LESSON MAKER PRO

Decimal Point Dash

Move the decimal with powers of ten.

GRADE 7 · 7.NS.1.c

7.NS.1.c "Convert between numbers greater than 0 written in scientific notation and decimals.*"

NAME _____ DATE _____

MOVE AND COUNT

In scientific notation, a positive exponent tells you to move the decimal point right to write a decimal. A negative exponent tells you to move it left. To write a decimal in scientific notation, move the decimal until the first number is at least 1 and less than 10, then count the moves.

WORKED EXAMPLE

Write 7.36×10^3 as a decimal.

1. Start with 7.36.
2. The exponent 3 means move the decimal point 3 places right.
3. 7.36 -> 73.6 -> 736 -> 7,360.

Answer: 7,360

PRACTICE 6 problems

1 Write 3.7×10^4 as a decimal.

ANSWER _____

2 Write 8.09×10^3 as a decimal.

ANSWER _____

3 Write 1.25×10^6 as a decimal.

ANSWER _____

4 Write 54,000 in scientific notation.

ANSWER _____

5 Write 0.0048 in scientific notation.

ANSWER _____

6 Write 9.1×10^{-5} as a decimal.

ANSWER _____

APPLY IT Show your work

1 An online game update has a file size of 2.56×10^8 bytes. Write the file size in standard decimal form.

WORK SPACE

ANSWER _____

2 A game design club uses a computer that finishes one small graphics calculation in 0.000072 second. Write this time in scientific notation.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Put these numbers in order from least to greatest: 7.08×10^{-3}, 0.00081, and 6.9×10^{-4}. Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Decimal Point Dash

GRADE 7 · 7.NS.1.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Write 3.7×10^4 as a decimal.	**37,000**
2	Write 8.09×10^3 as a decimal.	**8,090**
3	Write 1.25×10^6 as a decimal.	**1,250,000**
4	Write 54,000 in scientific notation.	**5.4×10^4**
5	Write 0.0048 in scientific notation.	**4.8×10^{-3}**
6	Write 9.1×10^{-5} as a decimal.	**0.000091**

PART 2 · APPLY IT

1. **256,000,000 bytes** Move the decimal point 8 places right. The file size is 256,000,000 bytes.
2. **7.2×10^{-5} second** Move the decimal point 5 places right to make 7.2. Because the original decimal is smaller than 1, the exponent is negative.

CHALLENGE

$6.9 \times 10^{-4} < 0.00081 < 7.08 \times 10^{-3}$. In decimal form, the numbers are 0.00069, 0.00081, and 0.00708.

Accept equivalent scientific notation with a coefficient that is at least 1 and less than 10. Commas are optional in standard decimal answers.