

# School-Home Letter

Dear Family,

During the next few weeks, our math class will be learning to multiply by 2-digit whole numbers. We will also learn how to describe the reasonableness of an estimate.

You can expect to see homework that provides practice with estimation and multiplication of numbers with more than 1 digit.

Here is a sample of how your child will be taught to multiply by a 2-digit number.

## Vocabulary

**compatible numbers** Numbers that are easy to compute mentally

**estimate** To find an answer that is close to the exact amount

**partial products** A method of multiplying in which the ones, tens, hundreds, and so on are multiplied separately and then the products are added together



### MODEL Multiply 2-Digit Numbers

This is one way that we will be multiplying by 2-digit numbers.

#### STEP 1

Multiply by the ones digit.

$$\begin{array}{r} \cancel{2} \\ 24 \\ \times 25 \\ \hline 120 \end{array} \leftarrow \text{partial product}$$

#### STEP 2

Multiply by the tens digit. Start by placing a zero in the ones place.

$$\begin{array}{r} \cancel{2} \\ 24 \\ \times 25 \\ \hline 120 \\ + 480 \\ \hline \end{array} \leftarrow \text{partial product}$$

#### STEP 3

Add the partial products.

$$\begin{array}{r} \cancel{2} \\ 24 \\ \times 25 \\ \hline 120 \\ + 480 \\ \hline 600 \end{array} \leftarrow \text{product}$$

### Tips

#### Estimating to Check Multiplication

When estimation is used to check that a multiplication answer is reasonable, usually each factor is rounded to a multiple of 10 that has only one nonzero digit. Then mental math can be used to recall the basic fact product, and patterns can be used to determine the correct number of zeros in the estimate.

Name \_\_\_\_\_

**Multiply by Tens****COMMON CORE STANDARD—4.NBT.5**  
*Use place value understanding and properties of operations to perform multi-digit arithmetic.***Choose a method. Then find the product.**

1.  $16 \times 60$

Use the halving-and-doubling strategy.

Find half of 16:  $16 \div 2 = 8$ .Multiply this number by 60:  $8 \times 60 = 480$ Double this result:  $2 \times 480 = 960$ 960

2.  $80 \times 22$

3.  $30 \times 52$

4.  $60 \times 20$

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5.  $40 \times 35$

6.  $10 \times 90$

7.  $31 \times 50$

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**Problem Solving**

8. Kenny bought 20 packs of baseball cards. There are 12 cards in each pack. How many cards did Kenny buy?

9. The Hart family drove 10 hours to their vacation spot. They drove an average of 48 miles each hour. How many miles did they drive?

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Name \_\_\_\_\_

**Estimate Products****COMMON CORE STANDARD—4.NBT.5**  
*Use place value understanding and properties of operations to perform multi-digit arithmetic.***Estimate the product. Choose a method.**

1.  $38 \times 21$

$$\begin{array}{r} 38 \times 21 \\ \downarrow \quad \downarrow \\ 40 \times 20 \end{array}$$

**800**  
\_\_\_\_\_

2.  $63 \times 19$   
\_\_\_\_\_

3.  $27 \times \$42$   
\_\_\_\_\_

4.  $73 \times 67$   
\_\_\_\_\_

5.  $37 \times \$44$   
\_\_\_\_\_

6.  $85 \times 71$   
\_\_\_\_\_

7.  $88 \times 56$   
\_\_\_\_\_

8.  $97 \times 13$   
\_\_\_\_\_

9.  $92 \times 64$   
\_\_\_\_\_

**Problem Solving**

10. A dime has a diameter of about 18 millimeters. About how many millimeters long would a row of 34 dimes be?
- \_\_\_\_\_

11. A half-dollar has a diameter of about 31 millimeters. About how many millimeters long would a row of 56 half-dollars be?
- \_\_\_\_\_

Name \_\_\_\_\_

## Area Models and Partial Products



**COMMON CORE STANDARD—4.NBT.5**  
Use place value understanding and properties of operations to perform multi-digit arithmetic.

**Draw a model to represent the product.**  
**Then record the product.**

1.  $13 \times 42$

2.  $18 \times 34$

3.  $22 \times 26$

	40	2
10	400	20
3	120	6

$400 + 20 + 120 + 6 = \underline{546}$  \_\_\_\_\_

4.  $15 \times 33$

5.  $23 \times 29$

6.  $19 \times 36$

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### Problem Solving



7. Sebastian made the following model to find the product  $17 \times 24$ .

	20	4
10	200	40
7	14	28

$200 + 40 + 14 + 28 = 282$

Is his model correct? **Explain.**

\_\_\_\_\_  
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8. Each student in Ms. Sike's kindergarten class has a box of crayons. Each box has 36 crayons. If there are 18 students in Ms. Sike's class, how many crayons are there?

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Name \_\_\_\_\_

**Multiply Using Partial Products****COMMON CORE STANDARD—4.NBT.5**  
Use place value understanding and properties of operations to perform multi-digit arithmetic.**Record the product.**

$$\begin{array}{r}
 1. \quad 23 \\
 \times 79 \\
 \hline
 1,400 \\
 210 \\
 180 \\
 + 27 \\
 \hline
 1,817
 \end{array}$$

$$\begin{array}{r}
 2. \quad 56 \\
 \times 32 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 3. \quad 87 \\
 \times 64 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 4. \quad 33 \\
 \times 25 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 5. \quad 94 \\
 \times 12 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 6. \quad 51 \\
 \times 77 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 7. \quad 69 \\
 \times 49 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 8. \quad 86 \\
 \times 84 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 9. \quad 98 \\
 \times 42 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 10. \quad 73 \\
 \times 37 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 11. \quad 85 \\
 \times 51 \\
 \hline
 \end{array}$$

**Problem Solving**

12. Evelyn drinks 8 glasses of water a day, which is 56 glasses of water a week. How many glasses of water does she drink in a year? (1 year = 52 weeks)
13. Joe wants to use the Hiking Club's funds to purchase new walking sticks for each of its 19 members. The sticks cost \$26 each. The club has \$480. Is this enough money to buy each member a new walking stick? If not, how much more money is needed?