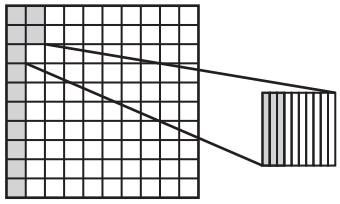
Name _____

Understand Thousandths

Thousandths are smaller parts than hundredths. If one hundredth is divided into 10 equal parts, each part is one **thousandth**.

Write the decimal shown by the shaded parts of the model.

One column of the decimal model is shaded.
It represents one tenth, or **0.1**.



Two small squares of the decimal model are shaded.
They represent two hundredths, or **0.02**.

A one-hundredth square is divided into 10 equal parts, or thousandths. Three columns of the enlarged one-hundredth square are shaded. They represent **0.003**.

So, 0.123 of the decimal model is shaded.

The relationship of a digit in different place-value positions is the same for decimals as for whole numbers.

Write the decimals in a place-value chart.

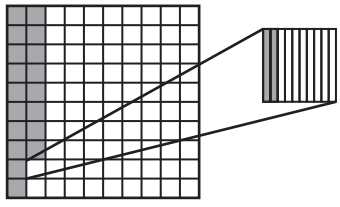
Ones	Tenths	Hundredths	Thousandths
0	**8**		
0	0	8	
0	0	0	8

0.08 is $\frac{1}{10}$ of **0.8**.

0.08 is 10 times as much as **0.008**.

1 Write the decimal shown by the shaded parts of the model.

_____



Use place-value patterns to complete the table.

Decimal	10 times as much as	$\frac{1}{10}$ of
2 0.1		
3 0.03		
4 0.5		

Decimal	10 times as much as	$\frac{1}{10}$ of
5 0.02		
6 0.4		
7 0.06		

Name _____

Read and Write Decimals Through Thousandths

You can use a place-value chart to find the value of each digit in a decimal.
Write whole numbers to the left of the decimal point.
Write decimals to the right of the decimal point.

Ones	Tenths	Hundredths	Thousandths
3	8	4	7
3×1	$8 \times \frac{1}{10}$	$4 \times \frac{1}{100}$	$7 \times \frac{1}{1{,}000}$
3.0	0.8	0.04	0.007

Value

The place value of the digit 8 in 3.847 is tenths.
The value of 8 in 3.847 is $8 \times \frac{1}{10}$, or 0.8.
You can write a decimal in different forms.

Standard Form: 3.847

Expanded Form: 3 $\times 1 +$ 8 $\times (\frac{1}{10}) +$ 4 $\times (\frac{1}{100}) +$ 7 $\times (\frac{1}{1{,}000})$

When you write the decimal in word form, write "and" for the decimal point.

Word Form: three and eight hundred forty-seven thousandths

1 Complete the place-value chart to find the value of each digit.

Ones	Tenths	Hundredths	Thousandths
2	6	9	5
2×1		$9 \times \frac{1}{100}$	
	0.6		

Value

Write the value of the underlined digit.

2 0.7$\underline{9}$2 _____

3 4.$\underline{6}$91 _____

4 3.80$\underline{5}$ _____

Compose and Decompose Decimals

Use a place-value chart to write and decompose a decimal number.

STEP 1 Build 3.586 with base ten blocks. Draw your blocks.

STEP 2 In the place-value chart, show three ways to decompose 3.586.

	Ones	Tenths	Hundredths	Thousandths
1.	3	5	8	
2.	3	3		6
3.	3	3	25	

Complete the place-value chart to write and decompose decimal numbers.

	Decimal Number	Ones	Tenths	Hundredths	Thousandths
4.	9.877	8		7	7
5.	2.351	2	2	13	
6.	7._31	5	26		11
7.		4	25	5	14

Problem Solving

8. Tamia decomposed a decimal number as 6 ones + 22 tenths + 33 hundredths + 44 thousandths. What number did Tamia decompose?

_____

9. Charlie picked a pumpkin that weighs 9.279 pounds. Show one way Charlie can decompose the number.

_____

_____

_____

Name _____

Compare and Order Decimals

You can use a place-value chart to compare decimals.

Compare. Write $<$, $>$, or $=$.

4.375 ◯ 4.382

Write both numbers in a place-value chart. Then compare the digits, starting with the greatest place value. Stop when the digits are different and compare.

Ones	Tenths	Hundredths	Thousandths
4	3	7	5
4	3	8	2

The ones digits are the same. The tenths digits are the same. The hundredths digits are different.

The digits are different in the hundredths place.
Since 7 hundredths < 8 hundredths, 4.375 (<) 4.382.

1 Use the place-value chart to compare the two numbers. What is the greatest place-value position where the digits differ?

Ones	Tenths	Hundredths	Thousandths
2	8	6	5
2	8	6	1

_____

Compare. Write $<$, $>$, or $=$.

2 5.37 ◯ 5.370 **3** 9.425 ◯ 9.417 **4** 7.684 ◯ 7.689

Name the greatest place-value position where the digits differ.
Name the greater number.

5 8.675; 8.654 **6** 3.086; 3.194 **8** 6.243; 6.247

_____ _____ _____

_____ _____ _____

Order from least to greatest.

8 5.04; 5.4; 5.406; 5.064 **9** 2.614; 2.146; 2.46; 2.164

_____ _____

Round Decimals

Rounding decimals is similar to rounding whole numbers.

Round 4.682 to the nearest tenth.

Step 1 Write 4.682 in a place-value chart.

Ones	Tenths	Hundredths	Thousandths
4	(6)	8	2

Step 2 Find the digit in the place to which you want to round.

Circle that digit. The digit 6 is in the tenths.

Step 3 Underline the digit to the right of the circled digit.

The digit 8 is to the right of the circled digit.

Step 4 If the underlined digit is less than 5, the circled digit stays the same. If the underlined digit is 5 or greater, increase the circled digit by 1.

8 > 5, so increase 6 to 7.

Step 5 After you round the circled digit, drop the digits to the right of the circled digit.

So, 4.682 rounded to the nearest tenth is 4.7.

Write the place value of the underlined digit. Round each number to the place of the underlined digit.

1 0.3<u>9</u>2

2 5.<u>7</u>14

3 16.<u>9</u>08

Name the place value to which each number was rounded.

4 0.825 to 0.83

5 3.815 to 3.82

6 1.546 to 1.5