

SAINIK SCHOOL MAINPURI
SUBJECT – MATHEMATICS
CLASS - 7
Chapter-1 (INTEGERS)
NOTES

Introduction

We use numbers to count anything. So, what are various types of numbers?

Natural Numbers

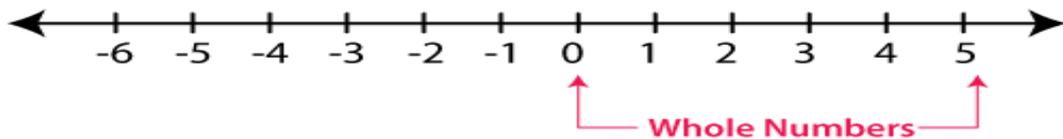
Natural numbers are counting numbers but these set of numbers do not include zero. This is because you cannot count zero. So numbers, 1,2,3,4,5,6.....etc are all **natural numbers**

Whole Numbers

- All natural numbers along with zero are called **whole number**. For example 0, 1, 2, 3, 4, 5, 6.....etc are all whole numbers.

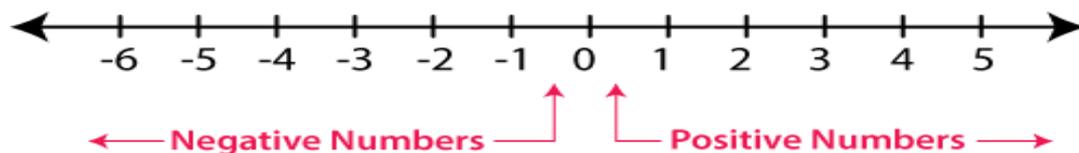
NOTE:- These types of numbers do not include fractions.

From the definition of natural numbers we can conclude that every natural or counting number is a whole number.



Negative Numbers

- The numbers with a negative sign and which lies to the left of zero on the number line are called negative numbers.



Integers

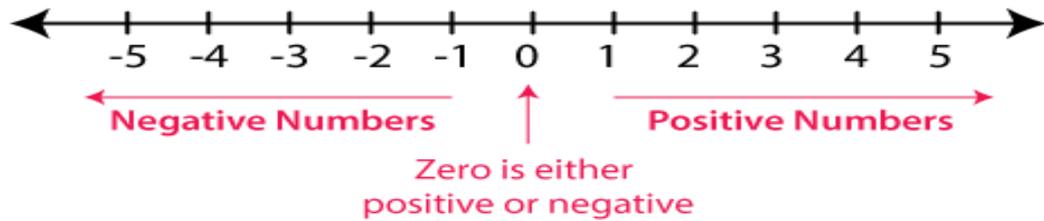
Integers include all natural numbers, zero and negative numbers for example, -4, -3, -2, -1, 0, 1, 2, 3, etc are all integers.

So now we have,

- Positive integers:- 1, 2, 3,
- Negative integers:- -1, -2, -3,
- 0 (zero):- which is an integer that is neither negative nor positive.

Note:- Integers like whole numbers do not include **fractions** for example 3.5 , $\frac{1}{2}$ etc.

Representing Integers on the Number Line



- Draw a line and mark a point as 0 on it
- Points marked to the **left** (-1, -2, -3, -4, -5, -6) are called **negative** integers.
- Points marked to the **right** (1, 2, 3, 4, 5, 6) or (+1, +2, +3, +4, +5, +6) are called **positive** integers.

Important note:- If the number has no sign attached to it as prefix then it means that it is a positive number.

For example number 3 is really number +3

Absolute value of an integer

- Absolute value of an integer is the **numerical value** of the integer **without** considering **its sign**.
- Example: Absolute value of -7 is 7 and of +7 is 7.

Ordering Integers

- On a number line, the number increases as we move towards right and decreases as we move towards left.
- Hence, the order of integers is written as..., -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5...
- Therefore, $-3 < -2$, $-2 < -1$, $-1 < 0$, $0 < 1$, $1 < 2$ and $2 < 3$.

