## **CHAPTER-5**

## Average



Raju has a milkman living in his neighbourhood. One day Raju asked him how much milk do you get everyday? The milkman told him 30 liters. Raju said, "You have 5 cows which means each cow gives around 6 litre of milk." The milkman said, "No, some cow gives more than 6 litre and some give less than 6 litre, but in all there is a total of 30 litre of milk.

- Raju : How is that? I don't understand.
- Milkman : The white cow gives 3 liters, the red one gives 4 litre, the brown cow gives 6 litre and both the black ones give 7 and 10 litre respectively. Does it not add to give 30 liters?

Raju could not understand this and he thought a lot about it, After going to school he asked his teacher if 5 cows give a total of 30 liters milk each cows would give 6 liters but the milkman told him that the cows gave 3,4,6,7 and 10 liters of milk.

Teacher	:	Raju what is the least amount of milk given by the cows.
Raju	:	3litre.
Teacher	:	And the maximum amount?
Raju	:	10 litre.
Teacher	:	The 6 litre you talked about is in the middle of these two. The measure of this middle value is known as an average.
Raju	:	How did we get this average?
Teacher	:	The very method by which you found it. Come let us do it on the blackboard and understand this properly.

## Average

The number of cows = 5

The amount of milk given by each = 3,4,6,7 and 10 litres

The total quantity of milk = 3+4+6+7+10 = 30 litres

If all the cows were to give same amount of milk then

each would give =  $30 \div 5 = 6$  litres

Hence each cow gives an average of 6 litres milk. Let as take another example to understand this.

One student measured the height of his classmates and wrote it down as follows:-

Name	Height (in cms)
Santosh	125
Mona	123
Anju	133
Salma	124
Vineet	140
Yash	131
Neha	120

Now let us find the average height of the students

Number of children = 7 The total of their heights = 125+123+133+124+140+131+120 cm Average = 896 cm  $\div$  7 Hence the average height = 128 cm

From the examples given above we can see that the numbers are giving some information. These numbers are called observations.

The height of the students can be taken as observations.

: Average	=	Sum of all the observations	
··· / Woluge		Total number of observations	

## Maths - 5

Example 1: In a primary school in Navagaon, the attendance of the students of classes 1 to 5 on Tuesday was respectively 15,17,15,14 and 19. What was the average attendance in a class on Tuesday?

The attendance of classes 1 to 5 was 15,17,15,14 and 19

Number of observations	= 5	
Average attendance	Sum of all the observations	
Average attendance	Total number of observations	
Average attendance	$=\frac{15+17+15+14+19}{5}$	
	$= 80 \div 5$	
	= 16	

Hence the average attendance of students of classes 1 to 5 on Tuesday was 16

**Example 2 :** There are 6 rows in a mango grove. There are 10,15,12,10,11 and 14 trees respectively in the rows. So what is the average number of trees in each row?

Average	_	Sum of the observations
Tweidge	—	Total number of observations

Average	$=\frac{10+15+12+10+11+14}{6}$
	$=72 \div 6$
	=12

Thus, there are 12 trees on an average in each row in the mango grove.



- 1. A vegetable vendor's earnings in 5 days were Rs. 45, Rs. 50, Rs. 43, Rs. 52 and Rs. 60 respectively. What was his average earning?
- 2. Ramlal has 3 cows which give 12 litre, 8 litre and 7 litre of milk respectively. So what is the average milk given by Ramlal's cows?

- 3. The weight of four students of class 4 is 27,23,28 and 30 kg respectively. Find the average weight.
- 4. Deepak secured 38 marks in Hindi, 42 in Mathematics, 41 in environmental science and 65 in English during quarterly examination. Find the average marks.
- 5. Rukhsana has 6 vessels of 25,27,24,32,33 and 15 litre respectively. Find the average capacity of the 6 vessels.
- 6. A family of five members have a monthly income of Rs. 1650, Rs. 2500, Rs. 2300, Rs. 2000 and 1900 respectively. What is their average income?
- 7. Amit paid Rs. 180, Rs. 140, Rs 210, Rs. 785, Rs. 205 and Rs. 208 respectively as the telephone bill for 6 months. So what was the average payment that he made each month?
- 8. A cricketer made 60, 75, 100, 25 and 50 runs respectively in five matches. So what was his average score in each match?
- 9. Niti, Riti, Ranu and Sweety, Paro and Shalu made respectively 24, 23, 15, 40, 25 and 35 chapattis. What was the average number of chapattis made by each?
- 10. One vegetable vender sold respectively 250, 275, 310, 280, 320, 300, 330 Rupees worth of vegetables in a week. So what was his average sale in that week?

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