

Dear Family,

During the next few weeks, our math class will be learning about multiplying by 1-digit whole numbers. We will investigate strategies for multiplying 2-, 3-, and 4-digit numbers by the numbers 2–9.

You can expect to see homework that provides practice with multiplication by 1-digit numbers.

Here is a sample of how your child will be taught to multiply by a 1-digit number.

Vocabulary

Distributive Property The property that states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products

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 by a 1-Digit Number

This is one way we will be multiplying by 1-digit numbers.

STEP 1

Multiply the tens.
Record.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \end{array} \leftarrow 3 \times 2 \text{ tens} \\ = 6 \text{ tens}$$

STEP 2

Multiply the ones.
Record.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \\ 18 \end{array} \leftarrow 3 \times 6 \text{ ones} \\ = 18 \text{ ones}$$

STEP 3

Add the partial products.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \\ + 18 \\ \hline 78 \end{array}$$

Tips

Estimating to Check Multiplication

When estimation is used to check that a multiplication answer is reasonable, usually the greater factor is rounded to a multiple of 10 that has only one non-zero 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 _____

Multiplication Comparisons



COMMON CORE STANDARD—4.OA.1
Use the four operations with whole numbers to solve problems.

Write a comparison sentence.

1. $6 \times 3 = 18$

6 times as many as **3** is **18**.

2. $63 = 7 \times 9$

_____ is _____ times as many as _____.

3. $5 \times 4 = 20$

_____ times as many as _____ is _____.

4. $48 = 8 \times 6$

_____ is _____ times as many as _____.

Write an equation.

5. 2 times as many as 8 is 16.

6. 42 is 6 times as many as 7.

7. 3 times as many as 5 is 15.

8. 36 is 9 times as many as 4.

9. 72 is 8 times as many as 9.

10. 5 times as many as 6 is 30.

Problem Solving



11. Alan is 14 years old. This is twice as old as his brother James is. How old is James?

12. There are 27 campers. This is nine times as many as the number of counselors. How many counselors are there?

Name _____

Comparison Problems

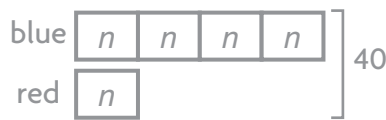


COMMON CORE STANDARD—4.OA.2
Use the four operations with whole numbers to solve problems.

Draw a model. Write an equation and solve.

1. Stacey made a necklace using 4 times as many blue beads as red beads. She used a total of 40 beads. How many blue beads did Stacey use?

Think: Stacey used a total of 40 beads. Let n represent the number of red beads.



$5 \times n = 40; 5 \times 8 = 40;$
 $4 \times 8 = 32$ blue beads

2. At the zoo, there were 3 times as many monkeys as lions. Tom counted a total of 24 monkeys and lions. How many monkeys were there?
-
-

3. Fred's frog jumped 7 times as far as Al's frog. The two frogs jumped a total of 56 inches. How far did Fred's frog jump?
-

4. Sheila has 5 times as many markers as Dave. Together, they have 18 markers. How many markers does Sheila have?
-

Problem Solving

5. Rafael counted a total of 40 white cars and yellow cars. There were 9 times as many white cars as yellow cars. How many white cars did Rafael count?
-

6. Sue scored a total of 35 points in two games. She scored 6 times as many points in the second game as in the first. How many more points did she score in the second game?
-

Name _____

Multiply Tens, Hundreds, and Thousands**COMMON CORE STANDARD—4.NBT.5**
*Use place value understanding and properties of operations to perform multi-digit arithmetic.***Find the product.**

1. $4 \times 7,000 = \underline{28,000}$

Think: $4 \times 7 = 28$ So, $4 \times 7,000 = 28,000$

2. $9 \times 60 = \underline{\hspace{2cm}}$

3. $8 \times 200 = \underline{\hspace{2cm}}$

4. $5 \times 6,000 = \underline{\hspace{2cm}}$

5. $7 \times 800 = \underline{\hspace{2cm}}$

6. $8 \times 90 = \underline{\hspace{2cm}}$

7. $6 \times 3,000 = \underline{\hspace{2cm}}$

8. $3 \times 8,000 = \underline{\hspace{2cm}}$

9. $5 \times 500 = \underline{\hspace{2cm}}$

10. $9 \times 4,000 = \underline{\hspace{2cm}}$

11. $7 \times 7,000 = \underline{\hspace{2cm}}$

12. $3 \times 40 = \underline{\hspace{2cm}}$

13. $4 \times 5,000 = \underline{\hspace{2cm}}$

14. $2 \times 9,000 = \underline{\hspace{2cm}}$

Problem Solving

15. A bank teller has 7 rolls of coins. Each roll has 40 coins. How many coins does the bank teller have?

16. Theo buys 5 packages of paper. There are 500 sheets of paper in each package. How many sheets of paper does Theo buy?

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 by rounding.

1. 4×472

4×472



4×500

2,000

2. $2 \times 6,254$

3. 9×54

4. $5 \times 5,503$

5. 3×832

6. 6×98

7. $8 \times 3,250$

8. 7×777

Find two numbers the exact answer is between.

9. 3×567

10. $6 \times 7,381$

11. 4×94

12. 8×684

Problem Solving



13. Isaac drinks 8 glasses of water each day. He says he will drink 2,920 glasses of water in a year that has 365 days. Is the exact answer reasonable? **Explain.**

14. Most Americans throw away about 1,365 pounds of trash each year. Is it reasonable to estimate that Americans throw away over 10,000 pounds of trash in 5 years? **Explain.**

Name _____

Multiply Using the Distributive Property

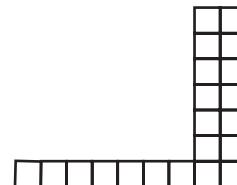
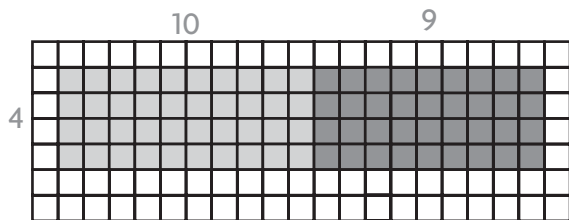


COMMON CORE STANDARD—4.NBT.5
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Model the product on the grid. Record the product.

1. $4 \times 19 = \underline{76}$

2. $5 \times 13 = \underline{\quad}$



$4 \times 10 = 40$ and $4 \times 9 = 36$

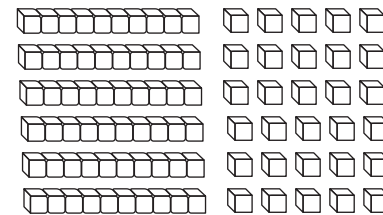
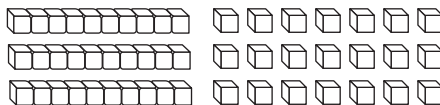
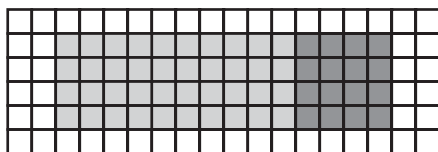
$40 + 36 = 76$

Find the product.

3. $4 \times 14 = \underline{\quad}$

4. $3 \times 17 = \underline{\quad}$

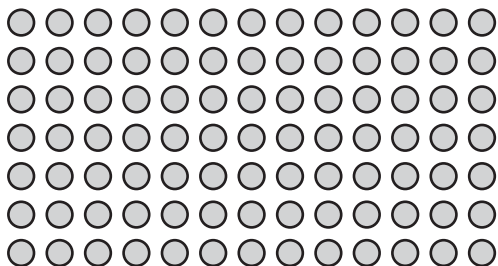
5. $6 \times 15 = \underline{\quad}$



Problem Solving

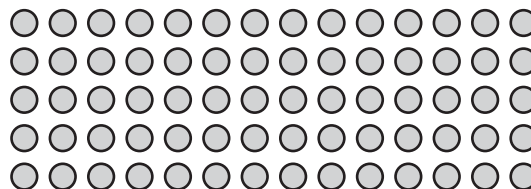


6. Michael arranged his pennies in the following display.



How many pennies does Michael have in all?

7. A farmer has an apple orchard with the trees arranged as shown below.



If the farmer wants to pick one apple from each tree, how many apples will he pick?
