

TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

Lessons 1 through 3 focus on understanding **place value** and representing numbers from millions to thousandths on a **place value chart**.

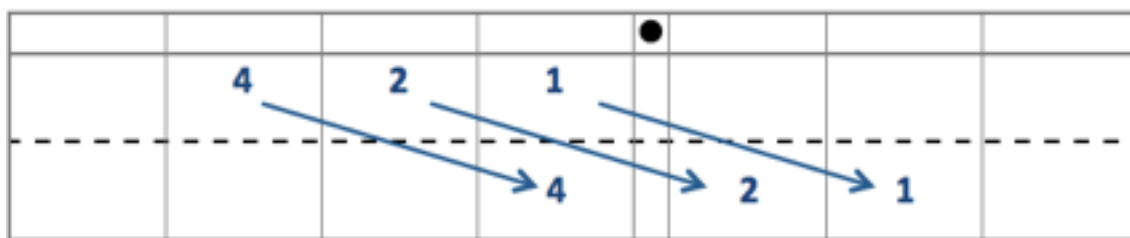
You can expect to see homework that asks your child to do the following:

- Multiply and divide by 10, 100, and 1,000 using the place value chart (as shown in the sample problem below).
- Use knowledge of measurements (e.g., 3 m = 300 cm) and multiples of 10 to solve problems.

SAMPLE PROBLEM *(From Lessons 1–3)*

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. Convert 421 millimeters to meters, and write an equation with a multiple of 10.

$421 \text{ mm} = 0.421 \text{ m}$

$421 \div 1000 = 0.421$

HOW YOU CAN HELP AT HOME

- Practice metric conversions with your child in the kitchen. For example, measure water, juice, or milk in milliliters and liters (1 L = 1,000 mL). Measure rice, beans, oatmeal, or sugar in grams and kilograms (1 kg = 1,000 g). Measure the kitchen counter, refrigerator, or walls in millimeters, centimeters, and meters (1 m = 100 cm and 1 m = 1,000 mm).

TERMS

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 forty-eight thousandths is 72.048).

Expanded form: A way of decomposing a number that shows the value of each digit using addition (e.g., $2.457 = 2 + 0.4 + 0.05 + 0.007$).

Expanded notation: A way of decomposing a number that shows the value of each digit using multiplication and addition. (e.g., $2.457 = (2 \times 1) + (4 \times 0.1) + (5 \times 0.01) + (7 \times 0.001)$).

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	Ten Thousands	Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths

TIPS FOR FAMILIES**KEY CONCEPT OVERVIEW**

In Lessons 4 and 5, students focus on writing numbers in different forms to the thousandths place using decimals and fractions. Students also learn to compare decimals using the symbols for greater than (>), less than (<), or equal to (=).

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

- Represent the same number in different forms (as shown in the sample problem below).
- Compare numbers using symbols.

SAMPLE PROBLEM *(From Lesson 5)*

Represent 25.413 in standard form, word form, expanded notation using decimals and fractions, unit form, and as a mixed number.

Standard form: **25.413**

Word form: ***Twenty-five and four hundred thirteen thousandths***

Expanded notation using decimals: $2 \times 10 + 5 \times 1 + 4 \times 0.1 + 1 \times 0.01 + 3 \times 0.001$

Expanded notation using fractions: $2 \times 10 + 5 \times 1 + 4 \times \frac{1}{10} + 1 \times \frac{1}{100} + 3 \times \frac{1}{1000}$

Unit form: ***2 tens 5 ones 4 tenths 1 hundredth 3 thousandths***

Mixed number: **$25 \frac{413}{1000}$**

HOW YOU CAN HELP AT HOME

- Write a challenging number with three numbers to the right of the decimal, such as 1,769,432.158. Ask your child to say the number in unit form. “Say the number using place value units starting from the millions to the thousandths place.” (Answer: 1 million, 7 hundred-thousands, 6 ten-thousands, 9 thousands, 4 hundreds, 3 tens, 2 ones, 1 tenth, 5 hundredths, 8 thousandths.)
- Play the “Comparison” card game with your child.
 1. Take out the Jacks, Queens, Kings, Aces, and Jokers.
 2. Put the stack of remaining cards face down.
 3. You and your child will each flip one card.
 4. Name each card as tenths, and then compare them.
 5. The person with the larger number wins a point.

For example, you flip a 2, it represents 0.2. She flips a 7, it represents 0.7. Since $0.2 < 0.7$, she wins a point.

Note: Flip 1 card to compare tenths, flip 2 cards to compare hundredths, and flip 3 cards to compare thousandths.

- Ask your child about place value units while looking at a multi-digit number. Your child can attempt to do this without a visual aid for an extra challenge. “What unit is to the left of the ones place on the place value chart? What unit is to the right of the tenths place on the place value chart?”

TERMS

Expanded notation using decimals: A way to write a number by adding the value of its digits using decimals (e.g., $2 \times 100 + 5 \times 10 + 7 \times 1 + 3 \times 0.1 + 4 \times 0.01 = 257.34$).

Expanded notation using fractions: A way to write a number by adding the value of its digits using fractions (e.g., $2 \times 100 + 5 \times 10 + 7 \times 1 + 3 \times \frac{1}{10} + 4 \times \frac{1}{100} = 257.34$).

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	Ten Thousands	Thousands	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths

TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

Lessons 6 and 7 focus on **rounding** numbers to the nearest hundred, ten, one, tenth, hundredth, and/or thousandth, and using rounding skills to make **estimates** when solving word problems.

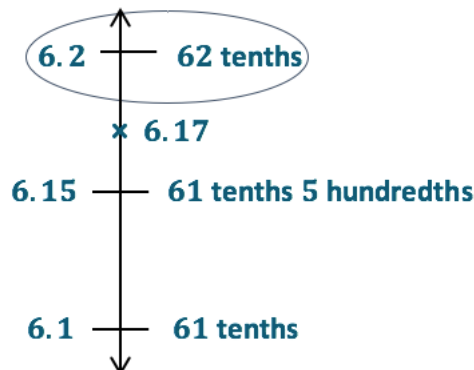
You can expect to see homework that asks your child to do the following:

- Rename a number in different unit forms using the place value chart (see sample problem below; 6.17 is the same as 6 ones 1 tenth 7 hundredths, 61 tenths 7 hundredths, or 617 hundredths).
- Round a number to a given place value with and without the use of a **vertical number line**.
- Solve word problems that involve estimating an answer.

SAMPLE PROBLEM *(From Lesson 6)*

Fill in the table, and then round 6.17 to the nearest tenth. Label the number line to show your work. Circle the rounded number.

ones	tenths	hundredths
6	1	7
	61	7
		617



HOW YOU CAN HELP AT HOME

- Help your child practice finding the midpoint between two numbers. You can say two numbers and your child will have to say the midpoint between those two numbers. For example,

The midpoint between 0 and 100 is _____. (50)

The midpoint between 10 and 20 is _____. (15)

The midpoint between 0 and 10 is _____. (5)

The midpoint between 1 and 2 is _____. (1.5)

The midpoint between 0 and 1 is _____. (0.5)

The midpoint between 0 and 0.1 is _____. (0.05)

HOW YOU CAN HELP AT HOME *(continued)*

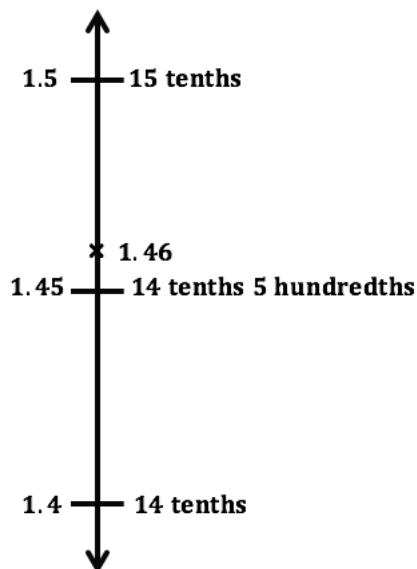
- Talk to your child about times that you use rounding, such as estimating how many grocery items you can buy with a \$50 bill or how many errands you can get done in 1 hour. Explain your thinking. Have a discussion about times when it makes sense to round and times when it is important to find an exact answer.
- Play the “Rounding” card game with your child.
 1. Take out the Jacks, Queens, Kings, Aces, and Jokers.
 2. Put the stack of remaining cards face down.
 3. Flip 2, 3, 4 or more cards and have your child practice rounding to different place value units.

For example, you flip a 5, 4, 3, and 6; it represents 5.436. Rounding 5.436 to the nearest one is 5 rounding 5.436 to the nearest tenth is 5.4 and rounding 5.436 to the nearest hundredth is 5.44.

TERMS

Estimate: Approximation of the value of a quantity or number. For example, the number 379 can be estimated to be 400.

Round: Approximate the value of a given number. For example, 8,261 rounded to the nearest hundredth is 8,300.

MODELS**Vertical Number Line**

TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

In Lessons 8 and 9, students add and subtract decimals and solve word problems.

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

- Add and subtract decimals using the unit form and **standard algorithm** (as shown in the sample problem below).
- Solve word problems that involve decimals.

SAMPLE PROBLEM *(From Lesson 8)*

Solve, and write the sum in standard form. Then solve using the standard algorithm.

$$\begin{aligned} 8 \text{ ones } 27 \text{ hundredths} + 5 \text{ hundredths} &= \underline{8} \text{ ones } \underline{32} \text{ hundredths} \\ &= \underline{8} \text{ ones } \underline{3} \text{ tenths } \underline{2} \text{ hundredths} \\ &= \underline{8.32} \end{aligned}$$

$$\begin{array}{r} 8.27 \\ + 0.05 \\ \hline 1 \\ 8.32 \end{array}$$

HOW YOU CAN HELP AT HOME

- Play a call and response game with your child while you are at home together or running errands.. You can say a number, and your child will say the number that’s one more of a given unit than your number. For example, “What’s one more tenth than 5 tenths? (6 tenths). What’s one more thousandth than 0.052? (0.053).”
- Play the “Addition and Subtraction” card game with your child.

1. Take out the Jacks, Queens, Kings, Aces, and Jokers.
2. Put the stack of remaining cards face down.
3. You and your child will each flip a set number of cards to build a decimal number.
4. Ask your child to practice adding and/or subtracting with those two numbers.

For example, you flip an 8 and a 5; they represent 8.5. She flips a 6 and a 2; they represent 6.2. $8.5 + 6.2 = 14.7$ and $8.5 - 6.2 = 2.3$.

Note: Flip two cards to practice adding and subtracting tenths; flip three cards to practice adding and subtracting hundredths, and flip four cards to practice adding and subtracting thousandths.

If playing cards are not available, the game can also be played by writing the digits 1-9 on small pieces of paper.

TERMS

Standard algorithm: A standard step-by-step procedure to solve a particular type of problem. For example, the process of subtracting vertically with regrouping is a standard algorithm.

TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

In Lessons 10 and 11, students learn to multiply a decimal by a one-digit whole number by using an **area model** (as shown in the Sample Problem below).

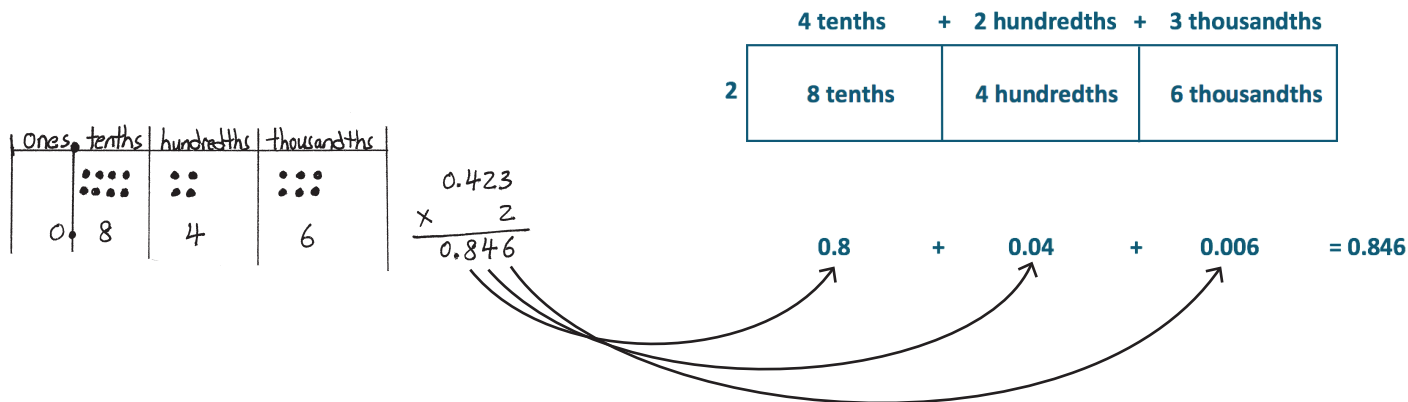
You can expect to see homework that asks your child to do the following:

- Draw **place value disks** on a place value chart to solve multiplication problems.
- Draw area models to solve multiplication problems.
- Estimate and explain the reasonableness of the **product**.
- Solve word problems.

SAMPLE PROBLEM *(From Lesson 10)*

Solve by drawing disks on a place value chart and by using the area model.

$$2 \times 0.423 = \mathbf{0.846}$$



HOW YOU CAN HELP AT HOME

- Practice basic multiplication facts by rolling two dice and multiplying the numbers that were rolled.
- Review rounding with your child. Give your child a number, and have them round to the nearest one ($2.649 \approx 3$), the nearest tenth ($2.649 \approx 2.6$), and the nearest hundredth ($2.649 \approx 2.65$).

TERMS

Product: The number resulting from the multiplication of two or more numbers. For example, in the multiplication problem $4 \times 0.2 = 0.8$, the number 0.8 is the product.

MODELS

Area Model

	4 tenths	+	2 hundredths	+	3 thousandths	
4.	4 x 4 tenths = 16 tenths		4 x 2 hundredths = 8 hundredths		4 x 3 hundredths = 12 thousandths	
	1.6	+	0.08	+	0.012	= 1.693

Place Value Disks

100 100	10 10 10 10	1 1 1
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Ones	Tenths	Hundredths	Thousandths
● ● ● ●	● ●	● ● ● ● ● ● ● ●	● ●

TIPS FOR FAMILIES

KEY CONCEPT OVERVIEW

In Lessons 12 through 15, students divide decimal numbers by one-digit whole numbers.





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

- Solve division problems by using place value unit language (e.g., $0.42 \div 7 = 42 \text{ hundredths} \div 7 = 6 \text{ hundredths} = 0.06$).
- Divide decimals by drawing place value disks on the place value chart (as shown in the Sample Problem below).
- Divide decimals to the hundredths without leaving a remainder ($6.372 \div 6 = 1.062$).
- Solve word problems.

SAMPLE PROBLEM (From Lesson 14)

Draw place value disks on the place value chart to solve. Show each step in the standard algorithm.

$$5.4 \div 4 = \mathbf{1.35}$$

Ones	.	Tenths	Hundredths
			
			

$$\begin{array}{r}
 1.35 \\
 4 \overline{) 5.4} \\
 \underline{-4} \\
 14 \\
 \underline{-12} \\
 20 \\
 \underline{-20} \\
 0
 \end{array}$$

HOW YOU CAN HELP AT HOME

- Practice and review basic division facts with your child.
- Challenge your child (and the rest of the family!) to division contests. You say a number from 1 to 10, and your child will say division sentences, using your number as the divisor. For example, you say 9, and she will say $90 \div 9 = 10$, $81 \div 9 = 9$, $72 \div 9 = 8$, $63 \div 9 = 7$, $54 \div 9 = 6$, $45 \div 9 = 5$, $36 \div 9 = 4$, $27 \div 9 = 3$, $18 \div 9 = 2$, $9 \div 9 = 1$, $0 \div 9 = 0$). Take turns saying the numbers. First you give a number, then your child gives a number. Help each other to stay on track, and keep track of time to celebrate improvement.
- Practice finding the **quotient** with your child. You write the division sentence, and your child will say the division sentence, including the answer, in unit form. For example,
 $14 \div 2 = 14 \text{ ones} \div 2 = 7 \text{ ones}$
 $1.4 \div 2 = 14 \text{ tenths} \div 2 = 7 \text{ tenths}$
 $0.14 \div 2 = 14 \text{ hundredths} \div 2 = 7 \text{ hundredths}$

TERMS

Quotient: The number resulting from the division of two numbers. For example, in the division problem $5.4 \div 6 = 0.9$, the number 0.9 is the quotient.