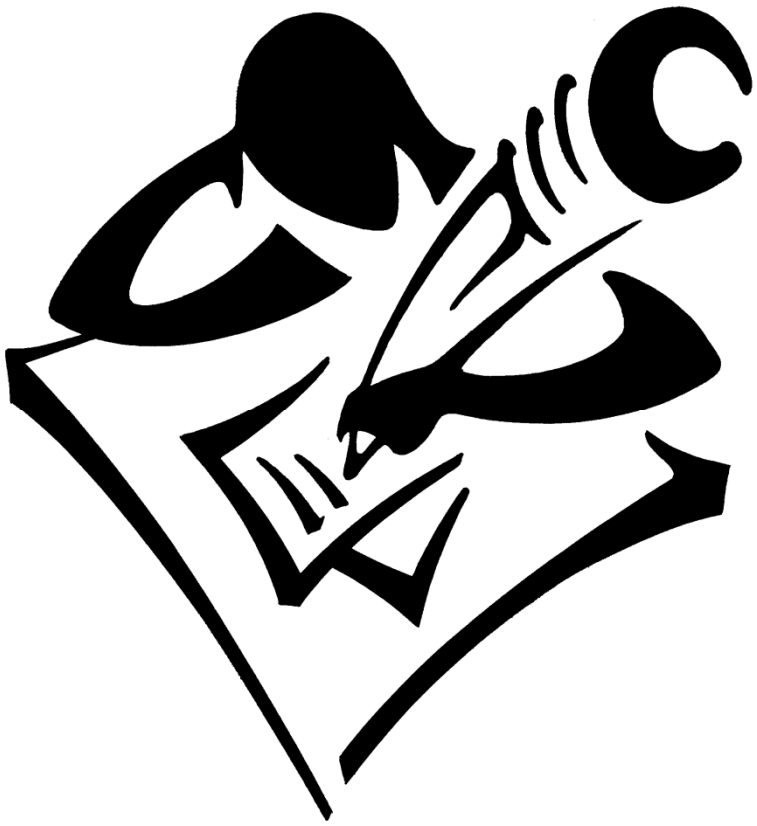
Tennessee Comprehensive Assessment Program

TCAP/CRA 2013



5

Anchor Set

Grade 5 – Decimal Place Value Discussion Task

SECURE MATERIAL - Reader Name: _____

Tennessee Comprehensive Assessment Program

Part 2: Constructed Response Task Section

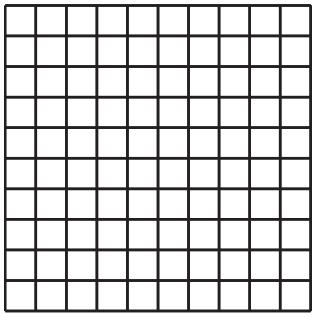
Decimal Place Value Discussion Task

a. Write four hundredths as a decimal number: _____

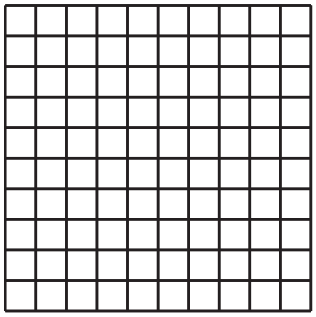
Write four tenths as a decimal number: _____

b. Compare the two decimal numbers from part a using the symbols <, >, or =.

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



Part 2: Constructed Response Task Section

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

0.04 x _____ = 0.4

0.4 ÷ _____ = 0.04

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

REVIEW YOUR WORK IF YOU HAVE TIME.

Scoring Guide

The CCSS for Mathematical Content (3 points)

5.NBT.A.3a Writes four hundredths as 0.04 and four tenths as 0.4 **(1 point)** _____

5.NBT.A.3b Uses <,>, or = to accurately compare two decimal numbers. (**1 point**) _____

5.NBT.A.1 Identifies 10 as the missing factor and divisor. (**1 point**) _____

The CCSS for Mathematical Practice (2 points)

MP3 Provides an explanation that identifies the multiplicative relationship between the two values. **(1 point)** _____

(MP3: Construct viable arguments and critique the reasoning of others.)

MP4 Shades the correct number of base ten blocks to represent each number. **(1 point)** _____

(MP4: Model with mathematics.)

TOTAL POINTS: 5

The CCSS for Mathematical Content Addressed In This Task

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.3a	Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000).
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.

The CCSS for Mathematical Practice*

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

* Gray type indicates Mathematical Practices not addressed in this assessment.

A-1a

3. Decimal Place Value Discussion Task

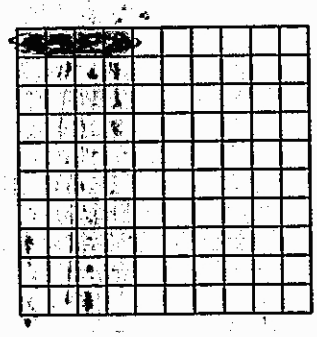
a. Write four hundredths as a decimal number: 0,04

Write four tenths as a decimal number: 0,4

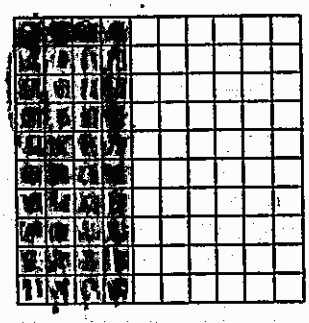
b. Compare the two decimal numbers from part a using the symbols <, >, or =.

0,4 > 0,04

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



Litho#: 0008

A-1b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times \underline{10} = 0.4$

$0.4 \div \underline{10} = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

I learned that 0.4 is greater than 0.04 b/c when you multiply the 2 nums, it takes 10, 0.04 to = 0.4, when you divide, you're dividing 0.4 into 10 groups to = 0.04;

Anchor 1 Litho 0008

Total Content Points: 3 (5.NBT.A.3a, 5.NBT.A.3b, 5.NBT.A.1)

Total Practice Points: 2 (MP3, MP4)

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.4) (5.NBT.A.3a). In Part B, the student accurately compares two decimals ($0.4 > 0.04$) (5.NBT.A.3b). In Part D, by identifying 10 as the missing factor and divisor, the student demonstrates recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (5.NBT.A.1). In Part E, the student constructs a viable argument by providing an explanation that identifies the multiplicative relationship between 0.04 and 0.4 (MP3). In Part C, the student models with mathematics by shading the correct number of base-ten blocks to represent each number (MP4).

Total Awarded Points: 5 out of 5

A-2a

3. Decimal Place Value Discussion Task

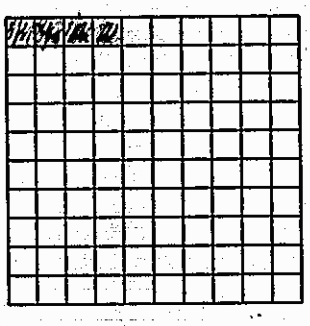
a. Write four hundredths as a decimal number: 0.04

Write four tenths as a decimal number: 0.4

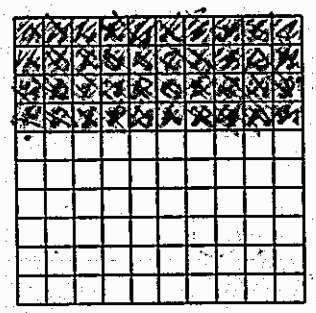
b. Compare the two decimal numbers from part a using the symbols <, >, or =.

$0.04 < 0.4$

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-2b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times \underline{10} = 0.4$

$0.4 \div \underline{10} = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

With decimals, 10 is always compatible. When you multiply a decimal by 10, there is 1 0 so you move the decimal point to the right 1. When you divide a decimal by 10, there is 1 0 so you move the decimal point to the ~~left~~ 1.

Ex. $0.04 \times 10 = 0.4$

$0.04 \div 10 = 0.04$

add zero

Anchor 2 Litho 0097

Total Content Points: 3 (5.NBT.A.3a, 5.NBT.A.3b, 5.NBT.A.1)

Total Practice Points: 2 (MP3, MP4)

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.4) (5.NBT.A.3a). In Part B, the student accurately compares two decimals ($0.04 < 0.4$) (5.NBT.A.3b). In Part D, by identifying 10 as the missing factor and divisor, the student demonstrates recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (5.NBT.A.1). In Part E, the student constructs a viable argument by providing a verbal explanation that shows understanding of the meaning of place value; his or her demonstration of the movement of the decimal, along with explaining this movement in words, conveys recognition of the multiplicative relationship between 0.04 and 0.4 (MP3). In Part C, the student models with mathematics by shading the correct number of base-ten blocks to represent each number (MP4).

Total Awarded Points: 5 out of 5

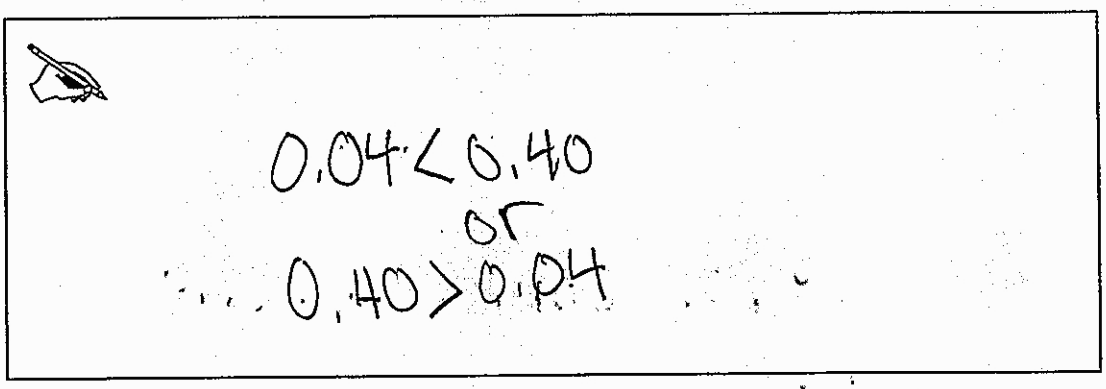
A-3a

3. Decimal Place Value Discussion Task

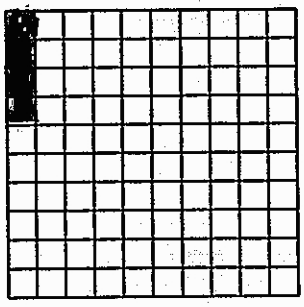
a. Write four hundredths as a decimal number: 0.04

Write four tenths as a decimal number: 0.40 ← place holder

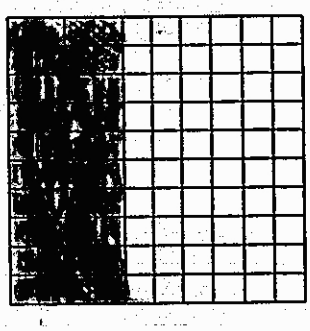
b. Compare the two decimal numbers from part a using the symbols <, >, or =.



c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-3b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times 10 = 0.4$

$0.4 \div 10 = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

when you multiply or divide 0.04 and 0.4 10 always has to be in the middle because the three numbers are a fact family

Anchor 3 Litho 0076

Total Content Points: 3 (5.NBT.A.3a, 5.NBT.A.3b, 5.NBT.A.1)

Total Practice Points: 1 (MP4)

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.40) (5.NBT.A.3a). In Part B, the student gives two decimal number comparisons ($0.04 < 0.40$, $0.40 > 0.04$), both of which are correct (5.NBT.A.3b). In Part D, by identifying 10 as the missing factor and divisor, the student demonstrates recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (5.NBT.A.1). In Part E, the student attempts a verbal explanation, but this explanation is not specific enough to identify the multiplicative relationship between 0.04 and 0.4 (no credit for MP3). In Part C, the student models with mathematics by shading the correct number of base-ten blocks to represent each number (MP4).

Total Awarded Points: 4 out of 5

A-4a

3. Decimal Place Value Discussion Task

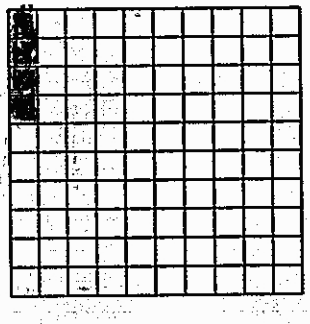
a. Write four hundredths as a decimal number: 0.04

Write four tenths as a decimal number: 0.4

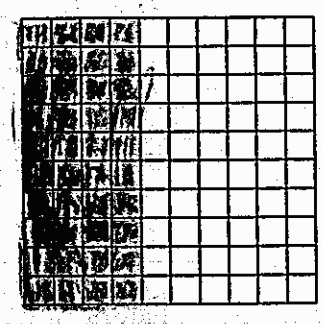
b. Compare the two decimal numbers from part a using the symbols <, >, or =.

$8.3 > 3.5$

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-4b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times \underline{10} = 0.4$

$0.4 \div \underline{10} = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

The relationship is 10, because The number that links them together is 10: $0.04 \times \underline{10} = 0.4$ and $0.4 \div \underline{10} = 0.04$.

Anchor 4 Litho 0048

Total Content Points: 3 (5.NBT.A.3a, 5.NBT.A.3b, 5.NBT.A.1)

Total Practice Points: 1 (MP4)

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.4) (5.NBT.A.3a). In Part B, the student accurately compares two decimals ($8.3 > 3.5$) (5.NBT.A.3b). In Part D, by identifying 10 as the missing factor and divisor, the student demonstrates recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (5.NBT.A.1). In Part E, the student attempts a verbal explanation, but this explanation merely reiterates the information already given in Part D (no credit for MP3). In Part C, the student models with mathematics by shading the correct number of base-ten blocks to represent each number (MP4).

Total Awarded Points: 4 out of 5

A-5a

3. Decimal Place Value Discussion Task

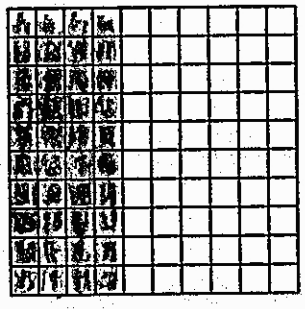
a. Write four hundredths as a decimal number: 0.04

Write four tenths as a decimal number: 0.4

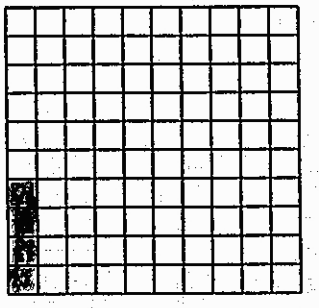
b. Compare the two decimal numbers from part a using the symbols <, >, or =.

0.4 > 0.04

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-5b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times \underline{10} = 0.4$

$0.4 \div \underline{10} = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

I know that $0.04 \times 10 = 0.4$, and that $0.4 \div 10 = 0.04$, B/c $0.04 \times 10 = 0.4$ $0.4 \div 10 = 0.04$

Anchor 5 Litho 0010

Total Content Points: 3 (5.NBT.A.3a, 5.NBT.A.3b, 5.NBT.A.1)

Total Practice Points: 0

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.4) (5.NBT.A.3a). In Part B, the student accurately compares two decimals ($0.4 > 0.04$) (5.NBT.A.3b). In Part D, by identifying 10 as the missing factor and divisor, the student demonstrates recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (5.NBT.A.1). In Part E, the student attempts an explanation, but fails to use words to explain the relationship between 0.04 and 0.4. The few words given serve only to frame a mathematical explanation similar to what has already been expressed in Part D. Simply showing the movement of the decimal without verbally explaining its meaning is not enough to convey recognition of the multiplicative relationship between the two values (no credit for MP3). In Part C, the student shades an incorrect number of blocks to represent four hundredths and four tenths (no credit for MP4).

Total Awarded Points: 3 out of 5

A-6a

3. Decimal Place Value Discussion Task

a. Write four hundredths as a decimal number: 0.04

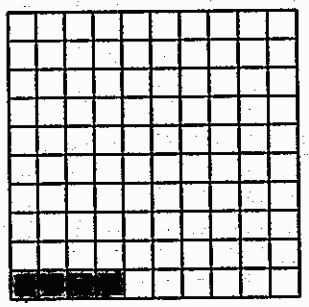
Write four tenths as a decimal number: 0.4

b. Compare the two decimal numbers from part a using the symbols <, >, or =.

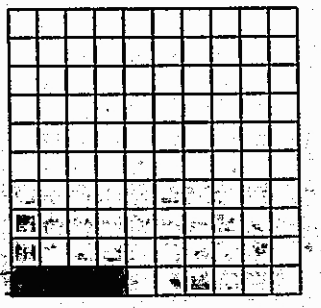
this is smaller — this is larger

.04 < .4

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-6b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times \underline{10} = 0.4$

$0.4 \div \underline{10} = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

Both .04 and .4 are both 4 out of a number and both share a relationship with 10.

Anchor 6 Litho 0065

Total Content Points: 3 (5.NBT.A.3a, 5.NBT.A.3b, 5.NBT.A.1)

Total Practice Points: 0

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.4) (5.NBT.A.3a). In Part B, the student accurately compares two decimals ($0.04 < 0.4$) (5.NBT.A.3b). In Part D, by identifying 10 as the missing factor and divisor, the student demonstrates recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (5.NBT.A.1). In Part E, the student attempts a verbal explanation, but this explanation is not specific enough to identify the multiplicative relationship between 0.04 and 0.4 (no credit for MP3). In Part C, the student shades the correct number of base-ten blocks to represent four hundredths, but an incorrect number of blocks to represent four tenths (no credit for MP4).

Total Awarded Points: 3 out of 5

A-7a

3. Decimal Place Value Discussion Task

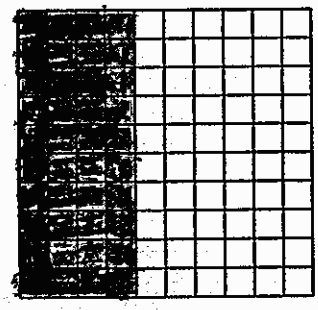
a. Write four hundredths as a decimal number: 0.04

Write four tenths as a decimal number: 0.4

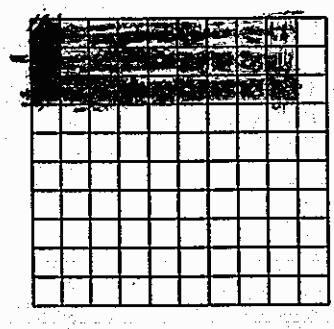
b. Compare the two decimal numbers from part a using the symbols <, >, or =.

.04 < .4

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-7b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times \underline{10} = 0.4$

$0.4 \div \underline{10} = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

0.04 is hurends of something
0.4 is tenths of something Here is an grid to help understanding

Tenths	hurendths	Thousands
0	4	0

Anchor 7 Litho 0090

Total Content Points: 2 (5.NBT.A.3a, 5.NBT.A.3b)

Total Practice Points: 0

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.4) (5.NBT.A.3a). In Part B, the student accurately compares two decimals ($0.04 < 0.4$) (5.NBT.A.3b). In Part D, the student incorrectly identifies 1 as the missing factor and divisor, and so fails to demonstrate recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (no credit for 5.NBT.A.1). In Part E, the student attempts a verbal explanation, but this explanation falls short of clearly identifying the multiplicative relationship between 0.04 and 0.4 (no credit for MP3). In Part C, the student shades incorrect numbers of blocks to represent four hundredths and four tenths (no credit for MP4).

Total Awarded Points: 2 out of 5

A-8a

3. Decimal Place Value Discussion Task

a. Write four hundredths as a decimal number: 0.04

Write four tenths as a decimal number: 0.4

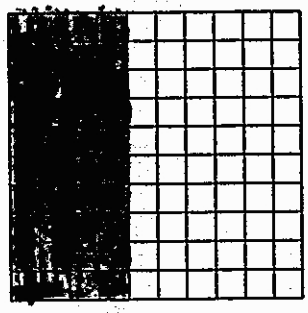
b. Compare the two decimal numbers from part a using the symbols <, >, or =:

$0.4 = 0.4$

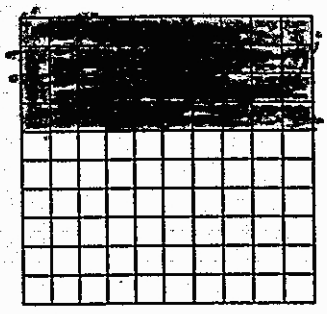
$1.4 < 0.25$

$2.8 > 0.4$

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-8b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times 10 = 0.4$

$0.4 \div 10 = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

That they are almost the same.

Anchor 8 Litho 0011

Total Content Points: 2 (5.NBT.A.3a, 5.NBT.A.1)

Total Practice Points: 0

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.4) (5.NBT.A.3a). In Part B, the student provides insufficient evidence of being able to use the meanings of digits in place to compare decimals ($0.4 = 0.4$ and $2.8 > 0.4$ are correct; $1.4 < 0.25$ is incorrect) (no credit for 5.NBT.A.3b). In Part D, by identifying 10 as the missing factor and divisor, the student demonstrates recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (5.NBT.A.1). In Part E, the student gives a verbal explanation that fails to identify the multiplicative relationship between 0.04 and 0.4 (no credit for MP3). In Part C, the student shades the correct number of base-ten blocks to represent four tenths, but an incorrect number of blocks to represent four hundredths (no credit for MP4).

Total Awarded Points: 2 out of 5

A-9a

3. Decimal Place Value Discussion Task

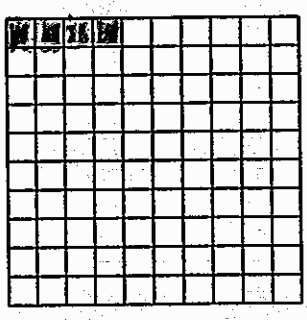
(a) Write four hundredths as a decimal number: 0.400

Write four tenths as a decimal number: 0.04

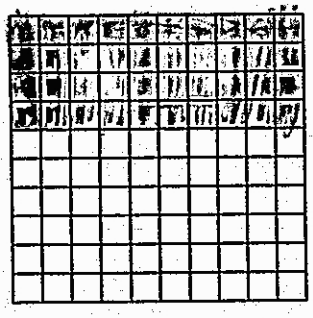
(b) Compare the two decimal numbers from part a using the symbols <, >, or =.

0.2 = 00.2

(c) Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-9b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times$ 0.1 $= 0.4$

$0.4 \div$ 0.1 $= 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

They are diffrent cause in 0.4 the 4 is in the 10 place and in 0.04 th 4 is in the hundreds place.

Anchor 9 Litho 0037

Total Content Points: 1 (5.NBT.A.3b)

Total Practice Points: 1 (MP4)

In Part A, the student incorrectly writes four hundredths as 0.400 and four tenths as 0.04 (no credit for 5.NBT.A.3a). In Part B, the student accurately compares two decimals (0.2 = 00.2) (5.NBT.A.3b). In Part D, the student incorrectly identifies 0.1 as the missing factor and divisor, and so fails to demonstrate recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (no credit for 5.NBT.A.1). In Part E, the student attempts a verbal explanation, but simply naming the decimal place of the 4 in each of the values without further discussion of the meaning of place value falls short of sufficiently identifying the multiplicative relationship between 0.04 and 0.4 (no credit for MP3). In Part C, the student models with mathematics by shading the correct number of base-ten blocks to represent each number (MP4).

Total Awarded Points: 2 out of 5

A-10a

3. Decimal Place Value Discussion Task

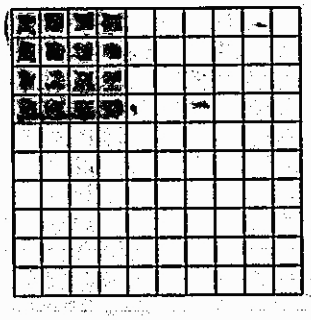
a. Write four hundredths as a decimal number: 0.04

Write four tenths as a decimal number: 0.4

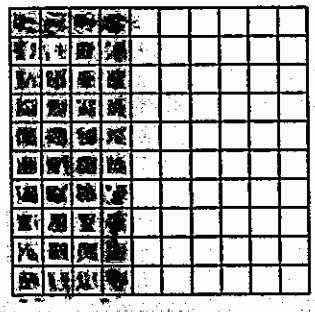
b. Compare the two decimal numbers from part a using the symbols <, >, or =.

0.04 > 0.4

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-10b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

$0.04 \times 0.1 = 0.4$

$0.4 \div 0.016 = 0.04$

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

The relationship between 0.04 and 0.4 is that they both have 4 in them.

Anchor 10 Litho 0027

Total Content Points: 1 (5.NBT.A.3a)

Total Practice Points: 0

In Part A, the student correctly writes four hundredths as a base-ten numeral (0.04) and four tenths as a base-ten numeral (0.4) (5.NBT.A.3a). In Part B, the student incorrectly compares two decimals ($0.04 > 0.4$) (no credit for 5.NBT.A.3b). In Part D, the student incorrectly identifies 0.1 as the missing factor and 0.016 as the missing divisor, and so fails to demonstrate recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (no credit for 5.NBT.A.1). In Part E, the student identifies a relationship between 0.04 and 0.4, but fails to explain the multiplicative relationship between the two values (no credit for MP3). In Part C, the student shades the correct number of base-ten blocks to represent four tenths, but an incorrect number of blocks to represent four hundredths (no credit for MP4).

Total Awarded Points: 1 out of 5

A-11a

3. Decimal Place Value Discussion Task

a. Write four hundredths as a decimal number: 0.004

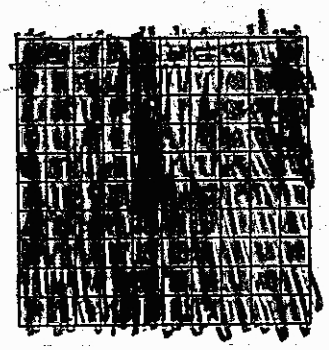
Write four tenths as a decimal number: 0.4

b. Compare the two decimal numbers from part a using the symbols <, >, or =.

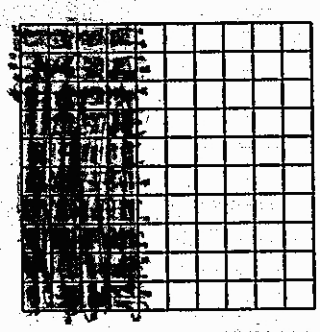
E) 0.004 = 0.04

E) Because 0.04 has place holders in it and 0.4 does to so they are both 4.

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



A-11b

d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

0.04 x 10 = 0.4

0.4 ÷ 10 = 0.04

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

Well 0.04 x 10 = 0.4 and that is the same number as 0.04 Because there are Both 4. And they are both times and divided by the same number.

Anchor 11 Litho 0068

Total Content Points: 1 (5.NBT.A.1)

Total Practice Points: 0

In Part A, the student correctly writes four tenths as a base-ten numeral (0.4), but incorrectly writes four hundredths as 0.004 (no credit for 5.NBT.A.3a). In Part B, the student incorrectly compares two decimals (0.004 = 0.04) (no credit for 5.NBT.A.3b). In Part D, by identifying 10 as the missing factor and divisor, the student demonstrates recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (5.NBT.A.1). In Part E, the student incorrectly explains the multiplicative relationship between 0.04 and 0.4 (no credit for MP3). In Part C, the student shades the correct number of base-ten blocks to represent four tenths, but an incorrect number of blocks to represent four hundredths (no credit for MP4).

Total Awarded Points: 1 out of 5

A-12a

3. Decimal Place Value Discussion Task

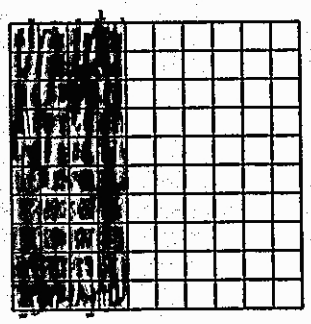
a. Write four hundredths as a decimal number: 00.4

Write four tenths as a decimal number: 0.4

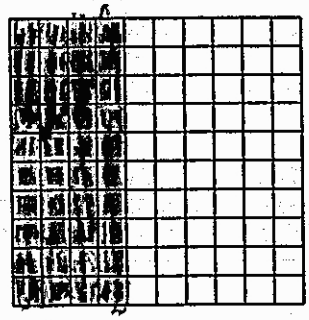
b. Compare the two decimal numbers from part a using the symbols <, >, or =.

0.4 = 0.04

c. Shade the base ten blocks to represent four hundredths.



Shade the base ten blocks to represent four tenths.



d. Complete the multiplication and division equations to show the relationship between four hundredths and four tenths.

0.04 x 1 = 0.4

0.4 ÷ 1 = 0.04

e. Use words to explain the relationship between 0.04 and 0.4 that you demonstrated in part d.

I could not find the relationship. I'm Sorry!

Anchor 12 Litho 0042

Total Content Points: 0

Total Practice Points: 0

In Part A, the student correctly writes four tenths as a base-ten numeral (0.4), but incorrectly writes four hundredths as 00.4 (no credit for 5.NBT.A.3a). In Part B, the student incorrectly compares two decimals (0.4 = 0.04) (no credit for 5.NBT.A.3b). In Part D, the student incorrectly identifies 1 as the missing factor and divisor, and so fails to demonstrate recognition that in a multi-digit number, a digit in one place represents 10 times as much as it would represent in the place to its right and $\frac{1}{10}$ what it would represent in the place to its left (no credit for 5.NBT.A.1). In Part E, the student fails to explain the relationship between 0.04 and 0.4 (no credit for MP3). In Part C, the student shades the correct number of base-ten blocks to represent four tenths, but an incorrect number of blocks to represent four hundredths (no credit for MP4).

Total Awarded Points: 0 out of 5