EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

Lessons 1 through 4 focus on understanding **place value** and representing numbers up to 1 million in different forms, including on a **place value chart.** The lessons emphasize that each place value is 10 times as much as the value of the place to its right.

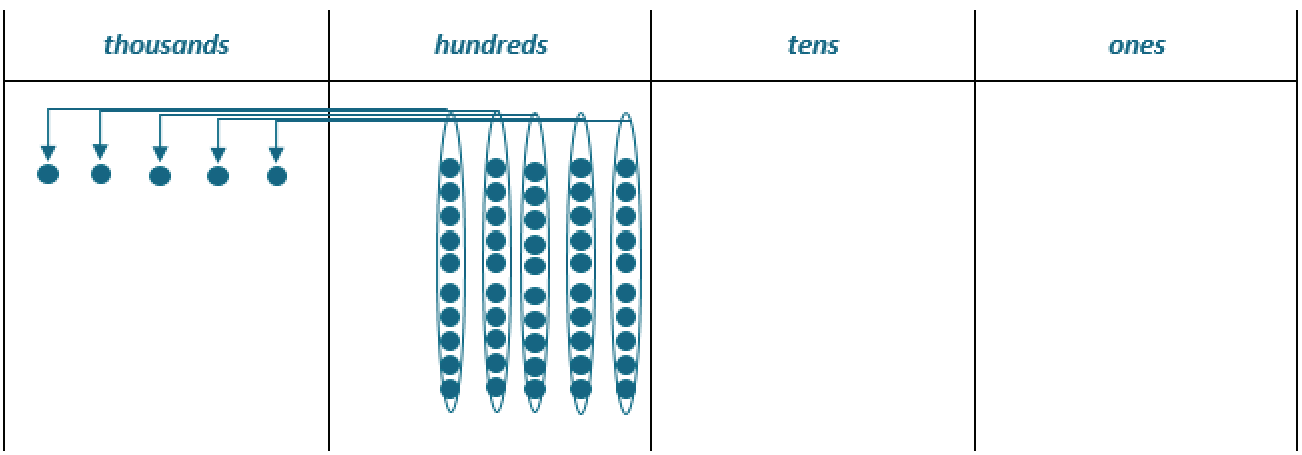
You can expect to see homework that asks your child to do the following:

- Label place value charts (up to millions), draw disks, and show regroupings (as shown in the sample problem below).
- Multiply and divide by 10 using the place value chart.
- Write numbers in the following forms:
  - Unit form (e.g., 4 thousands 3 hundreds 2 ones),
  - Standard form (e.g., 4,302),
  - Expanded form (e.g., 4,000 + 300 + 2), and
  - Word form (e.g., four thousand, three hundred two).

SAMPLE PROBLEM *(From Lesson 1)*

Label the place value chart. Fill in the blanks to make the **equation** true. Draw disks in the place value chart to show how you got your answer, using arrows to show any regrouping.

5 hundreds × 10 = **50** hundreds = **5** thousands



Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Support your child as he draws and labels a place value chart (up to millions). Ask him to say a large number (up to 1 million). Represent the number on the place value chart using cereal pieces for disks. Challenge each other to say the name of the number that was created, using the number forms previously listed.
- Ask your child to think of a number less than 1 million. See how many different ways she can represent the number in unit form (e.g., 2,345 as 23 hundreds 4 tens 5 ones; 2,345 ones; or 234 tens 5 ones). Writing the number within a place value chart might be helpful in this process.
- Challenge your child (and the rest of the family!) to skip-counting contests, going forward and backward, by threes, fours, sixes, sevens, eights, and nines (e.g., 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 27, 24, 21, 18, 15, 12, 9, 6, 3, 0). Take turns saying the numbers. First, you give a number. Then your child gives a number. Help each other to stay on track!

TERMS

Equation: A statement that two expressions are equal. For example, 2,349 + 32,401 = ___ or 2,349 + 32,401 = 34,750.

Place value: The value of a given digit based on its position in a number. For example, the place value of the digit 2 in 235 is 200 (i.e., 2 hundreds).

MODELS

Place Value Chart

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

Lessons 5 and 6 emphasize **place value**. Students compare numbers and find 1, 10, and 100 thousand more and less than a number.

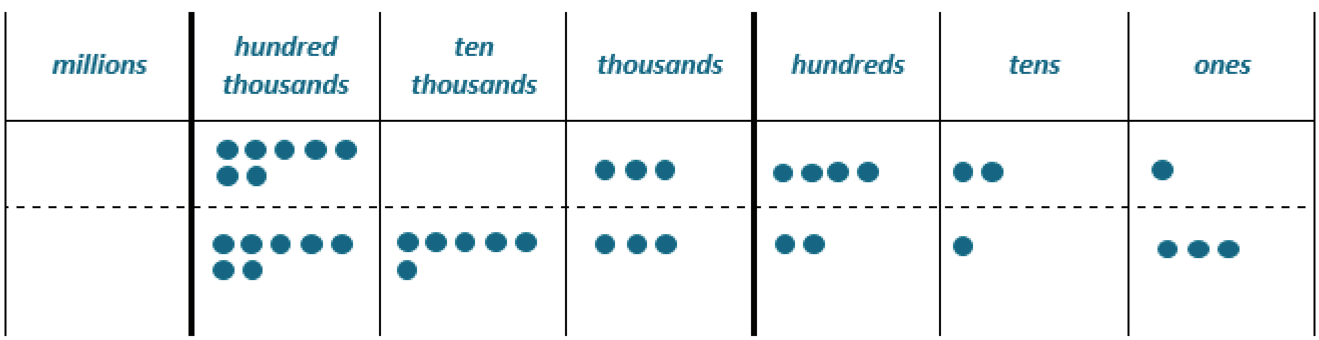
You can expect to see homework that asks your child to do the following:

- Use a **place value chart** to represent and compare two numbers.
- Compare numbers written in different forms using the symbols for less than (<), greater than (>), or equal to (=).
- Arrange numbers from least to greatest and from greatest to least.
- Find 1, 10, and 100 thousand more and less than a given number.

SAMPLE PROBLEM *(From Lesson 5)*

Label the units in the place value chart. Draw place value disks to represent each number in the place value chart. Use <, >, or = to compare the two numbers. Write the correct symbol in the circle.

703,421 < 763,213



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HOW YOU CAN HELP AT HOME

- Play the "Build a Number" game with your child. The objective of the game is to build a larger number than your opponent.
  1. Each player draws and labels a place value chart that extends to the hundred thousands.
  2. Players take turns rolling a die.
  3. Each time a player rolls, he chooses a place in his place value chart to draw disks to represent the number rolled. Only one number can be represented in each place.
  4. Play continues until each player has filled all of the places on his chart. Compare the numbers. The player with the larger number wins. (Variation: Build a smaller number.)

  Be sure to talk to your child about strategy. For example, ask your child where he would draw the disks if he rolled the number 6 and the objective was to build the largest possible number. Listen for him to say that he would draw the disks in the empty space with the largest place value (i.e., hundred thousands or the next largest place value if hundred thousands is already taken).
- Write a 4, 5, or 6-digit number on a piece of paper. On another piece of paper, write a number that is 1, 10, or 100 thousand more or less than the first number. Give the second number to your child. Ask her: What do you need to add/subtract to/from your number so that it will equal my number?

TERMS

Place value: The value of a given digit based on its position in a number. For example, the place value of the digit 2 in 235 is 200 (i.e., 2 hundreds).

MODELS

Place Value Chart

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

Lessons 7 through 10 focus on rounding numbers to the nearest hundred, thousand, ten thousand, and/or hundred thousand and using rounding skills to make estimates when solving word problems.

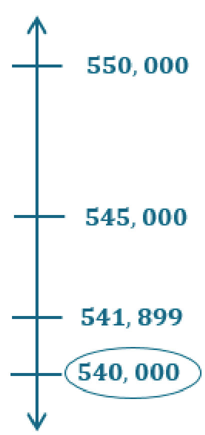
You can expect to see homework that asks your child to do the following:

- Round a number to a given place value with and without the use of a **vertical number line**.
- Estimate a **sum** by rounding (e.g., 505,341 + 193,841 ≈ 500,000 + 200,000).
- Solve word problems that involve estimating an answer.

SAMPLE PROBLEM *(From Lesson 8)*

Complete the statement by rounding the number to the given place value. Use the number line to show your work. Explain how you found your answer.

541,899 rounded to the nearest ten thousand is **540,000**.



***I know that there are* 54 *ten thousands in* 541,899. *That means that* 541,899 *comes between* 540,000 *and* 550,000. 545,000 *is the halfway point. I know that* 541,899 *is less than* 545,000. *That means it is closer to* 540,000.**

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

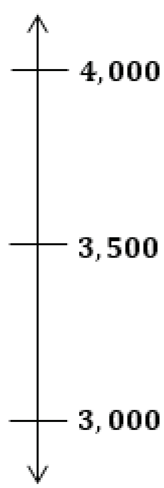
- Talk to your child about times that you use rounding, such as estimating how many grocery items you can buy with a $20 bill or how many errands you can get done in 60 minutes. Explain your thinking. Have a discussion about times when it makes sense to round and times when it is important to find an exact answer.
- Write a 6-digit number on a piece of paper. Ask your child to round the number to the nearest hundred, nearest thousand, nearest ten thousand, and nearest hundred thousand.

TERMS

Sum: The result of adding two or more numbers (e.g., in 3 + 2 = 5, the number 5 is the sum).

MODELS

Vertical Number Line



EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

In Lessons 11 and 12, students add multi-digit numbers and solve multi-step word problems.

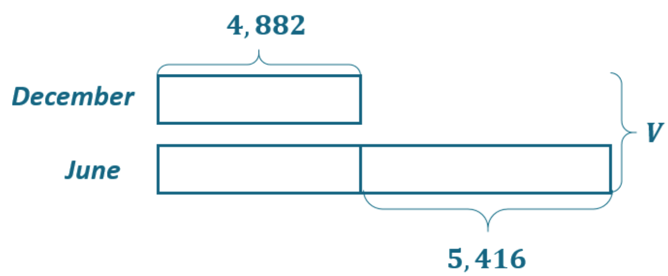
You can expect to see homework that asks your child to do the following:

- Solve addition problems using the **standard algorithm**.
- Solve word problems using variables to represent the unknown numbers and **tape diagrams** as models.
- Use rounding to check if the answers make sense.

SAMPLE PROBLEM *(From Lesson 12)*

Model the problem with a tape diagram. Estimate and then solve. Explain if your answer is reasonable.

There were 5,416 more visitors to the museum in the month of June than in the month of December. December had 4,882 visitors. How many visitors did the museum have during both months?



$V = 15{,}180$

a. About how many visitors did the museum have during June and December?

$5{,}000 + 5{,}000 + 5{,}000 = 15{,}000$

The museum had about* 15,000 *visitors during June and December.

b. Exactly how many visitors did the museum have during June and December?

The museum had exactly* 15,180 *visitors during June and December.

$$\begin{array}{rrrrr} & 4, & 8 & 8 & 2 \\ & 4, & 8 & 8 & 2 \\ + & 5, & 4 & 1 & 6 \\ & {\scriptstyle 2} & {\scriptstyle 1} & {\scriptstyle 1} & \\ \hline 1 & 5, & 1 & 8 & 0 \end{array}$$

c. Is your answer reasonable? Compare your estimate to the answer. Write a sentence to explain your reasoning.

My answer is reasonable because my estimate of* 15,000 *is only about* 200 *less than the actual answer of* 15,180. *My estimate is close because two addends rounded up and one rounded down.

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

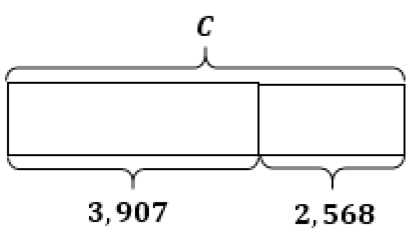
- Provide opportunities for your child to practice multi-digit addition. Ask her to look in a magazine or newspaper for numbers greater than one thousand. Tell her to choose two of the numbers and to add them together. Ask her to explain each step.
- Pose word problems to your child and ask him to solve them. For example, Mark typed 2,345 words on Monday and 3,867 words on Tuesday. How many words did Mark type altogether on Monday and Tuesday? Encourage your child to draw a tape diagram, to round to estimate an answer, and then to find the exact answer. Answers should be written as statements. Ask your child to assess the reasonableness of his answer. Does the answer make sense?
- Look at a school calendar. Prompt your child to count how many days of school there have been so far. Then, ask her to count how many days of school there are left. Ask her to calculate the total number of days in the school year, first by estimating and then by using the exact numbers. Have her draw a tape diagram to represent the problem.

TERMS

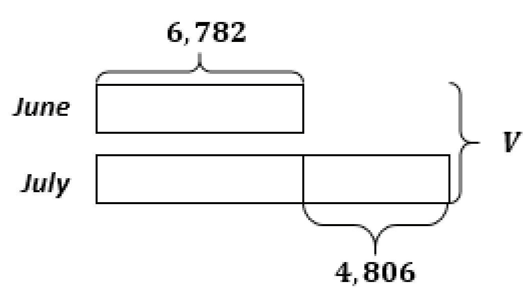
Standard algorithm: A standard step-by-step procedure to solve a particular type of problem (e.g., the process of adding vertically with regrouping is a standard algorithm).

MODELS

Tape Diagram



Tape Diagram



EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

In Lessons 13 through 16, students subtract multi-digit numbers and solve word problems.

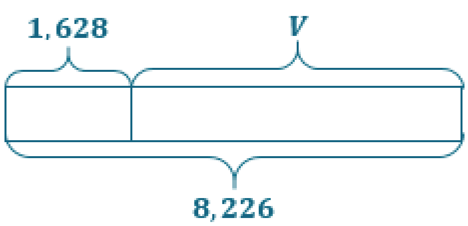
You can expect to see homework that asks your child to do the following:

- Solve subtraction problems using the **standard algorithm** and check answers using addition.
- Solve word problems using **tape diagrams** as models and **variables** to represent the unknown numbers.
- Use rounding to check if the answers make sense.

SAMPLE PROBLEM *(From Lesson 13)*

Draw a tape diagram to represent the following problem. Use numbers to solve. Write your answer as a statement. Check your answer.

What number must be added to 1,628 to result in a **sum** of 8,226?



$$\begin{array}{rrrrr} & & ^{11} & ^{11} & \\ & ^{7} & ^{1} & ^{1} & ^{16} \\ & \cancel{8}, & \cancel{2} & \cancel{2} & \cancel{6} \\ - & 1, & 6 & 2 & 8 \\ \hline & 6, & 5 & 9 & 8 \end{array} \qquad \begin{array}{rrrrr} & 6, & 5 & 9 & 8 \\ + & 1, & 6 & 2 & 8 \\ \hline & & 1 & 1 & 1 \\ & 8, & 2 & 2 & 6 \end{array}$$

***V* = 6,598**

6,598 *must be added to* 1,628 *to result in a sum of* 8,226.

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Provide opportunities for your child to solve multi-digit subtraction problems. For example, given that there are 365 days in a common year, ask him to count up how many days have passed so far this year and then subtract from 365 to determine the number of days left in the year. Ask him to explain each step.
- Let your child be the teacher. First, she'll need to start by coming up with a word problem for you that involves subtraction. (For example: The ice cream stand sold 1,367 cones on Monday and 988 cones on Tuesday. Solve to find out how many more cones were sold on Monday than on Tuesday.) Next, she'll need to ask you to solve the problem. Now it's your turn! Draw a tape diagram, round to estimate an answer, and then find the exact answer. Your answer should be written as a statement. Ask your child, "Is my answer reasonable? How do you know?" Then ask her to check your work to see if it's correct.

TERMS

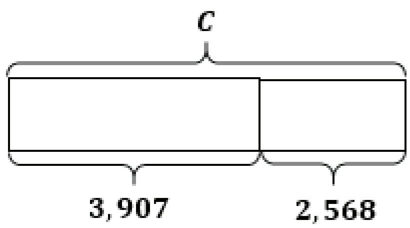
Standard algorithm: A standard step-by-step procedure to solve a particular type of problem. For example, the process of subtracting vertically with regrouping is a standard algorithm.

Sum: The result of adding two or more numbers. For example, in 3 + 2 = 5, the number 5 is the sum.

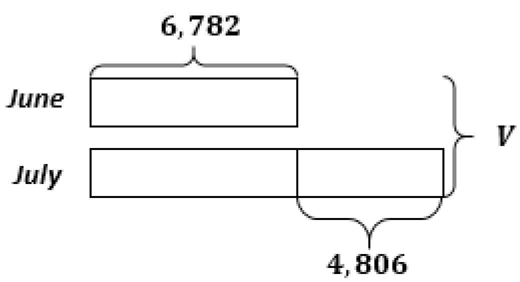
Variable: A letter that stands for a number. For example, in 5 + 2 = *V*, *V is the variable*.

MODELS

Tape Diagram



Tape Diagram



EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

Lessons 17 through 19 focus on solving and creating multi-step word problems.

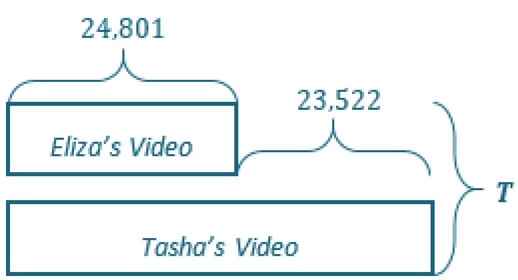
You can expect to see homework that asks your child to do the following:

- Represent word problems with **tape diagrams**, using **variables** for the unknown numbers.
- Solve word problems and write answers as statements.
- Use rounding to check if the answers make sense.
- Create and solve word problems based on tape diagrams.

SAMPLE PROBLEM *(From Lesson 19)*

Using the diagram below, create your own word problem. Solve for the value of the variable.

Eliza's video had 24,801 shares. Tasha's video had 23,522 more shares than Eliza's video. How many total shares did the videos have?



$$\begin{array}{r} 24{,}801 \\ 24{,}801 \\ +\ 23{,}522 \\ \hline 73{,}124 \end{array}$$

T = 73,124

The videos had* 73,124 *total shares.

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

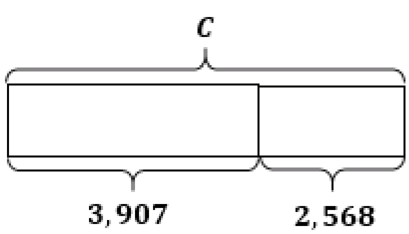
- Ask your child to restate each homework problem in her own words. Make sure she understands each problem before she begins to draw her tape diagram. After the tape diagram has been drawn, and before your child attempts to solve the problem, ask her to explain the tape diagram to you.
- As your child creates his own word problems, he may need help finding a context. Help him to think of realistic contexts that use large numbers (e.g., tickets to a concert, miles driven in one year, the cost of a new car, website 'hits', number of things made or sold).
- Let your child be the teacher. First, she should draw and label a tape diagram (using a variable for the unknown number). Next, she should prompt you to create a word problem based on the diagram. Finally, after you have created a problem and then solved it, she should check your answer.

TERMS

Variable: A letter that stands for a number. For example, in $5 + 2 = V$, V is the variable.

MODELS

Tape Diagram



Tape Diagram