

# Decimal Place Value

## Standard

### Number & Operations in Base Ten

#### Understand the place value system.

**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.

**5.NBT.3** Read, write, and compare decimals to thousandths.

a) Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.

## Model the Skill

hundreds	tens	ones	.	tenths	hundredths	thousandths

- ◆ Draw a place value chart on the board.
- ◆ **Say:** *Look at the place value chart. How many places are shown on this chart? (6) Which place is the greatest? (hundreds) Point out the decimal point and explain that three places are to the left of the decimal point and three places are to the right of the decimal point.*
- ◆ **Ask:** *How does the tens place compare to the ones place? (The tens place is 10 times more than the ones place.) Explain that each place is  $1/10$  of the place to its left—the tenths place is  $1/10$  of the ones place. Have students write the number “one hundred four and thirty-eight hundredths” in the place value chart. Point out that **and** indicates there is a fraction of a number, or a decimal amount, that follows the whole number portion.*
- ◆ **Ask:** *How do we write one hundred four in the place value chart? (1 in the hundreds, 0 in the tens, and 4 in the ones) How do we write thirty-eight hundredths in the place value chart? (3 in the tenths place, 8 in the hundredths place) Demonstrate how to use the numbers written in the chart to write the standard form. (104.38) Have students look at the standard form and say the number aloud, making sure that it matches the word form.*
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill.

## Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

hundreds	tens	ones	.	tenths	hundredths	thousandths

- ① one hundred three and nine-tenths

standard form: \_\_\_\_\_

- ② forty and five hundred sixty-seven thousandths

standard form: \_\_\_\_\_

- ③ two and thirteen-hundredths

standard form: \_\_\_\_\_

- ④ 18.06

written form: \_\_\_\_\_

- ⑤ 10.13

written form: \_\_\_\_\_

- ⑥ 140.5

expanded form: \_\_\_\_\_

hundreds

tens

ones

tenths

hundredths

thousandths

①

standard form: 24.76

expanded form: \_\_\_\_\_

written form: \_\_\_\_\_

②

standard form: 21.035

expanded form: \_\_\_\_\_

written form: \_\_\_\_\_

③

standard form: 400.04

expanded form: \_\_\_\_\_

written form: \_\_\_\_\_

④

standard form: 121.06

expanded form: \_\_\_\_\_

written form: \_\_\_\_\_

⑤

standard form: \_\_\_\_\_

expanded form: \_\_\_\_\_

written form: three hundred five and five tenths

⑥

standard form: \_\_\_\_\_

expanded form: \_\_\_\_\_

written form: seven hundred eighteen and twelve thousandths

⑦

standard form: \_\_\_\_\_

expanded form:  $90 + 9 + \frac{8}{10} + \frac{3}{100}$ 

written form: \_\_\_\_\_

⑧

300.4

expanded form: \_\_\_\_\_

written form: \_\_\_\_\_

# Standard Form

# Expanded Form

# Written Form

1

6.17

2

$$30 + 5 + \frac{2}{10}$$

3

$$4 + \frac{5}{10} + \frac{7}{100} + \frac{9}{1,000}$$

4

eight hundred two and  
six-hundredths

5

206.047

6

74.21

7

8.096

8

twenty and  
sixty-two hundredths

9

ninety-five and  
four-tenths

10

$$600 + 5 + \frac{3}{100}$$



Tell how you know the value of each digit.

four-tenths in standard form.

3 Write 10.7 in written form.

4 Write seven hundred one and one-thousandth in standard form.

5 Write  $200 + 50 + 7 + \frac{5}{10} + \frac{7}{100} + \frac{2}{1,000}$  in written form.

6 Write nine hundred one and seventy-five thousandths in expanded form.

**Circle the letter for the correct answer.**

7 Which of the following shows 17.201 in expanded form?

a)  $17 + \frac{2}{10} + \frac{0}{100} + \frac{1}{1,000}$

b) seventeen and two hundred and one thousandths

c)  $10 + 7 + \frac{2}{10} + \frac{1}{1,000}$

d) seventeen and two-tenths and

8 Which of the following shows nine hundred and fifty-two thousandths in standard form?

a) 952,000

b) 900.52

c) 950.052

d) 900.052

first number is than the second number. The first two have been done for you.

①  $400 > 0.04$

*10,000 times greater*

②  $200 < 2,000$

*10 times less*

③  $0.09 \bigcirc 90$

④  $10,000 \bigcirc 100,000$

⑤  $60 \bigcirc 0.6$

⑥  $0.008 \bigcirc 0.8$

⑦  $0.02 \bigcirc 20$

⑧  $600 \bigcirc 0.6$

⑨  $9,000 \bigcirc 9$

⑩  $0.01 \bigcirc 1$

⑪  $30 \bigcirc 0.003$

⑫  $6,000 \bigcirc 6$

⑬  $7 \bigcirc 0.007$

⑭  $0.2 \bigcirc 2,000$

⑮  $80 \bigcirc 0.08$