



Mona went to visit a city along with her father. There she visited a bakery too. In the bakery, biscuits were being baked by the machines. She also saw the place where biscuits were being packed.

Mona — How many packets of biscuits are being packed in a carton?

Papa — 60 packets.

Mona — How many biscuits are kept in a packet ?

Papa — 12 biscuits.



Mona — This means, in a carton there are $60 \times 12 = \dots\dots\dots$ biscuits.

She solved — T O

$$\begin{array}{r} 60 \\ \times 12 \\ \hline 120 \\ + 600 \\ \hline 720 \end{array}$$

← 2 ones multiplied by 60
← 1 tens or 10 multiplied by 60
← Then both the products are added

Mona— There are 720 biscuits in a carton.

Papa, how many biscuits are baked in a month here?

Papa — Here, 10215 cartons of biscuits are packed in a month.

Now, you tell how many biscuits are baked in a month ?

Mona started calculating—

Number of biscuits in one carton = 720

Number of cartons of biscuits baked in a month = 10215

Then, total how many biscuits are baked in a month?

Mona knows that to add the same number again and again, we do multiplication.
Here, for adding 720 biscuits 10215 times, we will have to multiply 10215 by 720.

Mona solved — 10215×720

Mona knows $720 = 7 \text{ hundreds} + 2 \text{ tens} + 0 \text{ ones}$

$$720 = 700 + 20 + 0$$

$$\begin{aligned} \text{Hence, } 10215 \times 720 &= 10215 \times 700 + 10215 \times 20 + 10215 \times 0 \\ &= 7150500 + 204300 + 0 \\ &= 7354800 \text{ biscuits} \end{aligned}$$



She solved it like this too—

$$10215 \times 720$$

or

	T, Th	Th	H	T	O	
	1	0	2	1	5	
		X	7	2	0	
	0	0	0	0	0	← first, 0 ones multiplied by 10215
2	0	4	3	0	0	← then 2 tens or 20 multiplied by 10215
+ 7	1	5	0	5	0	← then 7 hundreds or 700 multiplied by 10215
7	3	5	4	8	0	← at the end, all the three products are added

Mona told— 7354800 biscuits are being baked in a month



Do it yourself—

$$\begin{array}{r} \bullet \quad 1 \quad 2 \quad 6 \quad 0 \quad 9 \\ \quad \times \quad 4 \quad 3 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \bullet \quad 1 \quad 4 \quad 8 \quad 7 \quad 4 \\ \quad \times \quad 5 \quad 0 \quad 9 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \bullet \quad 7 \quad 8 \quad 6 \quad 5 \quad 4 \\ \quad \times \quad 1 \quad 0 \quad 0 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \bullet \quad 4 \quad 0 \quad 3 \quad 5 \quad 9 \\ \quad \times \quad 2 \quad 0 \quad 0 \\ \hline \\ \hline \end{array}$$

Discuss what pattern should be followed when a number is multiplied by 100, 200, 300, and 1000, 2000, 3000, and draw the conclusion.



Let's revise

- The product of numbers do not change on changing their order.

Example— $46789 \times 100 = 100 \times 46789$

- The product of any number and 1 is the number itself.

Example— $50692 \times 1 = 50692$

- The product of any number and zero is always zero.

Example— $6435 \times 0 = 0$

Look, Understand and Do —

- There are 1590 sacks of wheat in Mohan's godown. If each sack contains 107 kg of wheat, how many kilograms of wheat does Sohan have ?

Number of wheat sacks in Sohan's godown = 1590

Quantity of wheat in each sack = 107 kg

Hence, the total quantity of wheat = 1590×107 kg

or,

	Th	H	T	O	
	1	5	9	0	
	X	1	0	7	
	1	1	1	3	0
	0	0	0	0	0
+1	5	9	0	0	0
	1	7	0	1	3
					0

← first, 7 ones multiplied by 1590

← then 0 tens or 0 multiplied by 1590

← then 1 hundred or 100 multiplied by 1590

← at the end all the three products are added

Sohan has total 170130 kilograms of wheat in his godown.



The teacher should make the children practise multiplication by three digit numbers and also make the students understand and practise the pattern of multiplication by 10, 100, 1000.....



- In Rajani's factory 32471 incense sticks are made in a day. If in a year 293 days are the working days, how many incense sticks (agarbatti) will be manufactured in a year ?

Number of working days in Rajani's factory = 293 days

Number of incense sticks manufactured in one day = 32471

Hence, number of incense sticks manufactured in a year = 32471×293

or

			T	Th	Th	H	T	O
			3		2	4	7	1
						X	2	9
								3
			9		7	4	1	3
+	2	9	2	2	3	9	0	
	6	4	9	4	2	0	0	
	9	5	1	4	0	0	0	3

In a year, 9514003 incense sticks will be manufactured in Rajani's factory.



Do it yourself—

- Cost of one iron almirah is 6572 rupees. A social service organisation decided to donate one such almirah to all the 935 primary schools of the district. How many rupees will be spent by the organisation for this work ?
- 40815 screws are being packed in a box, How many screws will be packed in such 238 boxes.

We have learnt

- The product of any number and 1 is the number itself.
- The product of any number and 0 is always zero.
- Identifying and solving the questions of multiplication in the word problems.



Exercise



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1. Fill in the blanks—

(a) $20545 \times 432 = \dots\dots\dots \times 20545$

(b) $46580 \times \dots\dots\dots = 307 \times \dots\dots\dots$

(c) $85321 \times 1 = \dots\dots\dots$ (d) $1 \times 57042 = \dots\dots\dots$

(e) $57054 \times 0 = \dots\dots\dots$ (f) $0 \times 78541 = \dots\dots\dots$

2. Find the product —

(a) 6354×639 (b) 9546×509 (c) 67509×123

(d) 54302×102 (e) 20503×542 (f) 19057×469

3. The cost of one scooter is 62519 rupees.
How many rupees will be required to buy
145 such scooters ?



4. A box contains 144 apples. 32275 such
boxes are kept in a fruit market. How many
total apples are there in the fruit market ?



5. A house produces 1200 g of garbage daily. How much
garbage will be produced by 7 such houses in 365 days ?
6. 11265 kilograms of goods can be carried by a truck.
Maximum how much goods can be carried by 762 such
trucks.

7. How many hours are there in a leap year ?