

Dear Family,

During the next few weeks, our math class will be learning to multiply by 2-digit and 3-digit whole numbers. We will also learn how to describe the reasonableness of an estimate, as well as how to use multiplication properties to make multiplying easier.

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.

$$\begin{array}{r} 12 \\ 124 \\ \times 25 \\ \hline 620 \end{array} \leftarrow \text{partial product}$$

STEP 2

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

$$\begin{array}{r} 12 \\ 124 \\ \times 25 \\ \hline 620 \\ + 2480 \end{array} \leftarrow \text{partial product}$$

STEP 3

Add the partial products.

$$\begin{array}{r} 12 \\ 124 \\ \times 25 \\ \hline 620 \\ + 2480 \\ \hline 3,100 \end{array} \leftarrow \text{product}$$

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 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.

Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas aprenderemos a multiplicar por números enteros de 2 y 3 dígitos. También aprenderemos cómo describir qué tan razonable es una estimación, y cómo usar las propiedades de la multiplicación para hacerla más fácil.

Llevaré a la casa tareas con actividades para practicar la estimación y la multiplicación de números con más de 1 dígito.

Este es un ejemplo de la manera como aprenderemos a multiplicar por números de 2 dígitos.

Vocabulario

números compatibles Números que son fáciles de calcular mentalmente

estimar Hallar un total que se aproxime a la cantidad exacta

productos parciales Método de multiplicación a través del cual las unidades, decenas, centenas, etc. se multiplican por separado, y luego se suman los productos

MODELO Multiplicar números de 2 dígitos

Esta es una manera en la que multiplicaremos por números de 2 dígitos

PASO 1

Multiplica por el dígito de las unidades.

$$\begin{array}{r} 12 \\ 124 \\ \times 25 \\ \hline 620 \end{array} \leftarrow \text{producto parcial}$$

PASO 2

Multiplica por el dígito de las decenas. Comienza escribiendo un cero en el lugar del las unidades.

$$\begin{array}{r} 12 \\ 124 \\ \times 25 \\ \hline 620 \\ + 2480 \\ \hline \end{array} \leftarrow \text{producto parcial}$$

PASO 3

Suma los productos parciales.

$$\begin{array}{r} 12 \\ 124 \\ \times 25 \\ \hline 620 \\ + 2480 \\ \hline 3,100 \end{array} \leftarrow \text{producto}$$

Pistas

Estimar para comprobar la multiplicación

Cuando se usa la estimación para comprobar que la respuesta de una multiplicación es razonable, cada factor se suele redondear al múltiplo de 10 que tiene un solo dígito distinto de cero. Después se puede usar el cálculo mental para recordar el producto básico de la operación, y se pueden usar patrones para determinar la cantidad correcta de ceros de la estimación.

Name _____

Multiplication Patterns



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Use mental math to complete the pattern.

1. $8 \times 3 = 24$

$8 \times 30 = \underline{240}$

$80 \times 300 = \underline{24,000}$

$80 \times 3,000 = \underline{240,000}$

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

$5 \times \underline{\hspace{2cm}} = 300$

$50 \times 600 = \underline{\hspace{2cm}}$

$50 \times \underline{\hspace{2cm}} = 300,000$

3. $3 \times \underline{\hspace{2cm}} = 27$

$3 \times 90 = \underline{\hspace{2cm}}$

$30 \times \underline{\hspace{2cm}} = 27,000$

$30 \times 9,000 = \underline{\hspace{2cm}}$

4. $\underline{\hspace{2cm}} \times 4 = 28$

$7 \times \underline{\hspace{2cm}} = 280$

$70 \times 400 = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} \times 4,000 = 280,000$

5. $6 \times 8 = \underline{\hspace{2cm}}$

$6 \times 80 = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} \times 800 = 48,000$

$60 \times \underline{\hspace{2cm}} = 480,000$

6. $\underline{\hspace{2cm}} \times 4 = 16$

$4 \times \underline{\hspace{2cm}} = 160$

$40 \times 400 = \underline{\hspace{2cm}}$

$40 \times 4,000 = \underline{\hspace{2cm}}$

Use patterns and mental math to find the product.

7. $20 \times 90 = \underline{\hspace{2cm}}$

8. $8 \times 700 = \underline{\hspace{2cm}}$

9. $900 \times 60 = \underline{\hspace{2cm}}$

10. $30 \times 700 = \underline{\hspace{2cm}}$

11. $5,000 \times 90 = \underline{\hspace{2cm}}$

12. $40 \times 8,000 = \underline{\hspace{2cm}}$

13. $8 \times 8,000 = \underline{\hspace{2cm}}$

14. $60 \times 4,000 = \underline{\hspace{2cm}}$

15. $500 \times 50 = \underline{\hspace{2cm}}$

Problem Solving

16. The Florida Everglades welcomes about 2,000 visitors a day. About how many visitors come to the Everglades in a week?

17. The average person loses about 80 strands of hair each day. About how many strands of hair would the average person lose in 400 days, or about one year and 1 month?

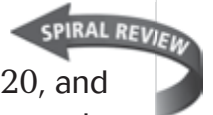


Lesson Check (MA.4.A.1.2)

- How many zeros are in the product 60×500 ?
(A) 3
(B) 4
(C) 5
(D) 6
- Addison studies a tarantula that is 30 millimeters long. If she were able to magnify the spider 4,000 times, how long would it appear to be in millimeters?
(F) 120 millimeters
(G) 1200 millimeters
(H) 12 000 millimeters
(I) 120 000 millimeters

Review Grade 4 (MA.4.A.1.2)

- Hayden has 6 rolls of dimes. There are 50 dimes in each roll. How many dimes does he have in all?
(A) 300
(B) 110
(C) 56
(D) 30
- An adult ticket to the zoo costs \$20, and a children's ticket costs \$10. How much will it cost for Mr. and Mrs. Brown and their 4 children to get into the zoo?
(F) \$40
(G) \$60
(H) \$80
(I) \$100



Look Back (MA.3.A.1.2, MA.4.A.1.2)

- Isabel has 2 posters on each of the 4 walls in her bedroom. How many posters does she have in her room in all?
(A) 2
(B) 6
(C) 8
(D) 10
- A store sells a gallon of milk for \$3. How much will 3 gallons of milk cost?
(F) \$12
(G) \$9
(H) \$6
(I) \$3



Name _____

Multiply by Tens

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Choose a method. Then find the product.

1. 30×23

$$\begin{array}{r} 23 \\ \times 30 \\ \hline 690 \end{array}$$

2. 14×80

3. 31×50

4. 40×18

5. 20×65

6. 28×60

7. 70×49

8. 30×44

9. 12×90

10. 40×52

11. 98×20

12. 60×76

Problem Solving 

13. Gina measures that her heart beats 73 times in one minute. About how many times does Gina's heart beat in an hour?

14. Ralph puts \$30 in a savings account each week to save for his vacation. How much money will Ralph have saved in a year for his vacation? (1 year = 52 weeks)



Lesson Check (MA.4.A.1.2)

- Antonio saves 30 pennies in his coin bank each day. How many pennies will Antonio save during the month of January?
(Hint: January has 31 days.)
(A) 93 (C) 903
(B) 900 (D) 930
- It costs \$40 a day to rent a car from Cars-4-Less. How much would it cost to rent a car for two weeks from Cars-4-Less?
(F) \$80 (H) \$560
(G) \$160 (I) \$5,600

Review Grade 4 (MA.4.A.6.6)

- Sunny Foods ships 185 boxes of its new crackers to each of 9 different local markets to test out the product. About how many boxes did Sunny Foods ship in all?
(A) 200
(B) 900
(C) 2,000
(D) 9,000

- Isabel made the table below to show the distance of certain places from her house.

Distance from Isabel's House	
Location	Distance (in miles)
Post Office	12
Library	5
School	3

About how many feet are between Isabel's house and the library?
(1 mile = 5,280 feet)

- (F) 250 feet (H) 25,000 feet
(G) 2,500 feet (I) 250,000 feet

Look Back (MA.3.A.1.2, MA.4.A.1.2)

- Claire has six \$10 bills. How much money does she have?
(A) \$60
(B) \$36
(C) \$16
(D) \$6
- Jayden makes 3 groups of pencils. There are 20 pencils in each group. How many pencils are there in all?
(F) 66
(G) 60
(H) 23
(I) 6



Name _____

Estimate Products



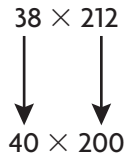
MA.4.A.6.6 Estimate and describe reasonableness of estimates; determine the appropriateness of an estimate versus an exact answer.

Estimate the product. Choose a method.

1. 38×212

2. 638×19

3. $27 \times \$421$



8,000

4. 73×678

5. $375 \times \$44$

6. 85×711

7. 884×56

8. 93×133

9. 921×64

Problem Solving

Use the table below for 10 and 11.

Heaviest Vegetables	
Type	Record Weight (in pounds)
Carrot	19
Broccoli	35
Celery	49
Potato	18

10. One pound is about 454 grams. About how many grams did the heaviest carrot on record weigh?

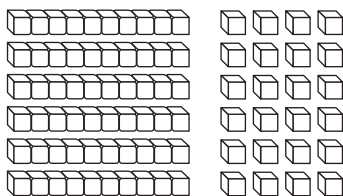
11. About how many grams did the heaviest celery on record weigh?

Lesson Check (MA.4.A.6.6)

- Which is the best estimate for the product 43×681 ?
 - (A) 35,000
 - (B) 28,000
 - (C) 24,000
 - (D) 2,800
- Marissa burns 115 calories each time she plays fetch with her dog. She plays fetch with her dog once a day. About how many calories will Marissa burn playing fetch with her dog after 28 days?
 - (F) 6,000
 - (G) 3,000
 - (H) 2,000
 - (I) 300

Review Grade 4 (MA.4.A.1.2)

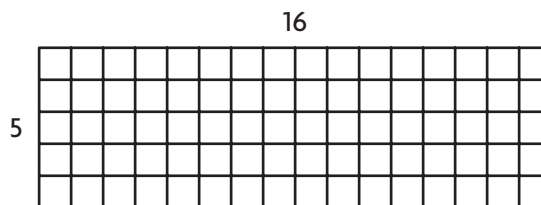
- The model below represents the product of 6×14 .



How many tens will be in the final product after regrouping?

- (A) 6
- (B) 7
- (C) 8
- (D) 9

- Wyatt builds the base of a castle out of blocks shown in the model below.



How many blocks are in the base of Wyatt's castle?

- (F) 530
- (G) 80
- (H) 50
- (I) 30



Look Back (MA.3.A.6.1, MA.4.A.6.6)

- Which is the best estimate for the sum of $5,689 + 3,249$?
 - (A) 11,000
 - (B) 10,000
 - (C) 9,000
 - (D) 8,000
- What is 3,761 rounded to the nearest thousand?
 - (F) 3,000
 - (G) 3,700
 - (H) 3,800
 - (I) 4,000



Name _____

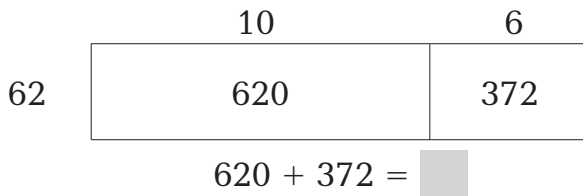
Draw a Diagram · Break Apart Factors



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Solve each problem.

1. A tour boat operator spots at least 16 dolphins on each of her trips out to sea. If the tour boat operator makes 62 trips this month, she will see at least how many dolphins?



992
dolphins

2. Seth is laying tiles for a backyard patio. He lays 10 rows of 36 tiles. He decides the patio is not large enough, so he lays another 4 rows of 36 tiles each. What is the total number of tiles Seth will lay for the patio?

3. There are 118 ridges around the edge of a dime. Kelly has \$5 in dimes. How many ridges are there in all of Kelly's dimes combined?

4. A pound of aluminum may be used to make 29 aluminum cans. There are 240 pounds of aluminum in a 3,000-pound car. How many aluminum cans could be made from the aluminum in a 3,000-pound car?

5. Jada sells 68 containers of frozen cookie dough for a school fundraiser. Each container costs \$14. How much money did Jada raise for the fundraiser?

Lesson Check (MA.4.A.1.2)

1. Jesse does 15 sets of jumping jacks. He does 24 jumping jacks in each set. Which of the following expressions can be used to find the total number of jumping jacks Jesse does in all?

- (A) $20 + 20$ (C) $200 + 20$
 (B) $24 + 15$ (D) $240 + 120$

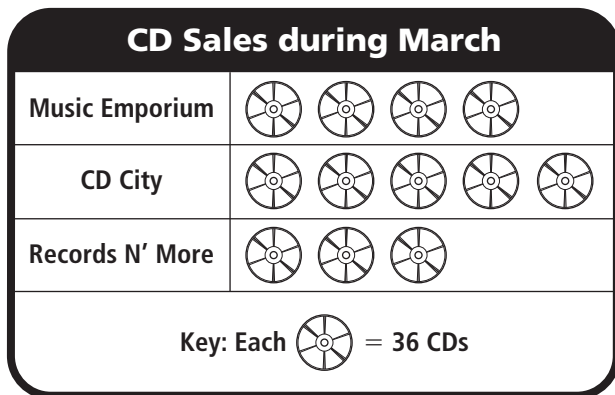
2. Which number completes the equation?

$$31 \times 14 = (31 \times 10) + (31 \times \underline{\quad})$$

- (F) 4 (H) 31
 (G) 10 (I) 40

Review Grade 4 (MA.4.A.1.2)

Use the pictograph below for 3 and 4.



3. How many CDs did CD City sell in March?

- (A) 150 (C) 180
 (B) 153 (D) 1,530

4. How many CDs did Music Emporium and Records N' More sell in March all together?

- (F) 2,142 (H) 242
 (G) 252 (I) 212



Look Back (MA.3.A.1.2, MA.4.A.1.2)

5. What is the missing number?

$$3 \times 6 = 18$$

$$\square \times 3 = 18$$

- (A) 3
 (B) 5
 (C) 6
 (D) 9

6. Jacqueline put her collectible spoons into 5 display cases. There were 8 spoons in each case. How many spoons did Jacqueline have in all?

- (F) 30
 (G) 35
 (H) 40
 (I) 45



Name _____

Model 2-Digit by 2-Digit Multiplication



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

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

1. 13×42

2. 18×34

3. 22×26

	40	2
10	400	20
3	120	6

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

4. 15×33

5. 23×29

6. 19×36

Problem Solving

7. Sebastian made the following model to find the product 17×24 .

	20	4
10	200	40
7	14	28

$200 + 40 + 14 + 28 = 282$

Is his model correct? Explain.

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 in all?

Name _____

Record 2-Digit by 2-Digit Multiplication

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Record the product.

$$\begin{array}{r}
 1. \quad 23 \\
 \times 79 \\
 \hline
 1400 \\
 210 \\
 180 \\
 + 27 \\
 \hline
 1,817
 \end{array}$$

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

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

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

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

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

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

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

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

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

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

Problem Solving

12. It is recommended to drink 8 glasses of water a day, which is 56 glasses of water a week. How many glasses of water should one 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 saved up. Is there enough money to buy each member a new walking stick? If not, how much more money is needed?



Lesson Check (MA.4.A.1.2)

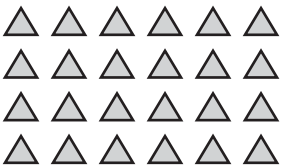
1. A carnival snack booth made \$76 selling popcorn in one day. It made 22 times as much selling cotton candy. How much money did the snack booth make selling cotton candy?
(A) \$284 (C) \$1,562
(B) \$304 (D) \$1,672
2. What are the partial products of 42×28 ?
(F) 800, 80, 40, 16
(G) 800, 16
(H) 800, 40, 320, 16
(I) 80, 16

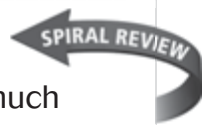
Review Grade 4 (MA.4.A.1.2)

3. Last year the city library collected 117 used books for its shelves. This year it collected 3 times as many books. How many books did it collect this year?
(A) 832
(B) 428
(C) 351
(D) 72
4. Washington Elementary has 232 students. Washington High has 6 times as many students. How many students does Washington High have?
(F) 1,392
(G) 1,382
(H) 1,292
(I) 1,281



Look Back (MA.3.A.1.2, MA.4.A.1.2)

5. Which number sentence is modeled by this array?

(A) $12 + 12 = 24$
(B) $4 + 6 = 10$
(C) $4 \times 6 = 24$
(D) $2 \times 12 = 24$
6. Shelby has seven \$5 bills. How much money does Shelby have?
(F) \$25
(G) \$30
(H) \$35
(I) \$40



Name _____

Multiply 2-Digit Numbers

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Estimate. Then choose a method to find the product.

1. Estimate: 1,200 2. Estimate: _____ 3. Estimate: _____ 4. Estimate: _____

$$\begin{array}{r} 31 \\ \times 43 \\ \hline 93 \\ + 1240 \\ \hline 1,333 \end{array}$$

$$\begin{array}{r} 67 \\ \times 85 \\ \hline \end{array}$$

$$\begin{array}{r} 68 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} 95 \\ \times 17 \\ \hline \end{array}$$

5. Estimate: _____ 6. Estimate: _____ 7. Estimate: _____

$$\begin{array}{r} 49 \\ \times 54 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ \times 26 \\ \hline \end{array}$$

$$\begin{array}{r} 82 \\ \times 19 \\ \hline \end{array}$$

8. Estimate: _____ 9. Estimate: _____ 10. Estimate: _____ 11. Estimate: _____

$$\begin{array}{r} 46 \\ \times 27 \\ \hline \end{array}$$

$$\begin{array}{r} 41 \\ \times 33 \\ \hline \end{array}$$

$$\begin{array}{r} 97 \\ \times 13 \\ \hline \end{array}$$

$$\begin{array}{r} 75 \\ \times 69 \\ \hline \end{array}$$

Problem Solving

12. A movie theatre has 26 rows of seats. There are 18 seats in each row. How many seats are there in all?

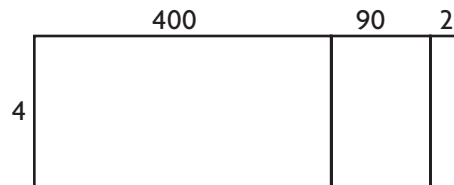
13. Each class at Briarwood Elementary collected at least 54 cans of food during the food drive. If there are 29 classes in the school, what was the least number of cans collected?

Lesson Check (MA.4.A.1.2)

- A choir needs new robes for each of its 46 singers. Each robe costs \$32. What will be the total cost for all 46 robes?
 - (A) \$1,472
 - (B) \$1,372
 - (C) \$1,362
 - (D) \$230
- A wall on the side of a building is made up of 52 rows of bricks with 44 bricks in each row. How many bricks are in the wall?
 - (F) 3,080
 - (G) 2,288
 - (H) 488
 - (I) 416

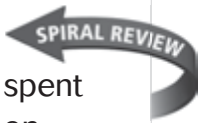
Review Grade 4 (MA.4.A.1.2)

- Which expression shows how to multiply 4×362 by using place value and expanded form?
 - (A) $(4 \times 3) + (4 \times 6) + (4 \times 2)$
 - (B) $(4 \times 300) + (4 \times 600) + (4 \times 200)$
 - (C) $(4 \times 300) + (4 \times 60) + (4 \times 20)$
 - (D) $(4 \times 300) + (4 \times 60) + (4 \times 2)$
- Use the model. Which is the product of 4×492 ?
 - (F) $16 + 36 + 8 = 60$
 - (G) $160 + 36 + 8 = 204$
 - (H) $160 + 360 + 8 = 528$
 - (I) $1,600 + 360 + 8 = 1,968$



Look Back (MA.3.A.6.1)

- What is the sum of $13,094 + 259,728$?
 - (A) 272,832
 - (B) 272,822
 - (C) 262,722
 - (D) 262,712
- During their vacation, the Lundys spent \$1,296 on airplane tickets, \$945 on a hotel, \$280 on food, and \$72 on souvenirs. How much did the Lundys spend in all?
 - (F) \$2,383
 - (G) \$2,393
 - (H) \$2,593
 - (I) \$2,693



Name _____

Describe Reasonableness



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Describe the reasonableness of the answer or estimate.

1. Ms. Wong sells \$88 in cosmetic products each week. She estimates that she makes about \$6,000 selling cosmetics in a year.

The estimate is not reasonable because it is not between the two estimates of \$4,000 and \$5,400.
 $50 \times 80 = 4,000$ and
 $60 \times 90 = 5,400$

2. Landon unpacked 34 cartons of cereal boxes at his job this week. There were 46 boxes of cereal in each carton. Landon says he unpacked 1,564 cereal boxes.

3. There are 35 crackers in a bag. Ariana says that there are about 2,400 crackers in 64 bags.

4. Blake learned that a straightened wire coat hanger is 44 inches long. He says that 72 straightened hangers placed end to end would measure 2,168 inches long.

Problem Solving

5. Cycle World sells about 26 bicycles each week. Between which two estimates would you expect to find a reasonable answer for the number of bicycles Cycle World sells in a year?

6. A farmer plants 56 seeds in each of 28 rows. He expects that at least 10 seeds in each row will not grow. Is it reasonable for the farmer to expect 2,000 seeds to grow? Why or why not?



Lesson Check (MA.4.A.1.2)

- Which is the best estimate for 74×58 ?

(A) 4,800
(B) 4,200
(C) 3,500
(D) 420
- Katie hand paints 37 birdhouses to sell at a craft show. She sells each birdhouse for \$22. Which is the most reasonable estimate for how much Katie will make if she sells all her birdhouses?

(F) \$80 (H) \$800
(G) \$600 (I) \$1,200

Review Grade 4 (MA.4.A.1.2)

- Dora learns 25 new spelling words every week. How many new spelling words will she learn in 29 weeks?

(A) 725
(B) 685
(C) 525
(D) 275
- A travel agency sells vacation package A for \$1,389. It sells a vacation package B for 3 times as much as package A. What is the cost of package B?

(F) \$4,167
(G) \$4,147
(H) \$3,967
(I) \$3,947

← SPIRAL REVIEW

Look Back (MA.4.A.1.2)

- What is the most reasonable estimate of the sum of $56,205 + 2,174$?

(A) 63,000
(B) 62,000
(C) 58,000
(D) 52,000
- What is 64,732 rounded to the nearest thousand?

(F) 65,000
(G) 64,700
(H) 64,000
(I) 60,000

← SPIRAL REVIEW

Name _____

Multiply 3-Digit Numbers



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Estimate. Then find the product.

1. Estimate: 9,000 2. Estimate: _____ 3. Estimate: _____ 4. Estimate: _____

$$\begin{array}{r}
 \begin{array}{l} 21 \\ 42 \end{array} \\
 153 \\
 \times 59 \\
 \hline
 1377 \\
 + 7650 \\
 \hline
 9,027
 \end{array}$$

$$\begin{array}{r}
 678 \\
 \times 45 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 703 \\
 \times 244 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \$370 \\
 \times 91 \\
 \hline
 \end{array}$$

5. Estimate: _____ 6. Estimate: _____ 7. Estimate: _____

$$\begin{array}{r}
 \$438 \\
 \times 27 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 286 \\
 \times 590 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 721 \\
 \times 103 \\
 \hline
 \end{array}$$

8. Estimate: _____ 9. Estimate: _____ 10. Estimate: _____ 11. Estimate: _____

$$\begin{array}{r}
 516 \\
 \times 64 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 273 \\
 \times 903 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \$512 \\
 \times 890 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 948 \\
 \times 58 \\
 \hline
 \end{array}$$

Problem Solving

12. If Evelyn practices the piano for 45 minutes every day, how many minutes does she practice the piano in one year?

13. A fruit farm sells a 10-pound box of navel oranges for \$42. If the farm sells 374 of these boxes, how much money will it make?

Lesson Check (MA.4.A.1.2)

1. One box of cereal contains about 12 servings. How many servings are in 345 boxes of cereal?

0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

Review Grade 4 (MA.4.A.6.2)

2. Which of the following lists only multiples of 4?

- (A) 4, 14, 24, 34
- (B) 4, 8, 12, 16, 20
- (C) 4, 8, 12, 16, 18
- (D) 2, 4, 6, 8, 10

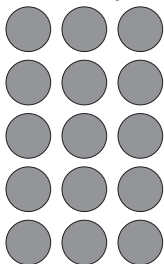
3. Which of the following numbers is a square number?

- (F) 10
- (G) 24
- (H) 36
- (I) 40

← SPIRAL REVIEW

Look Back (MA.3.A.1.1, MA.4.A.1.2)

4. Which is the multiplication expression for the array shown below?



- (A) 3×3
- (B) 5×3
- (C) 7×4
- (D) 9×6

5. James buys 4 bunches of bananas. Each bunch has 6 bananas. How many bananas does James buy?

- (F) 20
- (G) 24
- (H) 32
- (I) 40

← SPIRAL REVIEW

Name _____

Strategies for Multiplying

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Use a strategy to find the product.

1. $25 \times (4 \times 17)$

$$\begin{array}{r} (25 \times 4) \times 17 \\ 100 \times 17 \\ \hline 1,700 \end{array}$$

2. $(28 \times 80) \times 5$

3. $13 \times 10 \times 6$

4. $(60 \times 15) \times 4$

5. $5 \times 49 \times 20$

6. $50 \times (27 \times 4)$

7. 24×25 _____

8. 507×30 _____

9. 16×310 _____

10. 12×900 _____

11. 53×199 _____

12. $25 \times 3,603$ _____

Problem Solving 

13. The Drama Club sets up 25 rows of 28 chairs in the gymnasium for a play. A ticket to the play costs \$4. How much money does the Drama Club make if it sells all the seats for the play?
- _____

14. The Jacksons and the Smiths are sharing the cost of renting a cabin for 14 days. The cost of renting the cabin is \$199 a day. What is the cost of renting the cabin for 14 days?
- _____



Lesson Check (MA.4.A.1.2)

- Which of the following shows one way to find 28×602 ?
(A) $(28 \times 600) - (28 \times 2)$
(B) $(20 \times 602) - (8 \times 602)$
(C) $(28 \times 600) + (28 \times 2)$
(D) $7 \times (4 + 602)$
- Jake went to 25 home games for his town's baseball team this season. He sat through at least 9 innings in each game and saw at least 4 pop flies in each inning. At least how many pop flies did Jake see this season?
(F) 3,600 (H) 900
(G) 1,800 (I) 770

Review Grade 4 (MA.4.A.4.2)

- Molly had 9 sandwiches. She gave three to her brother. She shared the remaining sandwiches equally between herself and two friends. Which expression shows this situation?
(A) $(9 \div 3) - 3$
(B) $(9 - 3) \div 3$
(C) $(9 - 3) \times 3$
(D) $(9 - 3) \div 2$
- Bryce has 4 collectible cards that are each worth \$3. His best friend gives him a card worth \$6. Which operation would you do first to find the total value of Bryce's cards?
(F) +
(G) -
(H) \div
(I) \times



Look Back (MA.3.A.1.1, MA.4.A.1.1)

- Mr. Reeny has 72 stickers to give to the winning teams of Field Day. Nine teams won different events on Field Day. How many stickers will Mr. Reeny give to each team?
(A) 11
(B) 9
(C) 8
(D) 5
- Marshall collects model airplanes. He has a total of 36 model airplanes. Marshall stores his model airplanes in six large boxes. If each box contains an equal number of model airplanes, how many are in each box?
(F) 1
(G) 3
(H) 6
(I) 9



Name _____

Choose a Method

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Find the product.

1. $33 \times 4,323$
142,659

2. 32×400

3. 60×303

4. $51 \times 3,112$

5. 200×490

6. $74 \times \$389$

7. 22×914

8. 25×799

9. $67 \times 8,126$

10. 18×410

11. $23 \times 1,413$

12. 625×120

Problem Solving

13. An electronics store sold 96 video game systems this month. Sixteen people bought a system on sale for \$205. The rest paid the regular price of \$249. How much money did the store make this month on the video game systems?

14. A factory can produce 4,800 packs of bacon each hour. Sixty of those packs are pulled each hour for inspection. If the factory is open 40 hours a week, how many packs are *not* pulled for inspection each week?

Lesson Check (MA.4.A.1.2)

1. Surf and Sand Rentals rented a total of 156 kayaks this summer. If each kayak was rented for \$25, how many dollars did Surf and Sand Rentals earn renting kayaks this summer?

\$

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Review Grade 4 (MA.4.A.6.1)

2. Isabelle counts by 10s starting with the number 9,997,600. How many numbers will she say before she says "ten million"?

- (A) 2,400
- (B) 2,040
- (C) 240
- (D) 24

3. Between which two numbers is 342,902,136 located?

- (F) 3,000,000 and 4,000,000
- (G) 340,000,000 and 342,000,000
- (H) 340,000,000 and 350,000,000
- (I) 343,000,000 and 400,000,000



Look Back (MA.3.A.1.2, MA.4.A.1.2)

4. What is the product of $2 \times 3 \times 8$?

- (A) 54
- (B) 48
- (C) 36
- (D) 24

5. Tristan puts his stickers onto pages in an album. He puts 4 rows of stickers on each page. Each row has 4 stickers. How many stickers does Tristan have on 2 pages of his album?

- (F) 36
- (G) 32
- (H) 16
- (I) 8



Name _____

Chapter 5 Extra Practice

Lesson 5.1 (pp. 181–184)

Use mental math to complete the pattern.

1. $6 \times 6 = 36$

$6 \times 60 = \underline{\hspace{2cm}}$

$60 \times 600 = \underline{\hspace{2cm}}$

$60 \times 6,000 = \underline{\hspace{2cm}}$

2. $9 \times 6 = 54$

$9 \times \underline{\hspace{2cm}} = 540$

$90 \times 600 = \underline{\hspace{2cm}}$

$90 \times \underline{\hspace{2cm}} = 540,000$

3. $8 \times 8 = 64$

$80 \times 80 = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} \times 800 = 64,000$

$80 \times 8,000 = \underline{\hspace{2cm}}$

Use patterns and mental math to find the product.

4. $10 \times 600 = \underline{\hspace{2cm}}$

5. $500 \times 50 = \underline{\hspace{2cm}}$

6. $70 \times 60 = \underline{\hspace{2cm}}$

7. $80 \times 50 = \underline{\hspace{2cm}}$

8. $70 \times 800 = \underline{\hspace{2cm}}$

9. $300 \times 90 = \underline{\hspace{2cm}}$

Lesson 5.2 (pp. 185–188)

Choose a method. Then find the product.

1. 12×60

2. 56×40

3. 30×39

4. 50×67

5. Gina works 20 hours a week. She also reads 10 hours a week. How many hours will Gina work or read in 6 months?

6. Adam walks dogs 10 hours a week. He also bags groceries 10 hours a week. How many hours will Adam work in one year?

Lesson 5.3 (pp. 189–192)

Estimate the product. Choose a method.

1. 33×76

2. 43×90

3. $47 \times \$66$

4. 12×813

5. $46 \times 2,478$

6. $58 \times 3,799$

7. 24×734

8. $68 \times 8,136$

9. $47 \times 6,767$

10. $28 \times 4,898$

11. 43×676

12. $18 \times 8,466$

Lesson 5.4 (pp. 193–196)

- Kevin has 58 collectible toy cars. Felix has 64 collectible toy cars. Each toy car has a value of \$32. What is the value of Kevin's toy car collection?

- An average of 230 children visit a local dairy farm each week. How many children visit the farm in 12 weeks?

- A general admission ticket for an air show costs \$12. How much would it cost three families of four to go to the air show?

- Rita buys boxes of beads. Four of the 22 boxes are gold beads. The remaining boxes of beads are multicolored. Each box costs \$13. How much does she spend on the multicolored beads?

Lesson 5.5 (pp. 197–200)

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

1. 41×16

2. 39×52

3. 25×83

4. 94×36

Lesson 5.6 (pp. 201–204)

Record the product.

1.
$$\begin{array}{r} 53 \\ \times 56 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 72 \\ \times 49 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 12 \\ \times 63 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 66 \\ \times 23 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 33 \\ \times 99 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 17 \\ \times 71 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 11 \\ \times 46 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 92 \\ \times 87 \\ \hline \end{array}$$

Lesson 5.7 (pp. 205–208)

Estimate. Then choose a method to find the product.

1. Estimate: _____

$$\begin{array}{r} 23 \\ \times 18 \\ \hline \end{array}$$

2. Estimate: _____

$$\begin{array}{r} 48 \\ \times 27 \\ \hline \end{array}$$

3. Estimate: _____

$$\begin{array}{r} 36 \\ \times 64 \\ \hline \end{array}$$

4. Estimate: _____

$$\begin{array}{r} 48 \\ \times 21 \\ \hline \end{array}$$

5. Estimate: _____

$$\begin{array}{r} \$72 \\ \times 46 \\ \hline \end{array}$$

6. Estimate: _____

$$\begin{array}{r} 39 \\ \times 58 \\ \hline \end{array}$$

Lesson 5.8 (pp. 211–214)

Describe the reasonableness of the answer or estimate.

1. In the first week of April, Janice sold 40 bracelets at \$12 each. She says she will make about \$2,000 if she sells 160 bracelets in April.

2. Two days a week, Ben collects bottles and cans for a youth center. He collects 75 bottles and cans every week. Ben says he collects 300 bottles and cans in 3 weeks.

Lesson 5.9 (pp. 215–218)

Estimate. Then find the product.

1. Estimate: _____

$$\begin{array}{r} 207 \\ \times 18 \\ \hline \end{array}$$

2. Estimate: _____

$$\begin{array}{r} 588 \\ \times 670 \\ \hline \end{array}$$

3. Estimate: _____

$$\begin{array}{r} 326 \\ \times 45 \\ \hline \end{array}$$

Lesson 5.10 (pp. 219–222)

Use a strategy to find the product.

1. $4 \times (22 \times 70)$

2. $5 \times 11 \times 50$

3. $8 \times (30 \times 15)$

4. $15 \times 40 \times 8$

5. 82×35

6. 503×40

7. 18×811

8. 345×15

9. 39×299

10. $53 \times 8,060$

11. $60 \times 7,030$

12. 999×11

Lesson 5.11 (pp. 223–226)

Find the product.

1. 62×425

2. 50×460

3. $31 \times 8,000$

4. 74×747

5. $26 \times 1,432$

6. $44 \times \$868$

7. $30 \times 3,030$

8. $24 \times 1,255$

9. $21 \times 4,500$

10. 67×964

11. $25 \times 4,000$

12. $59 \times 6,923$

13. Every 2 weeks, the Bagel King Company ships bagels to 25 stores. Each store receives 96 dozen. How many bagels does the Bagel King Company ship every 2 weeks?

14. The coach of a swim team buys each team member 2 pairs of swim goggles. If there are 12 team members and goggles cost \$11 each, how much will the coach spend?
