

# Decimal Place Power

*Use place value patterns to move decimals accurately.*

**GRADE 5 • 5.NBT.A**

**CCSS.Math.Content.5.NBT.A** "Understand the place value system."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## PLACE VALUE MOVES

Each place to the left is worth 10 times as much as the place to its right. When you multiply by 10, 100, or 1,000, move the decimal point right that many places. When you divide, move it left.

## WORKED EXAMPLE

Find  $3.156 \times 100$ .

1. 100 has 2 zeros, so move the decimal point 2 places right.
2. 156 becomes 31.56, then 315.6.
3. The digits stay in the same order.

**Answer: 315.6**

## PRACTICE 6 problems

**1** What is the value of the digit 4 in 5.482?

**ANSWER** \_\_\_\_\_

**2** In 8.008, how many times greater is the value of the 8 in the ones place than the value of the 8 in the thousandths place?

**ANSWER** \_\_\_\_\_

**3** Find  $0.734 \times 10$ .

**ANSWER** \_\_\_\_\_

**4** Find  $83.2 \div 10$ .

**ANSWER** \_\_\_\_\_

**5** Compare using  $<$ ,  $>$ , or  $=$ :  $4.209$  \_\_\_\_  $4.29$

**ANSWER** \_\_\_\_\_

**6** Write 9.018 in expanded form.

**ANSWER** \_\_\_\_\_

## APPLY IT Show your work

- 1** A class is making a digital card collection. Each card file uses 2.408 MB of storage. The class saves 10 identical card files. How many MB of storage do the files use altogether?

WORK SPACE

ANSWER \_\_\_\_\_

- 2** Two game levels have loading times of 1.905 seconds and 1.95 seconds. Which level loads faster, and by how many seconds?

WORK SPACE

ANSWER \_\_\_\_\_

## CHALLENGE One step up

### CHALLENGE

A number is 0.057. What power of 10 must you multiply it by to get 57? Explain how the decimal point moves.

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## PART 1 • PRACTICE

| # | PROBLEM                                                                                                                    | ANSWER                               |
|---|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 1 | What is the value of the digit 4 in 5.482?                                                                                 | <b>4 tenths, or 0.4</b>              |
| 2 | In 8.008, how many times greater is the value of the 8 in the ones place than the value of the 8 in the thousandths place? | <b>1,000 times</b>                   |
| 3 | Find $0.734 \times 10$ .                                                                                                   | <b>7.34</b>                          |
| 4 | Find $83.2 \div 10$ .                                                                                                      | <b>8.32</b>                          |
| 5 | Compare using $<$ , $>$ , or $=$ : $4.209$ ____ $4.29$                                                                     | <b><math>&lt;</math></b>             |
| 6 | Write 9.018 in expanded form.                                                                                              | <b><math>9 + 0.01 + 0.008</math></b> |

## PART 2 • APPLY IT

1. **24.08 MB** Multiply 2.408 by 10. Move the decimal point one place right to get 24.08.
2. **The level that loads in 1.905 seconds is faster by 0.045 seconds.** Write 1.95 as 1.950 and compare it with 1.905. Subtract 1.905 from 1.950 to find the difference.

## CHALLENGE

**Multiply by 1,000. The decimal point moves 3 places right: 0.057 becomes 57.**

Accept equivalent expanded forms such as  $9 + \frac{1}{100} + \frac{8}{1000}$ . For the comparison and place-value items, accept correct words or symbols that show the same relationship.