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)."

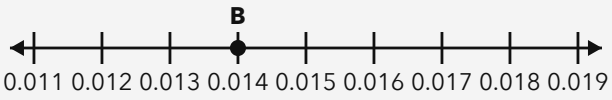
NAME _____ DATE _____

PLACES CHANGE BY TEN

Each place to the left is worth 10 times as much as the place to its right. Moving a digit one place right makes its value 1/10 as much, from tenths to hundredths to thousandths.

WORKED EXAMPLE

What decimal is point B on the number line?

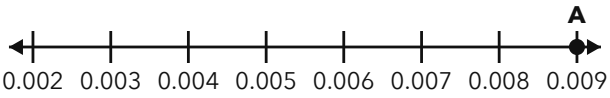


1. Each tick mark is 0.001, or one thousandth.
2. Point B is 0.004 after 0.010.
3. 0.010 + 0.004 = 0.014.

Answer: 0.014

PRACTICE 6 problems

1 What decimal is point A on the number line?



ANSWER _____

2 In 0.583, what is the value of the digit 8?

ANSWER _____

3 What decimal is 10 times 0.007?

ANSWER _____

4 In 0.242, how many times as much is the first 2 worth as the second 2?

ANSWER _____

5 What decimal does the shaded fraction bar represent?



ANSWER _____

6 In 0.416, write the value of the digit 1 and the value of the digit 6.

ANSWER _____

_____

APPLY IT Show your work

1 Jay's robot traveled the distance shown in the place value chart. What is the value of the 5 in the hundredths place? How many times as much is it worth as the 5 in the thousandths place?

JAY'S ROBOT DISTANCE, IN KILOMETERS

Ones	Tenths	Hundredths	Thousandths
0	0	5	5

ANSWER _____

2 At the school makers club, a tiny test batch of slime uses 0.004 liter of blue color. The final batch uses 10 times as much blue color. How many liters of blue color does the final batch use?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Sam says that changing 0.005 to 0.5 makes the value 10 times as much. Is Sam correct? Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Decimal Place Power

GRADE 4 · 4.NS.4.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	What decimal is point A on the number line?	**0.009**
2	In 0.583, what is the value of the digit 8?	**0.08**
3	What decimal is 10 times 0.007?	**0.07**
4	In 0.242, how many times as much is the first 2 worth as the second 2?	**100 times**
5	What decimal does the shaded fraction bar represent?	**0.7**
6	In 0.416, write the value of the digit 1 and the value of the digit 6.	**0.01; 0.006**

PART 2 · APPLY IT

1. **0.05; 10 times as much** The 5 in the hundredths place has a value of 0.05. The 5 in the thousandths place has a value of 0.005, so 0.05 is 10 times 0.005.
2. **0.04 liter** Multiply 0.004 by 10. The digit 4 moves one place left, from thousandths to hundredths.

CHALLENGE

No. 0.5 is 100 times 0.005 because the digit 5 moves two places left, from thousandths to tenths.

Accept equivalent decimal notation with or without a leading zero. For the challenge, require that students identify a change of two place-value positions and a factor of 100.