

Dividing 2- to 3-Digit Numbers by 1 to 2-Digit Numbers with Zero Difficulty

I. Learning Objectives

Cognitive:	Divide 2- to 3-digit numbers by 1- to 2-digit numbers with zero difficulty
Psychomotor:	Write the division sentence in vertical column
Affective:	Eating the right kinds of food regularly

II. Learning Content

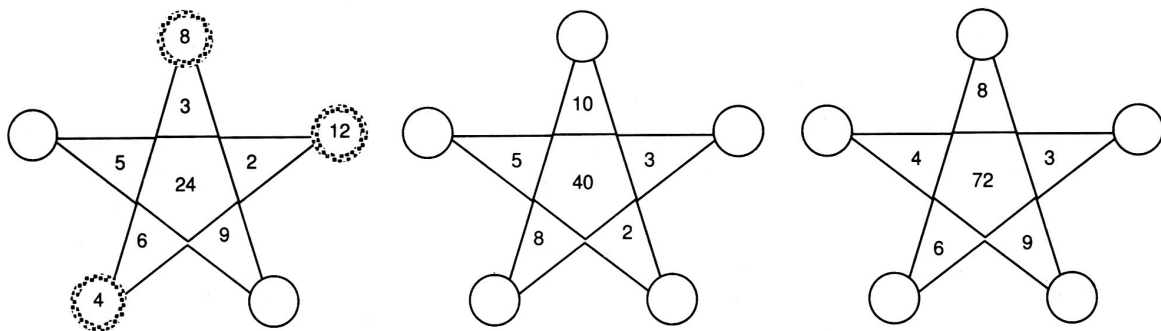
Skills:	1. Dividing 2- to 3-digit numbers by 1- to 2-digit numbers with zero difficulty 2. Writing the division sentence in vertical column
References:	BEC PELC I E 1.3
Materials:	cut outs of stars, diagrams
Value:	Eating the right kind of foods

III. Learning Experiences

A. Preparatory Activities

1. Drill

Light up each bulb mentally every time you get an exact quotient by dividing the middle number by the other number.



2. Review

Find the quotient and remainder if any.

- 1) $5 \overline{)694}$
- 2) $12 \overline{)5871}$
- 3) $6 \overline{)917}$
- 4) $35 \overline{)9645}$
- 5) $7 \overline{)2561}$

3. Motivation

Do you eat vegetables?
What kind of vegetables do you like to eat most?
Do you eat carrots? Why should you eat carrots?
Don't you know that carrots are good for our eyes?

B. Development Activities

1. Presentation

a. Present this problem.

A farmer puts 30 carrots in 2 bags equally. How many carrots are in each bag?

To solve the problem, follow these steps:

■ Understand

Know what is asked.



Number of carrots in each bag.

Know the given facts.



30 carrots, 2 bags

Know the word clue.

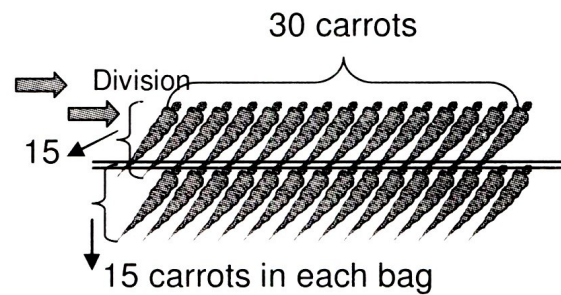


each bag

■ Plan

Decide what process to use.

Draw a picture for the problem.



Write the mathematical sentence.



$$30 \div 2 = N$$

■ Solve

Solve the equation



$$30 \div 2 = 15$$

Write the complete answer



15 carrots

Step 1

$$\begin{array}{r} 1 \\ 2 \overline{)30} \\ \underline{2} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

- Divide
 $3 \div 2 = 1$
- Write 1 in the tens place
- Multiply
 $1 \times 2 = 2$
- Subtract
 $3 - 2 = 1$
- Bring down 0

Step 2

$$\begin{array}{r} 15 \\ 2 \overline{)30} \\ \underline{2} \\ 10 \\ \underline{-10} \\ 0 \end{array}$$

- Divide
 $10 \div 2 = 5$
- Write 5 in the ones place
- Multiply
 $5 \times 2 = 10$
- Subtract
 $10 - 10 = 0$

Answer: There are 15 carrots in each bag.

■ Look back

See if the answer makes sense. Check by multiplying

- ▶ Multiplying 2 by 15 gives 30.
- ▶ There are 15 carrots in each bag.

b. Present another problem.

An auditorium has 240 seats in all. If there were 12 rows of seats, how many seats were there in each row?

To solve the problem, follow these steps

■ Understand

Know what is asked. \Rightarrow Number of seats in each row

Know the given facts. \Rightarrow 240 seats, 12 rows

Know the word clue. \Rightarrow each row

■ Plan

Decide what process to use. \Rightarrow Division

Write the mathematical sentence $\Rightarrow 240 \div 12 = N$

■ Solve

Solve the equation $\Rightarrow 240 \div 12 = 20$

Step 1

$$\begin{array}{r} 2 \\ 12 \overline{)240} \\ \underline{24} \\ 0 \end{array}$$

- Divide 24 tens by 12 = 2 tens.
- Write 2 in the tens place.
- Multiply
 $2 \times 12 = 24$
- Subtract
 $24 - 24 = 0$

Step 2

$$\begin{array}{r} 12 \overline{)240} \\ \underline{24} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

- Divide
 $0 \div 12 = 0$
- Write 0 in the ones place.
- Multiply
 $2 \times 12 = 0$
- Subtract
 $0 - 0 = 0$

Write the complete answer: there are 20 seats in each row.
Each time you bring down a digit, you must write a digit in the quotient. Sometimes that digit is zero.

■ Check and Look back

See if the answer makes sense. Check by multiplying

- ▶ Multiplying 12 by 20 gives 240.
- ▶ There are 20 seats in each row.

2. Guided Practice

a. Write the missing numeral in each step on your paper.

1. Step 1

$$\begin{array}{r} 5 \overline{)160} \\ \underline{15} \\ 1 \end{array} \quad \square \times 5$$

Step 2

$$\begin{array}{r} 5 \overline{)160} \\ \underline{15} \\ 10 \\ \underline{-10} \\ 0 \end{array} \quad \square \times 5$$

2. Step 1

$$\begin{array}{r} 7 \overline{)105} \\ \underline{-7} \\ 3 \end{array}$$

Step 2

$$\begin{array}{r} 7 \overline{)105} \\ \underline{-7} \\ 35 \\ \underline{-35} \\ 0 \end{array}$$

3. Step 1

$$\begin{array}{r} 3 \overline{)306} \\ \underline{3} \\ 0 \end{array} \quad \square \times 3$$

Step 2

$$\begin{array}{r} 3 \overline{)306} \\ \underline{3} \\ 0 \\ \underline{-0} \\ 6 \end{array} \quad \square \times 3$$

Step 3

$$\begin{array}{r} 3 \overline{)306} \\ \underline{3} \\ 0 \\ \underline{-0} \\ 6 \\ \underline{-6} \\ 0 \end{array} \quad \square \times 3$$

4. Step 1

$$\begin{array}{r} \text{r. 1} \\ 25 \overline{)51} \\ \underline{50} \\ 1 \end{array} \quad \square \times 25$$

5. Step 1

$$\begin{array}{r} 8 \overline{)720} \\ \underline{72} \\ 0 \end{array} \quad \square \times 8$$

Step 2

$$\begin{array}{r} 8 \overline{)720} \\ \underline{72} \\ 0 \\ \underline{-0} \\ \square \end{array}$$

b. Food for Thought

These food facts may or may not be true! Divide and decide if the quotient is true or false. If the quotient is true, then the fact is true!

1. The shape of a pretzel was invented by a priest who gave “pretzels to children when they memorized prayers.

$$90 \div 3 = 30 \quad \text{True} \quad \text{False}$$

2. Cracker Jack was the brainchild of a man named Jack Cracker, who invented the snack after some popcorn got stuck in his tooth.

$$208 \div 12 = 16 \text{ r. } 4 \quad \text{True} \quad \text{False}$$

3. Hot dogs can be traced back 3,500 years ago, when Babylonians stuffed animal intestines with spicy meat.

$$950 \div 5 = 190 \quad \text{True} \quad \text{False}$$

4. Pasta was first made in China from rice and bean flour.

$$700 \div 15 = 46 \text{ r. } 10 \quad \text{True} \quad \text{False}$$

5. Ketchup became popular when Alice White dropped a tomato and dipped some French fries in the juice.

$$560 \div 3 = 186 \text{ r. } 1 \quad \text{True} \quad \text{False}$$

c. Discover the messages. Use the letter code.

$$40 \div 8 = a \quad 120 \div 12 = n$$

$$80 \div 2 = f \quad 830 \div 12 = s$$

$$401 \div 16 = h \quad 607 \div 11 = t$$

$$300 \div 5 = I \quad 302 \div 3 = u$$

$$760 \div 9 = m$$

M

84 R.4

A

5

T

55 R.2

H

25 R.1

I

60

S

69 R.2

F

40

U

100 R. 2

N

10

3. Generalization:

How do we divide 2- to 3-digit numbers by 1- to 2-digit number with zero difficulty?

In dividing whole numbers

- divide
- multiply
- subtract
- bring down
- If the dividend is less than the divisor put zero.

C. Application

Fill in the missing numerals.

$$1) \begin{array}{r} 0 \\ 5 \overline{)200} \\ \underline{20} \\ 0 \\ -0 \\ \hline 0 \end{array}$$

$$2) \begin{array}{r} \\ 4 \overline{)50} \text{ r. } \square \\ \underline{4} \\ 10 \\ \underline{-8} \\ \square \end{array}$$

$$3) \begin{array}{r} \\ 8 \overline{)306} \text{ r. } \square \\ \underline{24} \\ 66 \\ \underline{-64} \\ \square \end{array}$$

$$4) \begin{array}{r} \\ 16 \overline{)420} \text{ r. } \square \\ \underline{32} \\ 100 \\ \underline{-98} \\ \square \end{array}$$

$$5) \begin{array}{r} \\ 23 \overline{)508} \text{ r. } \square \\ \underline{46} \\ 48 \\ \underline{-46} \\ 2 \end{array}$$

IV. Evaluation

A. Find the quotient.

$$1) \overline{3)60}$$

$$2) \overline{11)403}$$

$$3) \overline{4)500}$$

$$4) \overline{12)860}$$

$$5) \overline{21)701}$$

B. Solve the following problems.

1. The 150 Grade Three pupils were divided into 6 equal groups to participate in a dance contest. How many pupils were there in each group?
2. A class of 60 pupils was divided into 3 equal groups to participate in different activities for the "Clean and Green" project of their barangay. How many pupils were in each group?
3. Imon and Bato harvested 109 pieces of camote. They placed them equally in 15 baskets. How many pieces of camote were in each basket?
4. There are 360 books to be given equally among 4 classes. How many books will be given to each class?
5. Arnel place 70 books equally in 5 shelves. How many books were in each shelf?

V. Assignment

A. Divide.

1) $13 \overline{)80}$

2) $5 \overline{)600}$

3) $11 \overline{)780}$

4) $22 \overline{)220}$

5) $15 \overline{)301}$

B. Solve.

1) $(88 - 8) \div 4$

2) $(765 + 44) \div 32$

3) $(149 + 11) \div 8$

4) $(15 \times 8) \div 4$

5) $(500 \times 3) \div 13$

C. Divide then check the answer.

1) $4 \overline{)800}$

2) $8 \overline{)90}$

3) $14 \overline{)620}$

4) $11 \overline{)403}$

5) $21 \overline{)610}$