

**STUDY LINK**  
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# Guides for Powers of 10



There are prefixes that name powers of 10. You know some of them from the metric system. For example, *kilo-* in kilometer (1,000 meters). It's helpful to memorize the prefixes for every third power of 10 through one trillion.

Memorize the table below. Have a friend quiz you. Then cover the table, and try to complete the statements below.

Standard Notation	Number-and-Word Notation	Exponential Notation	Prefix
1,000	1 thousand	$10^3$	kilo-
1,000,000	1 million	$10^6$	mega-
1,000,000,000	1 billion	$10^9$	giga-
1,000,000,000,000	1 trillion	$10^{12}$	tera-

- More than  $10^9$ , or one \_\_\_\_\_, people live in China.
- One thousand, or  $10^{\square}$ , feet is a little less than  $\frac{1}{5}$  of a mile.
- Astronomers estimate that there are more than  $10^{12}$ , or one \_\_\_\_\_, stars in the universe.
- More than one million, or  $10^{\square}$ , copies of *The New York Times* are sold every day.
- A kiloton equals one \_\_\_\_\_, or  $10^{\square}$ , metric tons.
- A megaton equals one \_\_\_\_\_, or  $10^{\square}$ , metric tons.

### Practice

Find the prime factorization of each number, and write it using exponents.

7.  $48 =$  \_\_\_\_\_      8.  $60 =$  \_\_\_\_\_

Write each number in expanded notation.

9.  $3,264 =$  \_\_\_\_\_
10.  $675,511 =$  \_\_\_\_\_