LESSON MAKER PRO

Decimal Place Power

See how each decimal place changes by ten.

GRADE 4 · 4.NS.4.a

4.NS.4.a "Investigate and describe the ten-to-one place value relationship for decimals through thousandths, using concrete models (e.g., place value mats/charts, decimal squares, base 10 blocks)."

NAME _____ DATE _____

PLACE VALUE MOVES

A place-value chart goes ones | tenths | hundredths | thousandths. Moving one place right makes a digit's value 1/10 as much, and moving one place left makes its value 10 times as much.

WORKED EXAMPLE

Use the place-value chart to compare the two 5s in 2.559.

1. Chart: ones 2 | tenths 5 | hundredths 5 | thousandths 9.
2. The 5 in the tenths place has a value of 0.5.
3. The 5 in the hundredths place has a value of 0.05.
4. 5 is 10 times 0.05.

Answer: The 5 in the tenths place is 10 times the value of the 5 in the hundredths place.

PRACTICE 6 problems

1 In 6.122, compare the 2 in the hundredths place with the 2 in the thousandths place.

ANSWER _____

2 In 9.099, how many times as much is the 9 in the ones place as the 9 in the hundredths place?

ANSWER _____

3 A digit has a value of 0.07. It moves one place left. What is its new value?

ANSWER _____

4 One hundredth strip in a decimal model is made of how many thousandth pieces?

ANSWER _____

5 Write the value of each 4 in 0.444, from left to right.

ANSWER _____

6 Complete the statement: 0.003 is ___ of 0.03.

ANSWER _____

APPLY IT Show your work

1 Nia colors 0.6 of a decimal square for a pixel-art design. How many hundredth squares does she color?

WORK SPACE

ANSWER _____

2 A robot moves 0.008 kilometer in one test. In a second test, it moves 10 times as far. How far does it move in the second test?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

The number 0.666 has three 6s. Write each 6's value. Then explain how the values show the ten-to-one relationship.

_____

_____

ANSWER KEY

Decimal Place Power

GRADE 4 · 4.NS.4.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	In 6.122, compare the 2 in the hundredths place with the 2 in the thousandths place.	**0.02 is 10 times 0.002.**
2	In 9.099, how many times as much is the 9 in the ones place as the 9 in the hundredths place?	**100 times as much**
3	A digit has a value of 0.07. It moves one place left. What is its new value?	**0.7**
4	One hundredth strip in a decimal model is made of how many thousandth pieces?	**10 thousandth pieces**
5	Write the value of each 4 in 0.444, from left to right.	**0.4, 0.04, 0.004**
6	Complete the statement: 0.003 is ___ of 0.03.	**1/10**

PART 2 · APPLY IT

1. **60 hundredth squares** 0.6 is 6 tenths. Each tenth is 10 hundredths, so 6 tenths is 60 hundredths.
2. **0.08 kilometer** Moving one decimal place left makes the value 10 times as much. So 0.008 becomes 0.08.

CHALLENGE

0.6, 0.06, 0.006. Each 6 to the right has 1/10 the value of the 6 before it, and each 6 to the left has 10 times the value.

Accept equivalent decimal forms, such as 0.70 for 0.7. For comparison answers, accept words or equations that correctly state the ten-to-one relationship.