DECIMAL PLACE VALUE

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

3.48 has 3 ones, 4 tenths and 8 hundredths.

3.48 = 3 + 0.4 + 0.08

Say it as "three point four eight".

O	Tenths	Hundredths
3	4	8

1 Write the number shown in each place value chart.

a)

O	Tenths	Hundredths
0	7	3

b)

O	Tenths	Hundredths
4	0	6

2 What is the value of the digit 8 in each number?

a) **3.8** ☐

b) **0.48** ☐

c) **8.2** ☐

d) **18.5** ☐

3 Fill in the missing numbers.

a) **0.7 =** ☐ **tenths**

b) **0.09 =** ☐ **hundredths**

c) **0.3 =** ☐ **tenths**

d) **0.05 =** ☐ **hundredths**

4 Complete each partition (for example, 3.48 = 3 + 0.4 + 0.08).

a) **3.6 = 3 +** ☐

b) **5.24 = 5 + 0.2 +** ☐

c) ☐ **= 2 + 0.4 + 0.01**

DECIMAL PLACE VALUE

SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

The third decimal place is thousandths.

3.004 = 3 ones and 4 thousandths

"three point zero zero four"

O	Tenths	Hundredths	Th'ths
3	0	0	4

1 Write the numbers shown in the place value chart.

T	O	Tenths	Hundredths	Th'ths
0	6	3	0	8
4	0	0	0	9

a) _____

b) _____

2 What is the value of the digit 5 in each number?

a) **2.5** _____

b) **0.051** _____

c) **7.105** _____

d) **53.2** _____

3 Write each number as a decimal.

a) 3 ones, 4 tenths and 7 hundredths _____

b) 6 tenths and 2 thousandths _____

c) 9 ones and 9 thousandths _____

d) 2 tens and 3 hundredths _____

4 Draw a line to match each name to its number.

zero point zero seven	7.07
zero point seven	0.007
zero point zero zero seven	0.7
seven point zero seven	0.07

DECIMAL PLACE VALUE

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Each column is worth 10 times the column to its right: 1 = 10 tenths, 0.1 = 10 hundredths and 0.01 = 10 thousandths. Say the digits after the point one at a time: 4.72 is "four point seven two".

FLUENCY

1 Complete each partition.

Example: 5.72 = 5 + 0.7 + 0.02 (5 ones, 7 tenths and 2 hundredths)

a) **6.38 =** ☐ **+** ☐ **+** ☐

b) **0.507 =** ☐ **+** ☐

c) **21.064 = 20 + 1 +** ☐ **+** ☐

2 Answer each question.

a) How many tenths are in 3? ☐

b) How many thousandths are in 0.02? ☐

c) Write 83 hundredths as a decimal. ☐

d) Write 125 thousandths as a decimal. ☐

REASONING

3 Is each statement true or false? Circle your answer.

a) 6.5 = 6.50 TRUE FALSE

b) 4 hundredths = 0.4 TRUE FALSE

c) 0.36 = 36 hundredths TRUE FALSE

d) 2.07 = 2 + 0.7 TRUE FALSE

4 Ben reads 0.62 as "nought point sixty-two". Explain why this is not correct and write how it should be read.

DECIMAL PLACE VALUE

GREATER DEPTH

NAME _____ CLASS _____ DATE _____

REASONING

1 Is each statement always, sometimes or never true? Circle your answer.

If it is sometimes true, give an example of when it is true and when it is not.

a) A tenths digit is worth more than a hundredths digit. ALWAYS SOMETIMES NEVER

b) A zero at the end of a decimal does not change it. ALWAYS SOMETIMES NEVER

c) A number with 3 decimal places is less than 1. ALWAYS SOMETIMES NEVER

PROBLEM SOLVING

2 Use each card once. 2 4 6 9 .

a) Make the greatest number with 2 decimal places. ____

b) Make the smallest number with 3 decimal places. ____

c) Make the number with 2 decimal places that is closest to 50 ____

3 Answer each question.

a) A number has 4 tenths, 12 hundredths and 7 thousandths. What is it? ____

b) Find two different ways to write 3.208 using only tenths and thousandths.

3.208 = ____ **tenths and** ____ **thousandths**

3.208 = ____ **tenths and** ____ **thousandths**

★ CHALLENGE FOR ALL

4 Who am I?

- I am between 0 and 10 and have 3 decimal places. My tenths digit is 0.
- My thousandths digit is double my ones digit.
- My hundredths digit is 1 more than my thousandths digit. The sum of my digits is 16.

a) What number am I? ____

b) How many thousandths are in me altogether? ____

DECIMAL PLACE VALUE

ANSWERS

BUILDING BLOCKS

1 a) 0.73 · b) 4.06

2 a) 0.8 (8 tenths) · b) 0.08 (8 hundredths) · c) 8 (8 ones) · d) 8 (8 ones)

3 a) 7 · b) 9 · c) 3 · d) 5

4 a) 0.6 · b) 0.04 · c) 2.41

SUPPORT

1 a) 6.308 · b) 40.009

2 a) 0.5 (5 tenths) · b) 0.05 (5 hundredths) · c) 0.005 (5 thousandths) · d) 50 (5 tens)

3 a) 3.47 · b) 0.602 · c) 9.009 · d) 20.03

4 zero point zero seven → 0.07 · zero point seven → 0.7 · zero point zero zero seven → 0.007 · seven point zero seven → 7.07

CORE

1 a) 6 + 0.3 + 0.08 · b) 0.5 + 0.007 · c) 0.06 + 0.004

2 a) 30 · b) 20 · c) 0.83 · d) 0.125

3 a) True · b) False (0.04) · c) True · d) False (2 + 0.07)

4 The 6 is 6 tenths and the 2 is 2 hundredths; the digits after the point are not a whole number of sixty-two. It should be read "zero (nought) point six two"

GREATER DEPTH

1 a) Sometimes, e.g. in 0.39 the 3 tenths (0.3) is worth more than 9 hundredths (0.09), but in 0.09 the 0 tenths is worth less · b) Always, e.g. 3.4 = 3.40 · c) Sometimes, e.g. 0.125 < 1 but 4.125 > 1

2 a) 96.42 · b) 2.469 · c) 49.62

3 a) 0.4 + 0.12 + 0.007 = 0.527 · b) any two pairs that make 3.208, e.g. 32 tenths and 8 thousandths; 30 tenths and 208 thousandths; 31 tenths and 108 thousandths

★ a) 3.076 · b) 3076