

**KEY CONCEPT OVERVIEW**

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During the next week, our math class will continue working with place value strategies to build a deeper understanding of addition and subtraction within 1,000. We will continue to use simplifying strategies from Module 4, and we will use place value language to explain why our strategies work.

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

- Use the arrow way, number bonds, or mental math to add and subtract ones, tens, and hundreds from numbers to 1,000.
- Use a strip diagram to make a simpler problem. For example, to solve  $41 - 29$ , add one to each number to make an easier problem with the same difference:  $42 - 30 = 12$ .
- Choose a strategy to solve addition and subtraction problems within 1,000 and explain why that strategy is efficient.
- Use addition to check subtraction.

**SAMPLE PROBLEMS** *(From Lesson 7)*

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1. Solve  $447 + 398$  by using two different strategies.

a.  $447 + 398 = 845$

$$447 \xrightarrow{+3} 450 \xrightarrow{+50} 500 \xrightarrow{+300} 800 \xrightarrow{+40} 840 \xrightarrow{+5} 845$$

b.  $447 + 398 = \underline{845}$

$$\begin{array}{r} \phantom{44} \swarrow \phantom{7} \\ 445 \phantom{0} \phantom{0} \\ \phantom{44} \searrow \phantom{7} \\ \phantom{44} \phantom{0} 2 \end{array}$$

$$445 + 400 = 845$$

2. For the above problem, explain which strategy is easier to use when solving and why.

***It is much easier for me to solve with a number bond because 398 is only 2 away from the next hundred. The arrow way takes a long time, and I have to make sure I don't miss any parts of the number 398. The number bond has fewer steps!***

**HOW YOU CAN HELP AT HOME**

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- Encourage your child to use place value language to explain how adding in the tens place is like adding in the ones place. “When I have a group of 10 ones, I can make a group of 1 ten. When I have a group of 10 tens, I can make a group of 1 hundred.”
- Before your child adds or subtracts, ask her to look closely at the numbers and think aloud about which strategy will be most efficient and why. For example, she might choose to use the arrow way, number bonds, counting on, or vertical form to solve.
- Invite your child to explain his simplifying strategy step-by-step. For example, when he uses the arrow way, ask your child questions such as, “How many more do you need to make the next hundred? The next ten?” “Which did you add first: hundreds, tens, or ones? Why?”



**KEY CONCEPT OVERVIEW**

During the next week, our math class will focus on adding two- and three-digit numbers up to 1,000. We will continue to use place value disks and chip model drawings to model and solve addition problems requiring bundling units to make a new ten or a new hundred. Students will use these models side by side with the vertical form.

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

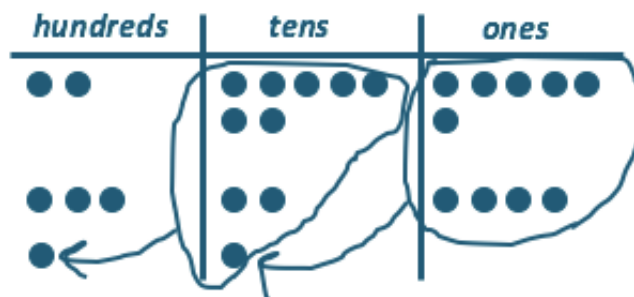
- Use a place value chart, place value disks, the chip model, and vertical form to model and solve three-digit addition problems.
- Solve three-digit addition problems by using different strategies, such as a number bond or the arrow way, and explain the reason for choosing that strategy.

**SAMPLE PROBLEM** *(From Lesson 11)*

Solve by using vertical form. Draw chips on a place value chart to help solve the problem. Bundle as needed.

$$276 + 324 = 600$$

$$\begin{array}{r} 276 \\ + 324 \\ \hline 600 \end{array}$$



**HOW YOU CAN HELP AT HOME**

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- Ask your child to explain what he is doing when solving problems from Topic B; this explanation helps him develop the habit of using place value language. Listen for words and phrases such as ones, tens, hundreds, making a new ten, and making a new hundred. Model these words and phrases when reviewing homework with your child.
- Ask your child the following questions as she completes her homework: Do you have enough ones or tens to bundle? Where do you record the new ten or hundred in the chip model? How do we show this change when using vertical form? As your child becomes more confident, invite her to show and explain the two models.
- Encourage your child to make neat, organized chip model drawings (see image in Sample Problem) to help him see when he can bundle a group of 10 ones or 10 tens to make a new unit of ten or a hundred. Neat drawings can help your child avoid making errors as he moves through the steps of the algorithm.



**KEY CONCEPT OVERVIEW**

During the next week, our math class will focus on subtracting two- and three-digit numbers up to 1,000. We will continue working with place value disks and chip model drawings to model and solve subtraction problems requiring unbundling, or decomposing, tens and hundreds. We will use these models side by side with the vertical form. We will notice that when modeling subtraction, we draw or create only the total since the part being subtracted is taken from the total. When using vertical form, we will draw a magnifying glass around the total to help us “look closer” to see whether we have enough ones or tens to subtract.

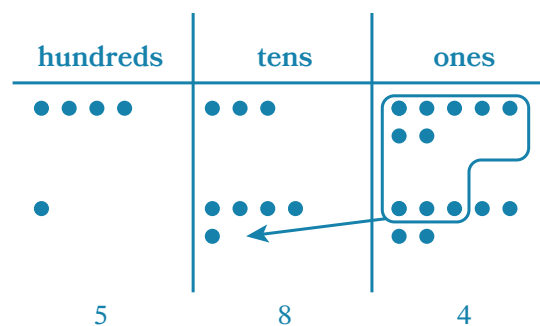
$$\begin{array}{r} 7 \ 11 \\ 18 \cancel{1} \\ -73 \\ \hline 108 \end{array}$$

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

- Use a place value chart, place value disks, or the chip model to model and solve three-digit subtraction problems in vertical form.
- Recognize when mental math is more efficient, and use it to solve three-digit subtraction problems. For example, mental math is more efficient to solve  $445 - 135$ , because it is easy to subtract like units without **renaming**: 4 hundreds – 1 hundred = 3 hundreds; 4 tens – 3 tens = 1 ten; 5 ones – 5 ones = 0 ones.
- Explain the relationship between addition and subtraction, and use addition to check subtraction solutions. (See Sample Problem.)
- Choose a strategy to solve, such as the arrow way and counting on, and explain why it is most efficient.

**SAMPLE PROBLEM** *(From Lesson 14)*

If  $584 - 147 = 437$ , then  $437 + 147 = 584$ . Explain why this statement is true by using numbers, pictures, or words.



*I can prove that the statement is true with a chip model. The parts, 437 and 147, are inside the whole, 584. When I add the parts, they equal the whole.*

**HOW YOU CAN HELP AT HOME**

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- When using the vertical form to subtract, encourage your child to draw a magnifying glass around the whole. This strong visual reminds him to look closely at the whole number before beginning to subtract. Ask, “Are we ready to subtract, or do we need to rename?” When your child unbundles for subtraction, the total does not change. Rather, it is renamed with different units. For example, he can unbundle 584 and rename it as 5 hundreds 7 tens 14 ones.
- If your child is eager to use the algorithm, encourage her to use models (e.g., place value disk drawings or the chip model) to show her thinking. Explain that models also help her check her work.
- Ask your child questions as he completes his homework: “Do you have enough ones in the ones place to subtract, or do you need to unbundle a ten?” “Do you have enough tens in the tens place?” “How can you get more tens from the hundreds place?” “How do you show this change in vertical form?”

**TERMS**

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**Rename:** To regroup the place value units of a number. For example, 1 hundred can be renamed, or regrouped, as 9 tens 10 ones.



**KEY CONCEPT OVERVIEW**

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During the next week, our math class will apply our understanding of addition and subtraction strategies. Students will choose which strategy to use to solve a variety of problems involving numbers up to 1,000. For example, students may use the arrow way to count on or use a number bond to decompose and make the next hundred.

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

- Determine and use the most efficient strategy for solving a given problem and explain his reasoning.
- Solve addition and subtraction problems by using two different strategies.
- Choose between two given strategies and explain why she chose that strategy.

**SAMPLE PROBLEM** *(From Lesson 19)*

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Solve by using an addition or subtraction strategy. Explain why you chose that strategy.

$$802 - 698 = \underline{104}$$

$$804 - 700 = 104$$

+2	802
+2	698

*I noticed that 698 is very close to 700, which is an easy number to subtract. I added 2 to 698 to get to 700. When making a friendlier problem to find the difference, whatever I do to one number I must do to the other. So I also added 2 to 802. Then I had an easier problem to solve,  $804 - 700$ . Easy! The answer is 104.*

**HOW YOU CAN HELP AT HOME**

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- Encourage your child to think carefully about the numbers in a given problem before choosing a strategy. Ask her to look for numbers that are close to the next hundred or numbers from which it would be easy to count on. For example, she might notice that counting on is another way to solve the Sample Problem ( $802 - 698$ , above):  $698 + 2 = 700$ ;  $700 + 100 = 800$ ;  $800 + 2 = 802$ . By counting on 104, your child is using addition to solve the subtraction problem.
- If your child has not yet mastered certain strategies, encourage him to solve a problem by using a familiar strategy first. Then, present the challenge of solving the same problem by using a strategy he is working to master.
- Before she begins to write, encourage your child to explain the strategy she will use to solve the problem. After she has found a solution, ask her to share another strategy she could have used. Ask her to compare the strategies and explain how they are similar and different. Such comparisons and explanations strengthen place value understanding and the use of math language.