

STUDY COURSE MATERIAL

MATHEMATICS

SESSION-2020-21

CLASS-IV

TOPIC: CHAPTER 4 - DIVISION

DAY-1

❖ TEACHING MATERIAL

DIVISION

Division is equally sharing and equal grouping.

Also, we learnt that division is **repeated subtraction**. Division is the reverse process of multiplication. Each multiplication fact gives us two division facts.

$$\begin{array}{r} 6 \leftarrow \text{Quotient} \\ \text{Divisor} \rightarrow 5 \overline{) 32} \leftarrow \text{Dividend} \\ \underline{-30} \\ 2 \leftarrow \text{Remainder} \end{array}$$

We know that:-

$$\text{Dividend} = (\text{Divisor} \times \text{Quotient}) + \text{Remainder}$$

EXERCISE

Divide the following:

- $32 \div 4$
- $42 \div 7$
- $56 \div 8$

DAY-2

TEACHING MATERIAL

PROPERTIES OF DIVISION

✚ If we divide any number by 1, the result (quotient) is always the same.

For example: $78 \div 1 = 78$

$687 \div 1 = 687$

✚ Any number divided by itself always gives 1 as the quotient. In other words, if both the dividend and the divisor are the same number, the quotient is always 1.

For example: $56 \div 56 = 1$

$423 \div 423 = 1$

✚ Dividend zero by any number always gives 0 as the result. That is, if the dividend is 0 and the divisor is any number, the quotient is always 0.

For example: $0 \div 91 = 0$

$0 \div 291 = 0$

✚ Dividing any number by 0 has no meaning because we cannot divide any number by 0. This means that the divisor can never be 0.

✚ While dividing a number by 10, removes the last digit (ones digit) from the dividend to get the quotient. The ones digit is the remainder.

For example:-

$$\begin{array}{r} 10 \overline{) 4628} \quad (462 \\ -40 \\ \hline 62 \\ -60 \\ \hline 28 \\ -20 \\ \hline 8 \end{array}$$

$$\begin{array}{c} 4628 \div 10 \\ \swarrow \quad \searrow \\ \text{Quotient} \quad \text{Remainder} \end{array}$$

Similarly, we conclude the following, when divisor is 100, 1000, 10,000:

✚ While dividing a number by 100, removes the last two digit (tens & ones digit) from the dividend to get the quotient. The last two digit will form the remainder.

✚ While dividing a number by 1000, removes the last three digit from the dividend to get the quotient. The digit last three digit will form the remainder.

✚ While dividing a number by 10,000, removes the last four digit from the dividend to get the quotient. The digit last four digit will form the remainder.

$30,80,201 \div 100$: Quotient = 30,802 and Remainder = 1

$5,00,000 \div 1000$: Quotient = 500 and Remainder = 0

$76,54,321 \div 1000$: Quotient = 7654 and Remainder = 321

$2,36,071 \div 10,000$: Quotient = 23 and Remainder = 6071

EXERCISE

1. Divide and write quotient and remainder:

a. $64,893 \div 100$

b. $94,213 \div 1000$

c. $26,272 \div 10$

VIDEO LINK

<https://www.youtube.com/watch?v=g3aAEpKsv4Y>

DAY-3

TEACHING MATERIAL

DIVISION BY 2-DIGIT AND 3-DIGIT NUMBERS

The process of dividing a number by a 2- digit number is the same as dividing by a single-digit number.

Example: Divide 7382 by 16

$$\begin{array}{r} 16 \overline{)7382} \quad 461 \\ \underline{-64} \\ 98 \\ \underline{-96} \\ 22 \\ \underline{-16} \\ 6 \end{array}$$

Cross-check

We know that

Dividend = (Divisor \times Quotient) + Remainder

Here, Dividend = 7382, Divisor = 16, Quotient 461, Remainder 6

$$16 \times 461 + 6 = 7376 + 6 = 7382$$

Therefore, the answer is correct.

The process for dividing 3-digit number remains the same as it was for dividing by a 2-digit number.

Example: Divide 134,995 by 849

$$\begin{array}{r} 849 \overline{)134995} \quad (159 \\ -849 \\ \hline 5009 \\ -4245 \\ \hline 7645 \\ -7641 \\ \hline 4 \end{array}$$

Cross-check:

$$849 \times 159 + 4 = 134991 + 4 = 134995$$

Hence, the answer is correct.

Answer: $134,995 \div 849$: Quotient = 159
and Remainder = 4.

EXERCISE

1. Divide and write quotient and remainder:
 - a. $450 \div 15$
 - b. $484 \div 22$
 - c. $5555 \div 65$

VIDEO LINK

<https://www.youtube.com/watch?v=szhklrn0MmA>

<https://www.youtube.com/watch?v=KIS4labDUCY>

DAY-4

SIMPLIFICATION

When there are expressions involving addition, subtraction and multiplication, we follow **DMAS** rule to solve:

Division, Multiplication, Addition, Subtraction.

1. First, do division, if it's there.
2. Then, do multiplication.
3. Then, do addition. While adding, add all the numbers that have the + sign together. Also, add the numbers with – sign together.
4. Finally, do the subtraction. That is, subtract the sum of – numbers from the sum of + numbers.

Always remember when there is no sign it means there is '+' sign.

Example: Simplify: $84 \div 12 + 3 \times 6 - 5$

Solution: $84 \div 12 + 3 \times 6 - 5 = 7 + 3 \times 6 - 5$ (divide 84 by 12)
 $= 7 + 18 - 5$ (multiply 3 by 6 and add 7+18)
 $= 25 - 5$ (subtract 5 from 25)

EXERCISE

1. Simplify using DMAS:

a. $8 \times 7 - 2 \times 256 \div 16$

b. $7 \times 8 - 7 + 144 \div 12$

VIDEO LINK

<https://www.youtube.com/watch?v=HKjKhuVAVKs>

DAY-5

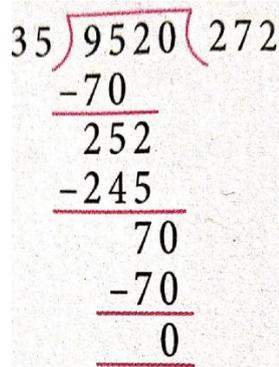
WORD PROBLEM

Example: 9520 packets of biscuits were equally packed in 35 cartons.

How many packets of biscuits were packed in each carton?

Solution : Number of biscuits packets in 35 boxes = 9520

Number of biscuits packets in 1 boxes = $9520 \div 35$


$$\begin{array}{r} 35 \overline{) 9520} \quad 272 \\ \underline{-70} \\ 252 \\ \underline{-245} \\ 70 \\ \underline{-70} \\ 0 \end{array}$$

Answer: Number of packets o biscuits in each carton is 272.

EXERCISE

1. How many hours are there in 58,980 minutes?
2. How many minutes are there in 67,560 seconds?

❖ VIDEO-LINKS

Link -1 <https://www.youtube.com/watch?v=Kbf6earFI7w>

Link-2 <https://www.youtube.com/watch?v=gT0HFbA1Mow>

❖ PPT LINKS

Link -1 <https://www.youtube.com/watch?v=wbkHv9zcGhI>

Link -2 https://www.youtube.com/watch?v=-p8XAIk_Fjw

Link -3 <https://www.youtube.com/watch?v=iJtrHGiOB6c>