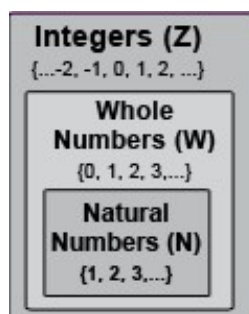


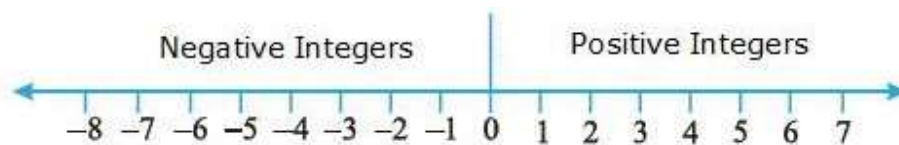
# MATHS

## Integers

1. Numbers used for counting are called natural numbers.
2. There are situations when we need to use numbers with a negative sign. This is when we need to go below zero on the number line. Such numbers are called negative numbers. Some examples are temperature scale, water level in lake or river, etc.
3. The collection of numbers  $\dots, -4, -3, -2, -1, 0, 1, 2, 3, 4, \dots$  is called integers. Here  $\dots, -4, -3, -2, -1$  are called negative integers and  $1, 2, 3, 4, \dots$  are called positive integers. 0 is neither positive nor negative, it is simply an integer.



4. Integers can be represented on number line as shown below:



5. Ordering of integers
  - i. The value of number increases as we move towards the right, on number line.
  - ii. Every positive integer is greater than every negative integer.
  - iii. 0 is less than every positive integer.
  - iv. 0 is greater than every negative integer.
6. Addition and subtraction of integers can also be shown on a number line.
7. The number which is one more than the given number is called its successor. The number which is one less than the given number is called its predecessor.
8.  $-a$  and  $a$  are negatives, or additive inverses, of each other.
9. The absolute value of an integer is its numerical value regardless of its sign.

10. Addition and subtraction of integers:

- i. When two positive integers are added, we get a positive integer.
- ii. When two negative integers are added, we get a negative integer.
- iii. When one positive and one negative integers are added we subtract them and put the sign of the bigger integer in the result. The bigger number is decided by ignoring the signs of the integers.
- iv. The subtraction of an integer is the same as the addition of its additive inverse.