

## G5 Playlist: Multiplying and Dividing by Powers of 10

Aligns with *CCSS.MATH.CONTENT.5.NBT.A.2*: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

### Related Standards

- 5.NBT.A.1: Recognize 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  $\frac{1}{10}$  of what it represents in the place to its left.

PREVIEW



## Objectives

In this module, you will learn and practice the following skills:

- Explain patterns in the number of zeros when multiplying by a power of 10
- Explain patterns in placement of the decimal point when multiplying or dividing a decimal by a power of 10
- Use whole-number exponents to show powers of 10

Let's get started!

## Key Terms

- A **power of 10** shows how many times to use the number 10 in multiplication. It is equal to the exponent.
- An **exponent** is written as a small number to the right and above the base number. The exponent tells you how many times to use that number in multiplication.

PREVIEW



## Multiplying and Dividing by Powers of 10

(5.NBT.A.2)

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If your students...

### Have problems understanding how to move the decimal

WATCH: Understanding Moving the Decimal

[https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-multipowers-of-10/e/understanding\\_moving\\_the\\_decimal](https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-multipowers-of-10/e/understanding_moving_the_decimal)

### Have problems multiplying numbers by powers of 10

WATCH: Multiplying Single-Digit Numbers by Powers of 10

<https://www.opened.com/video/multiplying-single-digit-numbers-by-powers-of-10/64002>

### For extra practice with multiplying or dividing numbers by powers of 10:

PLAY: Multiply and Divide by 10, 100, 1,000

[http://kids.britannica.com/lm/games/GM\\_5\\_5/GM\\_5\\_5.htm](http://kids.britannica.com/lm/games/GM_5_5/GM_5_5.htm)

PLAY: Multiply and Divide Decimals by 10, 100, 1,000

[https://www.mangahigh.com/en-us/math\\_games/number/decimals/multiply\\_and\\_divide\\_decimals\\_by\\_10\\_100\\_1000](https://www.mangahigh.com/en-us/math_games/number/decimals/multiply_and_divide_decimals_by_10_100_1000)

