# BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI – 110034

## SUBJECT:- MATHEMATICS

## CHAPTER:- WHOLE NUMBERS ( PART – 2 )

## TOPIC:- PROPERTIES OF WHOLE NUMBERS

**GUIDELINES-**

**Dear students**

**Kindly refer to the following notes/video links from the Chapter- "WHOLE NUMBERS PART-2 " and thereafter do the questions in your Maths notebook.**

**LINK FOR THE CHAPTER:-** http://ncert.nic.in/textbook/textbook.htm?femh1=2-14

**INTRODUCTION-**

**When we look into various operations on numbers closely, we notice several properties of whole numbers. These properties help us to understand the numbers better. Moreover, they make calculations under certain operations very simple.**

**SUB TOPICS-**

**Properties of Whole Numbers**

- **Associative property**
  **For addition**
  **For multiplication**

- **Additive and Multiplicative Identity**

**KEY POINTS**

- **Associative property**

(REFER TO THE LNK- https://www.youtube.com/watch?v=DkpXOUKh6iE ; watch the video from 0:00-3:12 AND 4:15-5:24)

FOR ADDITION

For any three whole numbers a, b and c, $(a + b) + c = a + (b + c)$.
This means the sum is regardless of how grouping is done.
E.g. $31 + (24 + 38) = (31 + 24) + 38$

**Example: Find 14 + 17 + 6 ( by suitable rearrangement )**
Solution: 14 + 17 + 6 = ( 14 + 6 ) + 17 ( associative and commutative property )
= 20 + 17 = 37
(Remember : adding 4 and 6 at unit place will give 10 that is ' 0 ' at unit place )

## FOR MULTIPLICATION

For any three whole numbers a, b and c, (a x b) x c = a x (b x c).
This means the product is regardless of how grouping is done.
E.g. 8 x (4 x 5) = 8 x 20 = 160;
(8 x 4) x 5 = 32 x 5 = 160
Therefore, 8 x (4 x 5) = (8 x 4) x 5

**Example 1 : Find 12** x **35 using suitable property .**
Solution : 12 x 35 = ( 6 x 2 ) x 35 = 6 x ( 2 x 35 ) = 6 x 70 = 420

- **Additive and Multiplicative identity-**

(Refer to the link- https://www.youtube.com/watch?v=JZXFBf8NVPE)

For every whole number a , a + 0 = a.
Therefore '**0' is called the Additive identity.**
E.g - 19 + 0 = 19

For any whole number a, a x 1 = a
Since any number multiplied by 1 doesn't change its identity, hence, **1 is called as multiplicative identity** of a whole number.
E.g -: 21 x 1 = 21

**Multiplication by zero**:
For any whole number a, a x 0 = 0.
Eg -: 25 x 0 = 0

**POINTS TO REMEMBER-**

- Addition and multiplication, both, are associative for whole numbers.
- Zero is the identity for addition of whole numbers.
- The whole number 1 is the identity for multiplication of whole numbers.



**ASSIGNMENT**

**(EXERCISE - 2.2 Q1 AND Q2 from N.C.E.R.T and extra questions to be done in notebook)**

**EXTRA QUESTIONS**

**Q.1. Simplify by using suitable re-arrangement :**

(i) 4 × 537 × 25

(ii) 8212 + 284 + 788 + 716

**Q2.Which of the following will not represent zero .**

(a) 1 +0 (b) 0 x 0 (c) $\frac{0}{2}$ (d) $\frac{10-10}{2}$