

Place Value Power

See how each place changes a digit's value.

GRADE 4 • TEKS 4.2.A

4.2.A "interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left;"

NAME _____

DATE _____

THE BIG IDEA

Moving a digit one place to the left makes its value 10 times as large. Moving a digit one place to the right makes its value one-tenth as large.

WORKED EXAMPLE

In 6,660, compare the value of the 6 in the hundreds place with the value of the 6 in the tens place.

1. Find the values: 6 hundreds = 600 and 6 tens = 60.
2. Divide 600 by 60: $600 \div 60 = 10$.
3. The hundreds place is one place to the left of the tens place.

Answer: The 6 in the hundreds place is worth 600. It is 10 times the value of the 6 in the tens place, which is worth 60.

PRACTICE 6 problems

- 1** In 3,333, what is the value of the 3 in the thousands place and the 3 in the hundreds place? How are the values related?

ANSWER _____

- 2** In 58,822, what is the value of the 2 in the tens place? What is the value of the 2 in the ones place?

ANSWER _____

- 3** A 4 is worth 4,000. What will the 4 be worth if it moves one place to the right?

ANSWER _____

- 4** In 47,700, compare the value of the 7 in the thousands place with the value of the 7 in the hundreds place.

ANSWER _____

- 5** In 305,550, what is the value of the 5 in the thousands place? How does it compare with the value of the 5 in the hundreds place?

ANSWER _____

- 6** A digit is worth 70. It moves two places to the left. What is its new value?

ANSWER _____

APPLY IT Show your work

- 1** A robotics team earns 44,400 points in an online challenge. What is the value of the 4 in the ten-thousands place? What is the value of the 4 in the thousands place? How are the values related?

WORK SPACE

ANSWER _____

- 2** A school reading challenge records 73,330 pages read. What is the value of the 3 in the thousands place? What is the value of the 3 in the hundreds place?

WORK SPACE

ANSWER _____

CHALLENGE One step up

In 888,880, list the values of all five 8s from greatest to least. Then explain why each value is one-tenth of the value of the 8 immediately to its left.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	In 3,333, what is the value of the 3 in the thousands place and the 3 in the hundreds place? How are the values related?	3,000 and 300. The value 3,000 is 10 times the value 300.
2	In 58,822, what is the value of the 2 in the tens place? What is the value of the 2 in the ones place?	20 and 2.
3	A 4 is worth 4,000. What will the 4 be worth if it moves one place to the right?	400
4	In 47,700, compare the value of the 7 in the thousands place with the value of the 7 in the hundreds place.	7,000 and 700. The value 7,000 is 10 times the value 700.
5	In 305,550, what is the value of the 5 in the thousands place? How does it compare with the value of the 5 in the hundreds place?	5,000. It is 10 times the value of the 5 in the hundreds place, which is 500.
6	A digit is worth 70. It moves two places to the left. What is its new value?	7,000

PART 2 • APPLY IT

- 40,000 and 4,000. The value 40,000 is 10 times the value 4,000.** The 4 in the ten-thousands place has a value of 40,000. The 4 in the thousands place has a value of 4,000, so the first value is 10 times the second.
- 3,000 and 300.** The 3 in the thousands place is worth 3,000. The 3 in the hundreds place is worth 300.

CHALLENGE

800,000, 80,000, 8,000, 800, 80. Each 8 is one place to the right of the previous 8, so each value is one-tenth of the value to its left.

Accept equivalent wording for “10 times” and “one-tenth.” For the challenge, students may explain that moving one place right divides the value by 10.