completes a given comparison. **Stimulus Guidelines:** • Decimals can be to the thousandths place. • Numbers are less than or equal to 1,000,000. • Allowable symbols are >, =, and <. • Item difficulty may be adjusted via this example method: o The numbers selected for each comparison **TM3c** **Stimulus:** The student is presented with an incomplete comparison using decimals and a comparison symbol of >, =, or <. **Example Stem:** Which number makes the comparison true? 3.45 < □ A. 3.249 B. 3.38 C. 3.436 D. 3.47 **Rubric:** (1 point) The student selects the correct number (e.g., D). **Response Type:** Multiple Choice, single correct response

Task Model 3d

Response Type:
Matching Tables

DOK Level 2

5.NBT.A.3b
Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Evidence Required:
3. The student compares two decimals to the thousandths by using >, =, and < symbols.

Tools: None

Prompt Features: The student is prompted to identify correct comparisons of decimal numbers.

Stimulus Guidelines:
- Decimals can be to the thousandths place.
- Numbers are less than or equal to 1,000,000.
- Allowable symbols are >, =, and <.
- Item difficulty may be adjusted via this example method:
  - The numbers selected for each comparison

TM3d
Stimulus: The answer choices present three unique decimal number comparisons using >, =, and <.

Example Stem: Determine if each comparison is true or false. Select True or False for each comparison.

	True	False
4.3 = 4.300		
48.2 > 4.829		
56.78 < 56.760		

Rubric: (1 point) The student correctly selects True or False for each comparison (e.g., T, T, F).

Response Type: Matching Tables

Task Model 4
 	
Response Type:
Equation / Numeric
 	
DOK Level 1
 	
5.NBT.A.4
Use place value understanding to round decimals to any place.
 	
Evidence Required:
4. The student rounds decimals to the nearest whole number, tenth, hundredth or thousandth.
 	
Tools: None
	Prompt Features: The student is prompted to enter a number that is the result of rounding a multi-digit decimal number to a given place value.
	
	Stimulus Guidelines:
	• Decimals can be to the ten-thousandths place.
	• Number may be rounded to any whole or decimal place value, to the thousandth place.
	• Numbers are less than or equal to 1,000,000.
	• Item difficulty may be adjusted via these example methods:
	  o Include numbers where the digit in the rounded place value changes as well as the digit(s) in the adjacent place values(s) to the left.
	  ▪ e.g., 1.998 rounded to the nearest hundredth is 2.00.
	  o Number presented has more or less places (length of the decimal number)
	
	TM4
	Stimulus: The student is presented with a multi-digit decimal number.
	
	Example Stem: Round 45.643 to the nearest hundredth. Enter your answer in the response box.
	
	Rubric: (1 point) The student enters the correct value (e.g., 45.64).
	
	Response Type: Equation/Numeric