BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI – 110034

SUBJECT:-MATHEMATICS

CHAPTER2:-FRACTIONS AND DECIMALS

PART-1

TOPIC:-MULTIPLICATION OF FRACTIONS

STEP 1:-GUIDELINES AND INTRODUCTION

GUIDELINES:

Dear Students

You have learnt about fractions in your earlier classes.So we will first recall the basic facts about Fractions like proper, improper and mixed fractions as well as their addition and subtraction.

Kindly refer to the following notes/video links from the Chapter- "FRACTIONS AND DECIMALS"
SUB TOPIC- "MULTIPLICATION OF FRACTIONS BY A WHOLE NUMBER" and thereafter do the questions in your Math notebook.

LINK FOR THE CHAPTER:- http://ncert.nic.in/textbook/textbook.htm?gemh1=2-15

INTRODUCTION:

Fractions represent part of a whole.

A fraction is of the form p/q, such that p and q are any two whole numbers ,q is not equal to zero .

Parts of a Fraction:

A fraction has two parts. The number on the top is numerator and the number below is the denominator.

Types of Fraction:

- **Proper Fraction : e.g. 1/3 ,1/6 ,2/7 ,9/10 and so on.**
- **Improper Fraction:e.g. 5/3 ,9/6 ,8/7, 14/10 and so on.**
- **Mixed fraction :e.g. 2 3/4**

Some important facts about fractions :

1. The value of a proper fraction will always be less than 1.

2. The value of an improper fraction will always be greater than 1

3. All Improper fractions can be expressed as mixed fractions.

4. Fractions with the same denominators i.e. **Like** fractions can be added or subtracted.

5. Fractions which are not like should be converted to like fractions by multiplying /dividing it with a suitable number.

Kindly refer to the following link to understand more about addition and subtraction of fractions : https://www.examfear.com/free-video-lesson/Class-7/Maths/Fractions-and-Decimals/part-4/Maths_Fractions_and_Decimals_part_4_(Addition_and_Subtraction_of_Fraction).htm

STEP 2:- ASSIGNMENT
Exercise 2.1 from NCERT to be done in Maths notebook.
Q1.(ii , iv , v , vii) , Q2 . (ii) Q4., Q6 ,Q7 ,Q8

STEP 3 :SUB TOPICS

Multiplication of Fractions:

Refer to the link- https://www.examfear.com/free-video-lesson/Class-7/Maths/Fractions-and-Decimals/part-7/Maths_Fractions_and_Decimals_part_7_(Multiplication_of_Fraction_).htm
(0:27--7:00)

- **Multiplication of a Fraction by a Whole Number**

WHOLE NUMBER "a" CAN ALSO BE WRITTEN IN FRACTION AS $\frac{a}{1}$

Product of two fractions = $\frac{\text{Product of Numerators}}{\text{Product of Denominators}}$

Examples:

Find:

i) 5× $\frac{2}{3}$

5 can be written as $\frac{5}{1}$

$=\frac{5}{1}\times\frac{2}{3}=\frac{5\times2}{1\times3}$

Product of numerator is 10
Product of denominator is 3

$=\frac{10}{3}$

ii) 2× $\frac{4}{3}$

$= \frac{2}{1} \times \frac{4}{3}$

$= \frac{2\times4}{1\times3} = \frac{8}{3}$

NOTE: ALWAYS REDUCE THE FRACTION TO ITS LOWEST FORM

- **To multiply a mixed fraction to a whole number**

First convert the mixed fraction to an improper fraction and then multiply.

i) **2×** $2\frac{5}{3}$

(convert mixed fraction into improper fraction)

$= \frac{2}{1} \times \frac{11}{3} = \frac{2\times11}{1\times3} = \frac{22}{3}$

ii) **5×**$3\frac{7}{5}$

(convert mixed fraction into improper fraction)

$= \frac{5}{1} \times \frac{22}{5}$

$= \frac{5\times22}{1\times5} = \frac{110}{5}$ =22

- **Fraction as an operator 'of':**

"Of" represents multiplication

EXAMPLES:

i) $\frac{4}{3}$**of 9**

$= \frac{4}{3} \times \frac{9}{1}$

$= \frac{4\times9}{3\times1} = \frac{36}{3}$=12

ii) $\frac{1}{4}$of 16

$= \frac{1}{4} \times \frac{16}{1}$

$= \frac{1 \times 16}{4 \times 1}$

$= \frac{16}{4} = 4$

NOTE: $\frac{1}{5}$ OF 20 IS SAME AS $\frac{1}{5} \times 20$

(**REFER TO EXAMPLE 3, PAGE 38, FOR WORD PROBLEM**)

STEP 4 :- Points to remember

- Whole number 'a" can also be written in fraction as $\frac{a}{1}$
- Two fractions are multiplied by multiplying their numerators and denominators separately and writing the product as $\frac{product\ of\ numerators}{product\ of\ denomenators}$
- A fraction acts as an operator **of** .
- Always reduce the product of fractions in the lowest form.

ASSIGNMENT :-
Ex-2.2- Q1 , Q2 ,Q8.

Q3.
Q4.
Q5.
Q6.
Q7.
} **(do all even parts)**

PRACTICE QUESTIONS :

FRACTION WITH WHOLE NUMBER:https://www.khanacademy.org/math/in-in-class-7th-math-cbse/x939d838e80cf9307:in-in-7th-fractions/x939d838e80cf9307:multiplying-whole-numbers-and-fractions-cbse/e/multiplying_fractions_by_integers?modal=1

MIXED FRACTION WITH WHOLE NUMBERhttps://www.khanacademy.org/math/in-in-class-7th-math-cbse/x939d838e80cf9307:in-in-7th-fractions/x939d838e80cf9307:multiplying-mixed-numbers-cbse/e/multiply-mixed-numbers-and-whole-numbers?modal=1

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