## KEY CONCEPT OVERVIEW

Lessons 1 through 4 focus on understanding place value and representing numbers from millions to thousandths on a place value chart.

You can expect to see homework that asks your child to do the following:

- Multiply and divide by 10, 100, and 1,000 using the place value chart (as shown in the sample problem below).
- Write numbers in exponential form (e.g., $10,000=10^{4}$ ), and write exponential numbers in standard form (e.g., $9 \times 10^{3}=9,000$ ).
- Use knowledge of measurements (e.g., $3 \mathrm{~m}=300 \mathrm{~cm}$ ) and exponential form (e.g., $3 \times 10^{2}=300$ ) to solve problems.


## SAMPLE PROBLEM (From Lessons 1-4)

$\qquad$
Use the place value chart and arrows to show how the value of each digit in the number 421 changes when it is divided by 100 .
a. $421 \div 100=4.21$

b. Write 100 in exponential form.

$$
100=10^{2}
$$

c. Convert 421 millimeters to meters, and write an equation with an exponent.
$421 \mathrm{~mm}=\mathbf{0 . 4 2 1} \mathrm{m}$
$421 \div 10^{3}=0.421$

LEARN MORE by viewing a video about using place value disks to solve multiplication problems. Visit eurmath.link/multiplication-pvdisks.

## HOW YOU CAN HELP AT HOME

- Practice drawing and labeling a place value chart (to the thousandths). Take turns drawing disks on the chart. Challenge each other to say the name of the number that was drawn.
- Practice metric conversions with your child in the kitchen. For example, measure water, juice, or milk in milliliters and liters ( $1 \mathrm{~L}=1,000 \mathrm{~mL}$ ). Measure rice, beans, oatmeal, or sugar in grams and kilograms $(1 \mathrm{~kg}=1,000 \mathrm{~g})$. Measure the kitchen counter, refrigerator, or walls in millimeters, centimeters, and meters ( $1 \mathrm{~m}=100 \mathrm{~cm}$ and $1 \mathrm{~m}=1,000 \mathrm{~mm}$ ).
- Play the "Exponent" dice game with your child.

1. Your child rolls a die to represent an exponent. The base number is 10.
2. You ask your child to say the number in standard form.

For example, your child rolls a 4. You ask, "Say $10^{4}$ in standard form." He says, "10,000."

## TERMS

Exponential form: A numeric form involving exponents (e.g., the exponential form of 1,000 is $10^{3}$.
Place value: The value of a given digit based on its position in a number (e.g., the place value of the digit 2 in 235 is 200 (2 hundreds)).
Standard form: A way to write numbers using the digits 0-9 (e.g., the standard form of seventy-two and fortyeight thousandths is 72.048).

MODELS
Place Value Chart

| $1,000,000$ | 100,000 | 10,000 | 1,000 | 100 | 10 | 1 | . | $\frac{1}{10}$ | $\frac{1}{100}$ | $\frac{1}{1000}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Millions | Hundred |  |  |  |  |  |  |  |  |  |
| Thousands | Thousands | Thousands | Hundreds | Tens | Ones | . | Tenths | Hundredths | Thousandths |  |
|  |  |  |  |  |  |  | . |  |  |  |

