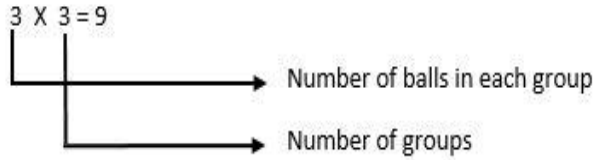
Multiplication

Basics of Multiplication

In class-I, we have learnt some basic concept of multiplication. Here we will go little in depth of multiplication.As we know, multiplication is nothing, but the repeated addition and it denoted as 'X' sign. The result of multiplication is known as product.

We have 3 balls in 3 groups.
So total number of balls = 3 + 3 + 3 = 9

OR



Multiplication Tables

In class-I, we have learnt multiplication table up to 5. Here, we will learn till 15. Try to memorize all the
below mentioned tables for quicker problem resolution.

Table – 2	
2 X 1 = 2	Two ones are two
2 X 2 = 4	Two twos are four
2 X 3 = 6	Two threes are six
2 X 4 = 8	Two fours are eight
2 X 5 = 10	Two fives are ten
2 X 6 = 12	Two sixes are twelve
2 X 7 = 14	Two sevens are fourteen
2 X 8 = 16	Two eights are sixteen
2 X 9 = 18	Two nines are eighteen
2 X 10 = 20	Two tens are twenty

Table – 3	
3 X 1 = 3	Three ones are three
3 X 2 = 6	Three twos are six
3 X 3 = 9	Three threes are nine
3 X 4 = 12	Three fours are twelve
3 X 5 = 15	Three fives are fifteen
3 X 6 = 18	Three sixes are eighteen
3 X 7 = 21	Three sevens are twenty one
3 X 8 = 24	Three eights are twenty four
3 X 9 = 27	Three nines are twenty seven
3 X 10 = 30	Three tens are thirty

Table – 4	
4 X 1 = 4	Four ones are four
4 X 2 = 8	Four twos are eight
4 X 3 = 12	Four threes are twelve
4 X 4 = 16	Four fours are sixteen
4 X 5 = 20	Four fives are twenty
4 X 6 = 24	Four sixes are twenty four
4 X 7 = 28	Four sevens are twenty eight
4 X 8 = 32	Four eights are thirty two
4 X 9 = 36	Four nines are thirty six
4 X 10 = 40	Four tens are forty

Table – 5	
5 X 1 = 5	Five ones are five
5 X 2 = 10	Five twos are ten
5 X 3 = 15	Five threes are fifteen
5 X 4 = 20	Five fours are twenty
5 X 5 = 25	Five fives are twenty five
5 X 6 = 30	Five sixes are thirty
5 X 7 = 35	Five sevens are thirty five
5 X 8 = 40	Five eights are forty
5 X 9 = 45	Five nines are forty five
5 X 10 = 50	Five tens are fifty

Table – 6	
6 X 1 = 6	Six ones are six
6 X 2 = 12	Six twos are twelve
6 X 3 = 18	Six threes are eighteen
6 X 4 = 24	Six fours are twenty four
6 X 5 = 30	Six fives are thirty
6 X 6 = 36	Six sixes are thirty six
6 X 7 = 42	Six sevens are forty two
6 X 8 = 48	Six eights are forty eight
6 X 9 = 54	Six nines are fifty four
6 X 10 = 60	Six tens are sixty

Table – 7	
7 X 1 = 7	Seven ones are seven
7 X 2 = 14	Seven twos are fourteen
7 X 3 = 21	Seven threes are twenty one
7 X 4 = 28	Seven fours are twenty eight
7 X 5 = 35	Seven fives are thirty five
7 X 6 = 42	Seven sixes are forty two
7 X 7 = 49	Seven sevens are forty nine
7 X 8 = 56	Seven eights are fifty six
7 X 9 = 63	Seven nines are sixty three
7 X 10 = 70	Seven tens are seventy

Table – 8	
8 X 1 = 8	Eight ones are Eight
8 X 2 = 16	Eight twos are sixteen
8 X 3 = 24	Eight threes are twenty four
8 X 4 = 32	Eight fours are thirty two
8 X 5 = 40	Eight fives are forty
8 X 6 = 48	Eight sixes are forty eight
8 X 7 = 56	Eight sevens are fifty six
8 X 8 = 64	Eight eights are sixty four
8 X 9 = 72	Eight nines are seventy two
8 X 10 = 80	Eight tens are eighty

Table – 9	
9 X 1 = 9	Nine ones are nine
9 X 2 = 18	Nine twos are eighteen
9 X 3 = 27	Nine threes are twenty seven
9 X 4 = 36	Nine fours are thirty six
9 X 5 = 45	Nine fives are forty five
9 X 6 = 54	Nine sixes are fifty four
9 X 7 = 63	Nine sevens are sixty three
9 X 8 = 72	Nine eights are seventy two
9 X 9 = 81	Nine nines are eighty one
9 X 10 = 90	Nine tens are ninety

Table – 10	
10 X 1 = 10	Ten ones are ten
10 X 2 = 20	Ten twos are twenty
10 X 3 = 30	Ten threes are thirty
10 X 4 = 40	Ten fours are forty
10 X 5 = 50	Ten fives are fifty
10 X 6 = 60	Ten sixes are sixty
10 X 7 = 70	Ten sevens are seventy
10 X 8 = 80	Ten eights are eighty
10 X 9 = 90	Ten nines are ninety
10 X 10 = 100	Ten tens are hundred

Table – 11	
11 X 1 = 11	Eleven ones are Eleven
11 X 2 = 22	Eleven twos are twenty two
11 X 3 = 33	Eleven threes are thirty three
11 X 4 = 44	Eleven fours are forty four
11 X 5 = 55	Eleven fives are fifty five
11 X 6 = 66	Eleven sixes are sixty six
11 X 7 = 77	Eleven sevens are seventy seven
11 X 8 = 88	Eleven eights are eighty eight
11 X 9 = 99	Eleven nines are ninety nine
11 X 10 = 110	Eleven tens are one hundred ten

Table – 12	
12 X 1 = 12	Twelve ones are twelve
12 X 2 = 24	Twelve twos are twenty four
12 X 3 = 36	Twelve threes are thirty six
12 X 4 = 48	Twelve fours are forty eight
12 X 5 = 60	Twelve fives are sixty
12 X 6 = 72	Twelve sixes are seventy two
12 X 7 = 84	Twelve sevens are eighty four
12 X 8 = 96	Twelve eights are ninety six
12 X 9 = 108	Twelve nines are one hundred eight
12 X 10 = 120	Twelve tens are one hundred twenty

Table – 13	
13 X 1 = 13	Thirteen ones are thirteen
13 X 2 = 26	Thirteen twos are twenty six
13 X 3 = 39	Thirteen threes are thirty nine
13 X 4 = 52	Thirteen fours are fifty two
13 X 5 = 65	Thirteen fives are sixty five
13 X 6 = 78	Thirteen sixes are seventy eight
13 X 7 = 91	Thirteen sevens are ninety one
13 X 8 = 104	Thirteen eights are one hundred four
13 X 9 = 117	Thirteen nines are one hundred seventeen
13 X 10 = 130	Thirteen tens are one hundred thirty

Table – 14	
14 X 1 = 14	Fourteen ones are fourteen
14 X 2 = 28	Fourteen twos are twenty eight
14 X 3 = 42	Fourteen threes are forty two
14 X 4 = 56	Fourteen fours are fifty six
14 X 5 = 70	Fourteen fives are seventy
14 X 6 = 84	Fourteen sixes are eighty four
14 X 7 = 98	Fourteen sevens are ninety eight
14 X 8 = 112	Fourteen eights are one hundred twelve
14 X 9 = 126	Fourteen nines are one hundred twenty six
14 X 10 = 140	Fourteen tens are one hundred forty

Table – 15	
15 X 1 = 15	Fifteen ones are fifteen
15 X 2 = 30	Fifteen twos are thirty
15 X 3 = 45	Fifteen threes are forty five
15 X 4 = 60	Fifteen fours are sixty
15 X 5 = 75	Fifteen fives are seventy five
15 X 6 = 90	Fifteen sixes are ninety
15 X 7 = 105	Fifteen sevens are one hundred five
15 X 8 = 120	Fifteen eights are one hundred twenty
15 X 9 = 135	Fifteen nines are one hundred thirty five
15 X 10 = 150	Fifteen tens are one hundred fifty

Multiplication of 2-Digit Number by 1-Digit Number

Follow the below mentioned rules for this kind of multiplication where there is no carry over.

1. Write both the numbers according to the place value.
2. Bigger number should occupy the upper row and single digit number should occupy the second row as shown below

3. Multiply the single digit present in 2nd row with the ones place of the 2-digit number. Write the result in ones place

4. Multiply the single digit present in 2nd row with the tens place of the 2-digit number. Write the result in tens place

Example 1. Multiply 34 by 2.

Solution.
1. Write 34 and 2 according to their place value. 34 should remain in the top row.
2. Multiply 2 with 4 = 2 X 4 = 8.Write 8 in the ones column.

T	O
3	4
X	2
	8

3. Multiply 2 with 3 = 2 X 3 = 6

T	O
3	4
X	2
6	8

Write 6 in tens place as shown.
So, the answer is 68.

Example 2. Multiply 26 by 3.

Solution.
1. Write 26 and 3 according to their place value. 26 should remain in the top row.

2. Multiply 3 by 6 = 3 X 6 = 18 = 10 ones + 8 Ones = 1 Ten + 8 Ones

Write 8 ones in ones place and 1 ten in tens place. This 1 ten is known as carry over.

T	O
1	
2	6
X	3
	8

3. Multiply 3 by 2 = 3 X 2 = 7

Add 1 (carry over) to 7 = 1 + 7 = 8

Write 8 in tens column.

T	O
1	
2	6
X	3
8	8

So, the answer is 88.

Multiplication of 3-Digit Number by 1-Digit Number

Process of multiplying 3-digit number by 1-digit number is like the process of multiplying 2-digit number by 1-digit number.
Let see some examples.

Example 1. Multiply 158 by 4.

Solution.
Step 1. Multiply ones column

8 X 4 = 32 = 3 tens + 2 ones

Write 2 in ones place and carry over 3 to tens place.

H	T	O
	3	
1	5	8
X		4
		2

Step 2. Multiply tens column

5 X 4 = 20

Add 3 tens (Carry over) with 20 tens = 20 + 3 = 23 tens = 20 tens + 3 tens

= 2 hundred + 3 tens

Write 3 tens in tens column and carry over 2 hundreds to hundred column.

H	T	O
2	3	
1	5	8
X		4
	3	2

Step 3. Multiply hundreds column. 1 x 4 = 4

Add 2 hundreds (Carry over) with 4 hundred

= 4 + 2 = 6 hundred

Write 6 hundred in hundreds column.

H	T	O
2	3	
1	5	8
X		4
6	3	2

So , the answer is 632.

Multiplication by 10,20,30

When we multiply any number with 10,20,30, etc. then multiply the number with the multiplicand without zero and add zero at the end of result.

Example 1. Multiply 36 by 10.

Solution. 36 X 1 = 36

Now add one zero to the extreme right of 36 i.e. 360.

Example 2. Multiply 36 by 20.

Solution. 36 X 2 = 72

Add one zero to the extreme right of 72 i.e. 720.

Example 3. Multiply 36 by 30.

Solution. 36 X 3 = 108
Add one zero to the extreme right of 108 i.e. 1080.

Word Problem

In our day to day life multiplication is used to solve different problems. Let's have a look at some examples.

Example 1. In a color box there are 12 colors present. How many colors will be there in 5 such color boxes.

Solution. Number of colors present in 1 box = 12

Number of colors present in 5 such boxes = No. of colors in 1 box X No. of boxes

= 12 X 5 = 60

So, 60 colors will be there in 5 color boxes.

Example 2. A jar contains 65 chocolates. How many chocolates do 8 similar jars contain?

Solution. No. of chocolates in a jar = 65

No. of chocolates present in 8 jars = No. of chocolates in a jar X No. of jars

= 65 X 8 = 520

So, there are 520 chocolates in 8 jars