LESSON MAKER PRO

Digit Value Detective

Find how a digit's value changes from place to place.

GRADE 4 · 4.NBT.A.6

4.NBT.A.6 "Using models and quantitative reasoning, explain that in a multi-digit whole number, a digit in any place represents ten times what it represents in the place to its right."

NAME _____ DATE _____

ONE PLACE TO THE LEFT

A digit is worth 10 times as much when it moves one place to the left. To compare the same digit in two places, find each value and count the places between them.

WORKED EXAMPLE

In 44,720, how many times as much is the first 4 worth as the second 4?

1. The first 4 is worth 40,000.
2. The second 4 is worth 4,000.
3. 40,000 is 10 groups of 4,000.

Answer: The first 4 is worth 10 times as much.

PRACTICE 6 problems

1 In 55,120, what is the value of each 5?

ANSWER _____

2 Use the place-value table for 66,400. Fill in the missing value. How many times as much is that value as 6,000?

PLACE-VALUE TABLE FOR 66,400

Place	Digit	Value
Ten thousands	6	___
Thousands	6	6,000

ANSWER _____

3 In 33,210, how many times as much is the first 3 worth as the second 3?

ANSWER _____

4 In 111,050, what is the value of the 1 in the hundred-thousands place? What is the value of the 1 in the ten-thousands place?

ANSWER _____

5 In 777,000, how many times as much is the first 7 worth as the third 7?

ANSWER _____

6 A digit 9 is worth 9,000. What is its value if it moves one place to the left?

ANSWER _____

APPLY IT Show your work

1 An arcade game shows a score of 77,430. What is the value of each 7? How many times as much is the first 7 worth as the second?

WORK SPACE

ANSWER _____

2 A video of a new animal at the zoo gets 222,000 views. How many times as much is the 2 in the hundred-thousands place worth as the 2 in the thousands place?

WORK SPACE

ANSWER _____

CHALLENGE One step up

In 999,990, how many times as much is the 9 in the hundred-thousands place worth as the 9 in the tens place? Explain using the places between them.

WORK SPACE AND ANSWER

ANSWER KEY

Digit Value Detective

GRADE 4 · 4.NBT.A.6

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	In 55,120, what is the value of each 5?	**The first 5 is worth 50,000. The second 5 is worth 5,000.**
2	Use the place-value table for 66,400. Fill in the missing value. How many times as much is that value as 6,000?	**60,000; 10 times as much**
3	In 33,210, how many times as much is the first 3 worth as the second 3?	**10 times**
4	In 111,050, what is the value of the 1 in the hundred-thousands place? What is the value of the 1 in the ten-thousands place?	**100,000; 10,000**
5	In 777,000, how many times as much is the first 7 worth as the third 7?	**100 times**
6	A digit 9 is worth 9,000. What is its value if it moves one place to the left?	**90,000**

PART 2 · APPLY IT

1. **The first 7 is worth 70,000 points, and the second is worth 7,000 points. The first is worth 10 times as much.** The 7s are in the ten-thousands and thousands places. Moving one place left makes the value 10 times as much.
2. **100 times as much** The two values are 200,000 and 2,000. Moving two places left multiplies the value by 10 twice, so 200,000 is 100 times 2,000.

CHALLENGE

10,000 times as much. The values go from 90 to 900 to 9,000 to 90,000 to 900,000. Each move left makes the value 10 times as much, for four moves.

Accept equivalent explanations that show each move left multiplies a digit's value by 10. In the challenge, four moves left give a factor of 10,000.