Dividing 2- to 3-Digit Numbers by Multiples of 10 up to 90

I. Learning Objectives

Cognitive: Divide 2- to 3-digit numbers by multiples of 10 up to 90
Psychomotor: Write the quotient accurately
Affective: Practice the habit of keeping healthy

II. Learning Content

Skill: Dividing 2- to 3-digit numbers by multiples of 10 up to 90
References: BEC PELC I E 1.2
Materials: activity cards, flash cards, show me boards
Value: Keeping physically fit

III. Learning Experiences

A. Preparatory Activities

1. Drill: Division Basic Facts

a. Distribute flash cards with division number sentences to the pupils.
b. The teacher show a number card one by one. (The number in the card is a quotient which is an answer to the division exercises of the pupils).
c. The pupil who has the division sentence will raise the card.

2
3
4
5

6
7
8
9

12 ÷ 3 = N
30 ÷ 5 = N
63 ÷ 9 = N
81 ÷ 9 = N
25 ÷ 5 = N 48 ÷ 6 = N
18 ÷ 3 = N

Note: The quotient/answer may have 1 or more division sentence

2. Review – Dividing 2- to 3-digit numbers by 1-digit divisor.

Form 2 groups.

Group 1 – Divide 355 by 5 using the expanded form.

$$
\begin{array}{r}
60 + 10 + 1 \\
5\,\overline{)\,300 + 10 + 1} \\
\underline{300} \\
0 \quad 50 \\
\underline{50} \\
0 \quad 5 \\
\underline{5} \\
0
\end{array}
\qquad = 71
$$

Group 2 – Divide 355 by 5 using the short form.

$$
\begin{array}{r}
71 \\
5\,\overline{)355} \\
\underline{35} \\
05 \\
\underline{5} \\
0
\end{array}
$$

What are the steps in dividing whole numbers using the short form?

1. Divide
2. Multiply
3. Subtract
4. Compare and bring down
5. Repeat the procedure until all the digits in the dividend are divided.

3. Motivation

Present the story problem.

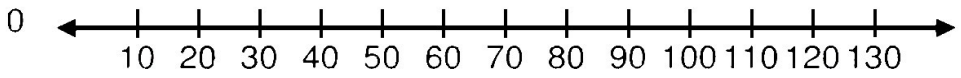
Mr. Flores did some brisk walking. In 10minutes he was able to walk a distance of 50 metres. How far did he walk in one minute?

What did Mr. Flores do?
Who can demonstrate how to walk briskly?
Do you know that brisk walking is good for the heart?
If done regularly, it keeps a person physically fit.
Do you exercises to make yourself healthy?

B. Development Activities

1. Presentation

a. Use of number line.



How many metres did Mr. Flores walk in 10 minutes? 50 m
How far did he walk in one minute?
Write the number sentence: 50 ÷ 10 = N
Let's show with the use of number line that division is a repeated subtraction.

50 – 10 = 40
40 – 10 = 30
30 – 10 = 30
20 – 10 = 10

10 – 10 = 0

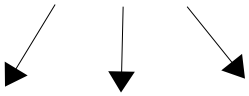
How many times did we subtract 10 form 50?

50 ÷ 10 = 50

How far did Mr. Flores walk in 1 minute?

Let's see if the answer is correct?

5 x 10 = 50 Quotient x divisor = dividend



quotient divisor dividend

b. Use of the short method

Step 1

Divide $10\overline{)50}$ (5) 5 cannot be divided by 10; 50 can be divided by 10

Step 2

Multiply $10\overline{)50}$ (5), 50 → 5 x 10 = 50

Step 3

Subtract $10\overline{)50}$ (5), 50, 0 → 50 – 50 = 0

Check: 5 x 10 = 50

Quotient Divisor Dividend

c. Present another problem.

Mansatol Elementary School has 20 booths for the School Foundation Day. The school buys 346 prizes. Each booth will share the prizes equally. How many prizes should each booth get? Are there any left over prizes?

How many booths does Masantol Elementary School have for the School Foundation Day?

How many prizes did the school buy?

What shall we do to solve the problem?

Write the number sentence.

346 ÷ 20 = N $20\overline{)346}$

Call on 8 pupils. Tell them to fall in line, in single file . The pupils will take turns in solving the problem following the steps in dividing whole numbers.

Pupil 1 – Step 1 Divide the hundreds by 20.

$$20\overline{)346}\quad 1$$

3 cannot be divided by 20.
Divide 34 by 20.
34 can be divided by 20.
34 ÷ 20 = 1
Write 1 in the tens place.

Pupil 2 – Step 2 Multiply 1 x 20 = 20.

$$\begin{array}{r} 1 \\ 20\overline{)346} \\ \underline{20} \end{array}$$

Pupil 3 – Step 3 Subtract 34 – 20 = 14.

$$\begin{array}{r} 1 \\ 20\overline{)346} \\ \underline{20} \\ 14 \end{array}$$

Pupil 4 – Step 4 Bring down 6.

$$\begin{array}{r} 1 \\ 20\overline{)346} \\ \underline{20} \\ 146 \end{array}$$

Pupil 5 – Step 5 Divide 146 by 20.

$$\begin{array}{r} 17 \\ 20\overline{)346} \\ \underline{20} \\ 146 \\ -\,\underline{140} \end{array}$$

Pupil 6 – Step 6 Multiply 7 x 20

Pupil 7 – Step 7 Subtract 146 – 140.

$$\begin{array}{r} 17 \\ 20\overline{)346} \\ \underline{20} \\ 146 \\ -\,\underline{140} \\ 6 \end{array}$$

Pupil 8 – Step 8 Write the remainder.

What shall we do to check if the answer is correct?

17	
x 20	Multiply the quotient and the divisor.
340	Then add the remainder.
+ 6	If the answer is the same as the dividend, then the
346	answer is correct.

2. Guided Practice

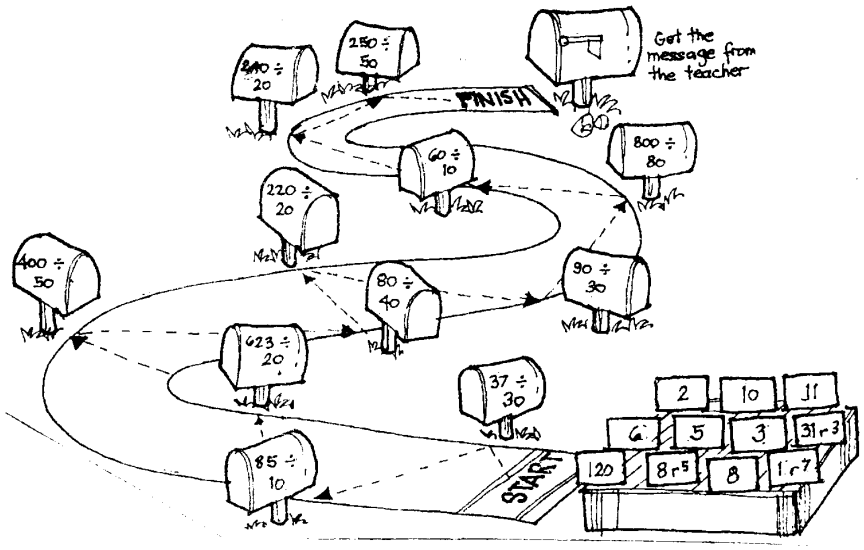
a. Work in Pairs – Content

Group pupils by 2. Each pair will be given a card with number equation. The first pair to solve the equation wins.

80 ÷ 40 = N	63 ÷ 30 = N	990 ÷ 30 = N	680 ÷ 60 = N	500 ÷ 20 = N	623 ÷ 20 = N

b. Work in groups of 5.

1) Each group will be given a copy of the mailbox trails.
2) Trace the path on the trail and look for the message at the end of the trail.
3) Look for a card in the box and drop the answer in the correct mailbox form START.
4) Follow the arrow until you reach the FINIS LINE.
5) The first group to come up with the most number of correct answers will get the message from the teacher and wins the contest. The message is HAPPY MATHEMATICKING.
6) The teacher calls the attention of the pupils with divisors and dividends having terminal zeros.
7) Make them realize that computation will be easy if the terminal zeros in the divisor and dividend are canceled first before dividing the numbers.



3. Generalization

What are the steps in dividing 2- to 3-digit number by multiples of 10?

Step 1 – Divide. Step 2 – Multiply. Step 3 – Subtract. Step 4 – Compare and bring down. Step 5 – Repeat the procedure until all the digits in the dividend are divided. Step 6 – Check the answer by multiplying the quotient with the divisor.

If there are terminal zeros in the divisor and dividend, what shall we do with them before dividing the numbers?
Cancel the terminal zeros in the divisor and dividend.
The number of zeros to be canceled in the divisor and dividend must be equal.

C. Application

Write the answers on the blanks.
1. The divisor is 50. The dividend is 300. What is the quotient? _____
2. In 625 ÷ 10, the quotient is _____.
3. The reminder in 865 ÷ 20 is _____.
4. The quotient is 30, the dividend is 900, what is the divisor? _____
5. 800 ÷ 80 is _____

IV. Evaluation

A. Solve the problem below.
1. If Ricky walked 240 metres in 20 minutes, how many metres did he walk in 1 minute? _____
2. Rosa gathered 400 popsicle sticks to make flower vases. She used 40 popsicles sticks for each flower vase. How many flower vases did he she make? _____
3. Mr. Santos bought 60 pads of paper to be given to 30 poor children. If they will be given equal share, how many pads will each child get?
4. Mr. dela Cruz bought 500 mahogany seedlings. If the seedlings will be planted equally in ten rows, how many seedlings will each row have?
5. One hundred twenty Grade VI pupils will have a field trip. If there are 10 adults, how many pupils will each adult take care of?

B. Find the quotients.

1) $20\overline{)40}$ 2) $30\overline{)60}$ 3) $10\overline{)50}$

4) $40\overline{)938}$ 5) $50\overline{)750}$ 6) $60\overline{)863}$

7) $30\overline{)586}$ 8) $20\overline{)380}$ 9) $10\overline{)89}$ 10) $70\overline{)788}$

V. Assignment

Divide.

1) $50\overline{)500}$ 2) $30\overline{)630}$ 3) $20\overline{)780}$

4) $20\overline{)690}$ 5) $40\overline{)560}$