LESSON MAKER PRO

Digit Value Shifts

Compare what a digit is worth in different places.

GRADE 5 · 5.NOS.A.1

5.NOS.A.1 "Explain 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."

NAME _____ DATE _____

THE BIG IDEA

A digit is worth 10 times as much when it moves one place to the left. It is worth 1/10 as much when it moves one place to the right.

WORKED EXAMPLE

In 7,770, how many times as much is the first 7 worth as the second 7?

1. The first 7 is worth 7,000.
2. The second 7 is worth 700.
3. 7,000 / 700 = 10.

Answer: 10 times as much

PRACTICE 6 problems

1 In 55,210, how many times as much is the first 5 worth as the second 5?

ANSWER _____

2 In 33,804, the second 3 is worth what fraction of the first 3?

ANSWER _____

3 In 92,200, what is the value of the 2 in the hundreds place?

ANSWER _____

4 In 4,440, how many times as much is the first 4 worth as the last 4?

ANSWER _____

5 In 3.33, how many times as much is the 3 in the tenths place worth as the 3 in the hundredths place?

ANSWER _____

6 A digit 9 is worth 900 in a multi-digit number. What would it be worth one place to the right?

ANSWER _____

APPLY IT Show your work

1 A game leaderboard shows 33,300 points for a team. How many times as much is the first 3 worth as the last 3?

WORK SPACE

ANSWER _____

2 On a bike ride, Lina's tracker records 2.22 kilometers. What is the value of the 2 in the hundredths place? What fraction of the value of the 2 in the tenths place is it?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student says the first 2 in 22,220 is worth 100 times as much as the last 2. Is the student correct? Explain using the value of each digit.

WORK SPACE AND ANSWER

ANSWER KEY

Digit Value Shifts

GRADE 5 · 5.NOS.A.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	In 55,210, how many times as much is the first 5 worth as the second 5?	**10 times as much**
2	In 33,804, the second 3 is worth what fraction of the first 3?	**1/10**
3	In 92,200, what is the value of the 2 in the hundreds place?	**200**
4	In 4,440, how many times as much is the first 4 worth as the last 4?	**100 times as much**
5	In 3.33, how many times as much is the 3 in the tenths place worth as the 3 in the hundredths place?	**10 times as much**
6	A digit 9 is worth 900 in a multi-digit number. What would it be worth one place to the right?	**90**

PART 2 · APPLY IT

1. **100 times as much** The first 3 is worth 30,000 points, and the last 3 is worth 300 points. 30,000 / 300 = 100.
2. **0.02 kilometer; 1/10** The hundredths digit is worth 0.02 kilometer, while the tenths digit is worth 0.2 kilometer. Since 0.02 / 0.2 = 1/10, the hundredths digit is worth 1/10 as much.

CHALLENGE

No. The first 2 is worth 20,000, and the last 2 is worth 20. Since 20,000 / 20 = 1,000, the first 2 is worth 1,000 times as much.

Accept equivalent forms such as 0.1 for 1/10. In the challenge, accept an explanation that counts three place shifts to the right, with each shift dividing the value by 10.