

Name _____

Divide by 1-Digit Numbers

Essential Question How can you divide multidigit numbers and check your answers?



Number and Operations in Base Ten—4.NBT.B.6

MATHEMATICAL PRACTICES
MP2, MP7, MP8

Unlock the Problem

Students in the third, fourth, and fifth grades made 525 origami animals to display in the library. Each grade made the same number of animals. How many animals did each grade make?



Example 1 Divide. $525 \div 3$

STEP 1 Use place value to place the first digit. Look at the hundreds in 525. 5 hundreds can be shared among 3 groups without regrouping. The first digit of the quotient will be in the _____ place.

STEP 2 Divide the hundreds.

$$\begin{array}{r} 1 \\ 3 \overline{)525} \\ \underline{0} \\ 2 \end{array}$$

Divide. Share _____ hundreds equally among _____ groups.

Multiply. _____ \times _____

Subtract. _____ $-$ _____.

Check. _____ hundreds cannot be shared among 3 groups without regrouping.

Math Talk

MATHEMATICAL PRACTICES 8

Use Repeated Reasoning
At the checking step, what would you do if the number is greater than the divisor?

STEP 3 Divide the tens.

$$\begin{array}{r} 17 \\ 3 \overline{)525} \\ \underline{-3} \\ 22 \\ \underline{0} \\ 25 \end{array}$$

Divide. Share _____ equally among _____ groups.

Multiply. _____

Subtract. _____ $-$ _____

Check. _____

STEP 4 Divide the ones.

$$\begin{array}{r} 175 \\ 3 \overline{)525} \\ \underline{-3} \\ 22 \\ \underline{-21} \\ 15 \\ \underline{0} \\ 15 \end{array}$$

Divide. Share _____ equally among _____ groups.

Multiply. _____

Subtract. _____ $-$ _____

Check. _____ are left.

So, each class made _____ origami animals.

There are 8,523 sheets of origami paper to be divided equally among 8 schools. How many sheets of origami paper will each school get?

Example 2 Divide. $8,523 \div 8$

STEP 1 Use place value to place the first digit.

Look at the thousands in 8,523.
8 thousands can be shared among
8 groups without regrouping.

The first digit of the quotient will be
in the _____ place.

STEP 2 Divide the thousands.

STEP 3 Divide the hundreds.

STEP 4 Divide the tens.

STEP 5 Divide the ones.

So, each school will get _____ sheets of
origami paper.

There will be _____ sheets left.

8)8,523



ERROR Alert

Place a zero in the quotient when a place in the dividend cannot be divided by the divisor.

CONNECT Division and multiplication are inverse operations. You can use multiplication to check your answer to a division problem.

Multiply the quotient by the divisor. If there is a remainder, add it to the product. The result should equal the dividend.

Divide.

$$\begin{array}{l} \text{quotient} \rightarrow 1,065 \text{ r}3 \leftarrow \text{remainder} \\ \text{divisor} \rightarrow 8 \overline{)8,523} \leftarrow \text{dividend} \end{array}$$

Check.

$$\begin{array}{r} 1,065 \leftarrow \text{quotient} \\ \times \quad 8 \leftarrow \text{divisor} \\ \hline 8,520 \\ + \quad 3 \leftarrow \text{remainder} \\ \hline 8,523 \leftarrow \text{dividend} \end{array}$$

The check shows that the division is correct.

Name _____

Share and Show



1. Ollie used 852 beads to make 4 bracelets. He put the same number of beads on each bracelet. How many beads does each bracelet have? Check your answer.



Divide.

		2			
4)	8	5	2	

Check.

Math
Talk

MATHEMATICAL PRACTICES 7

Identify Relationships

How could you check to see if your quotient is correct?

So, each bracelet has _____ beads.

Divide and check.

2. $2 \overline{)394}$

3. $2 \overline{)803}$

4. $4 \overline{)3,448}$

On Your Own

Divide and check.

5. $2 \overline{)816}$

6. $4 \overline{)709}$

7. $3 \overline{)267}$

8. **GO DEEPER** The flower shop received a shipment of 248 pink roses and 256 red roses. The shop owner uses 6 roses to make one arrangement. How many arrangements can the shop owner make if he uses all the roses?
- _____

Problem Solving • Applications



Use the table for 9–11.

9. **THINK SMARTER** Four teachers bought 10 origami books and 100 packs of origami paper for their classrooms. They will share the cost of the items equally. How much should each teacher pay?



The Craft Store

Item	Price
Origami Book	\$24 each
Origami Paper	\$6 per pack
Origami Kit	\$8 each

10. **MATHEMATICAL PRACTICE 5 Communicate** Six students shared equally the cost of 18 of one of the items in the chart. Each student paid \$24. What item did they buy? Explain how you found your answer.

11. Ms. Alvarez has \$1,482 to spend on origami paper. How many packs can she buy?

12. **GO DEEPER** Evan made origami cranes with red, blue, and yellow paper. The number of cranes in each color is the same. If there are 342 cranes, how many of them are blue or yellow?

13. **THINK SMARTER** On Monday 336 fourth graders went on a field trip to a local park. The teachers divided the students into 8 groups.

Use a basic fact. Estimate the number of students in each group. Show your work.

WRITE *Math*
Show Your Work

Name _____

Divide by 1-Digit Numbers



COMMON CORE STANDARD—4.NBT.B.6
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Divide and check.

$$\begin{array}{r}
 318 \\
 2 \overline{)636} \\
 \underline{-6} \\
 03 \\
 \underline{-2} \\
 16 \\
 \underline{-16} \\
 0
 \end{array}$$

$$\begin{array}{r}
 318 \\
 \times 2 \\
 \hline
 636
 \end{array}$$

$$2. \quad 4 \overline{)631}$$

$$3. \quad 8 \overline{)906}$$

Problem Solving



Use the table for 4 and 5.

4. The Briggs rented a car for 5 weeks. What was the cost of their rental car per week?

5. The Lees rented a car for 4 weeks. The Santos rented a car for 2 weeks. Whose weekly rental cost was lower? **Explain.**

Rental Car Costs	
Family	Total Cost
Lee	\$632
Brigg	\$985
Santo	\$328

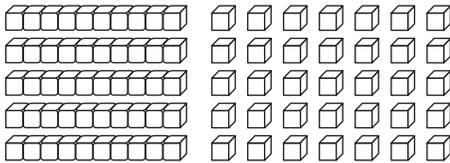
6. **WRITE** *Math* Josey got an answer of 167 r4 for $3 \overline{)505}$. Explain and correct Josey's error.

Lesson Check (4.NBT.B.6)

1. Write an expression that can be used to check the quotient of $646 \div 3$.
2. There are 8 volunteers at the telethon. The goal for the evening is to raise \$952. If each volunteer raises the same amount, what is the minimum amount each needs to raise to meet the goal?

Spiral Review (4.OA.A.3, 4.NBT.B.5, 4.NBT.B.6)

3. What product is shown by the model?
4. The computer lab at a high school ordered 26 packages of CDs. There were 50 CDs in each package. How many CDs did the computer lab order?



5. Write a division problem whose quotient has its first digit in the hundreds place.
6. Sharon has 64 fluid ounces of juice. She is going to use the juice to fill as many 6-ounce glasses as possible. She will drink the leftover juice. How much juice will Sharon drink?
