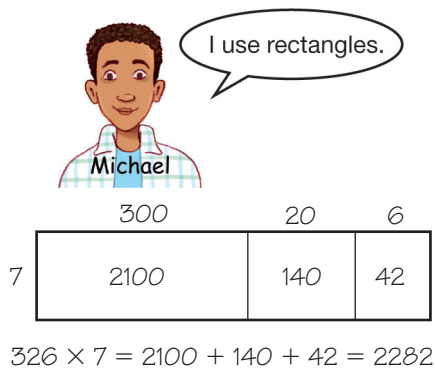


# LETTER HOME

## Estimation and Efficient Computation

Dear Family Member:

In this unit the focus is on using efficient strategies to add, subtract, and multiply numbers with more than one digit. Often when we think of arithmetic, we think of a single procedure that we learned by rote. An important part of computing efficiently is being able to solve problems in several different ways and then choosing the best way for a given situation. The students in the pictures below show several different ways to multiply.



Michael says, "I use rectangles."

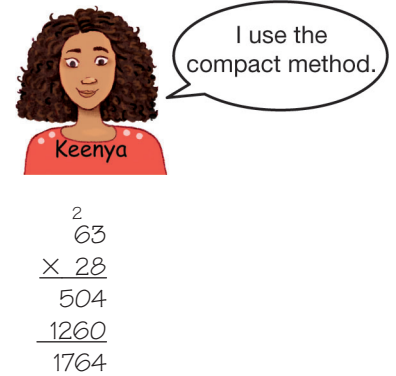
	300	20	6
7	2100	140	42

$326 \times 7 = 2100 + 140 + 42 = 2282$

$$\begin{aligned} 72 \times 99 &= (72 \times 100) - 72 \\ &= 7200 - 72 \\ &= 7128 \end{aligned}$$



Ming says, "I use simpler numbers."



Keenya says, "I use the compact method."

$$\begin{array}{r} \phantom{0}^2 63 \\ \times 28 \\ \hline 504 \\ 1260 \\ \hline 1764 \end{array}$$

In this unit your child will review and practice using strategies for addition, subtraction, and multiplication and will apply these strategies in contexts that demand multistep problem solving, including problems that ask them to find the volume of rectangular prisms.

Computing efficiently also means being able to estimate when appropriate to the situation. For example, estimation works for checking the reasonableness of an answer. It also makes sense when an exact answer is not needed or when an exact answer is hard to find.

In this unit your child will review what they have learned about area and perimeter and connect this understanding to the use of multiplication to find the area of rectangles and triangles and the volume of rectangle prisms.

You can help your child learn more about efficient computation with the following activities:

- **Play the Digits Game.** Ask your child to play the Digits Game with you. There are two versions of this game, one that is focused on addition and subtractions, and one that focuses on multiplication.
- **Two Ways to Solve.** Give your child an addition, subtraction, or multiplication problem involving numbers with more than one digit. Ask him or her to solve it in at least two ways.
- **Find the Volume.** Ask your child to explain how to find the volume of small rectangular boxes such as a tissue box or cereal box.

## Math Facts and Mental Math

This unit continues the systematic review and assessment of the multiplication and division facts.

**Multiplication Facts.** Students review all the multiplication facts to maintain and increase fluency and to learn to apply multiplication strategies to larger numbers.

You can help your child review these facts using the flash cards that are sent home or by making a set of flash cards from index cards or scrap paper. Study facts in small groups each night and focus on only those facts your child needs to learn. As your child goes through the flash cards, put the cards in three stacks: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.

For the Facts I Need to Learn, work on strategies for figuring them out. If there are many multiplication facts that your child still needs to learn, divide them into smaller groups of facts. Choose groups of facts that lend themselves to the use of the same strategy and focus on one group at a time.

For Facts I Can Figure Out, use the flash cards to practice the facts for fluency.

For Facts I Know Quickly, help your child use mental math strategies to multiply 10s and 100s. You can also help your child extend and deepen their understanding by asking him or her to choose a multiplication fact that was difficult to learn and describe the strategies used for learning the fact.

**Division Facts.** Students review the division facts for 9s to maintain and increase fluency and to learn to apply multiplication and division strategies to larger numbers.

You can help your child review the division facts using the flash cards that are sent home or by making a set of flash cards from index cards or scrap paper. Study facts in small groups each night. As your child goes through the flash cards, put the cards in three stacks: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.

For the Facts I Need to Learn, work on strategies for figuring them out. Good strategies include:

Use ten. To solve  $9 \times 9$ , think  $9 \times 10 = 90$  and  $90 - 9 = 81$ .

Use fact families. To solve  $72 \div 9$ , think  $\square \times 9 = 72$ . Since  $8 \times 9 = 72$ , then  $72 \div 9 = 8$ .

Sincerely,