

UNDERSTANDING MULTIPLICATION



Warm Up

How many groups? How many in each group? How many in all? **ANS**

1. equal groups of in all.

2. equal groups of in all.

Addition fact $2 + 2 = 4$ Addition fact

Multiplication fact $2 \times 2 = 4$ Multiplication fact

3. equal groups of in all.

4. equal groups of in all.

Addition fact Addition fact

Multiplication fact Multiplication fact

This repeated addition is called multiplication. The sign for multiplication is \times .



MULTIPLYING BY 2



$2 + 2 + 2 + 2 + 2 + 2 = 12$ → repeated addition fact

6 groups of 2 each makes 12.

2 is added 6 times to make 12.

So, 6 times 2 is 12.

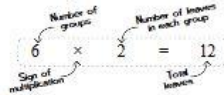
The multiplication fact is

$$\begin{array}{r} 6 \\ \times 2 \\ \hline 12 \end{array}$$



Quick TIP

- $6 \times 2 = 12$ is read as
- + 6 times 2 is 12, or
- + 6 twos are 12, or
- + 6 multiplied by 2 is 12, or
- + 6 into 2 is 12.



I Can Do It!

Do the following. **ANS**

There are two in a pair.

1. $2 + 2 + 2 + 2 + 2 =$ balloons
5 groups of 2 balloons each makes _____ balloons in all.
Multiplication fact _____

2. $2 + 2 + 2 + 2 + 2 + 2 =$ leaves
_____ groups of 2 leaves each makes _____ leaves in all.
Multiplication fact _____

3. $2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 =$ shoes
8 pairs of shoes make _____ shoes in all.
Multiplication fact _____

Exercise 4.1

A. Complete the table. **ANS**

1. Number of groups				
2. in a group				
3. in all				
4. Repeated addition fact				
5. Multiplication fact				

B. Match the addition fact with the correct picture and multiplication fact. **ANS**

1. $2+2+2+2+2+2+2+2$ a. 6×2

2. $2+2+2+2+2+2$ b. 3×2

3. $2+2+2+2+2$ c. 8×2

4. $2+2+2$ d. 7×2

5. $2+2+2+2+2+2+2+2+2$ e. 4×2

6. $2+2+2+2$ f. 9×2

Skip count by 2

Begin at 2 and click to colour every second number. **ANS**

Use the same colour for all the numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Type the numbers you have coloured. **ANS**

2	4	6	8						
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You see that the coloured boxes have numbers that end with 0, 2, 4, 6 and 8.

Read the 2 times table. Type the multiplication facts. **ANS**

	1 time 2 is 2.	$1 \times 2 = 2$
	2 times 2 is 4.	$2 \times 2 =$ _____
	3 times 2 is 6.	$3 \times 2 =$ _____
	4 times 2 is 8.	$4 \times 2 =$ _____
	5 times 2 is 10.	$5 \times 2 =$ _____
	6 times 2 is 12.	$6 \times 2 =$ _____
	7 times 2 is 14.	$7 \times 2 =$ _____
	8 times 2 is 16.	$8 \times 2 =$ _____
	9 times 2 is 18.	$9 \times 2 =$ _____
	10 times 2 is 20.	$10 \times 2 =$ _____

Skippy jumped 2 steps each time.



7 jumps of 2 steps each

How many times did Skippy jump? **ANS**

Write the multiplication fact. $\times =$



Exercise 4.2

A. Type the multiplication fact. **ANS**

MULTIPLICATION FACT

- _____ × _____ = _____
- _____ × _____ = _____
- _____ × _____ = _____
- _____ × _____ = _____
- _____ × _____ = _____

B. Type the correct number in . Type the multiplication fact. **ANS**

- jumps of 2 steps each, $6 \times 2 = 12$
- Draw over the dotted line.

jumps of 2 steps each, _____ × 2 = _____
- Draw the line to show the jumps.

5 jumps of 2 steps each, _____ × 2 = _____



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DOUBLES

Latha has 5 pencils. Ankita has double the number of pencils.

$$5 + 5 = 10$$

Double means adding the number to itself.

$$5 \times 2 = 10$$

It also means multiplying the number by 2.



I Can Do It!

10 Type the doubles. **ANS**

Number	Double	Number	Double	Number	Double	Number	Double
3	6	6		7		4	
8		1		2		9	

MULTIPLYING BY 5

10 Complete the table. **ANS**

1.	Number of groups	2			
2.	in a group	5			
3.	in all	10			
4.	Repeated addition fact	$5 + 5 = 10$			
5.	Multiplication fact	$2 \times 5 = 10$			



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Skip count by 5

1) Begin at 5 and click to colour every fifth number. **ANS**
Use the same colour for all the numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

2) Type the numbers you have coloured. **ANS**

5	10	15					
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The coloured boxes have numbers that end with **5** and **0**.

3) Read the 5 times table. Type the multiplication facts. **ANS**

	1 time 5 is 5.	$1 \times 5 = 5$
	2 times 5 is 10.	$2 \times 5 =$
	3 times 5 is 15.	$3 \times 5 =$
	4 times 5 is 20.	$4 \times 5 =$
	5 times 5 is 25.	$5 \times 5 =$
	6 times 5 is 30.	$6 \times 5 =$
	7 times 5 is 35.	$7 \times 5 =$
	8 times 5 is 40.	$8 \times 5 =$
	9 times 5 is 45.	$9 \times 5 =$
	10 times 5 is 50.	$10 \times 5 =$



Bunny wants to reach the grass. He jumps 5 steps each time. **ANS**



4 jumps of 5 steps each

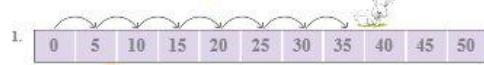
How many times does Bunny jump?

Write the multiplication fact. $___ \times ___ = ___$

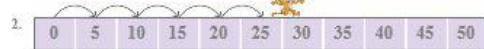


Exercise 4.3

1) Type the correct number in **5**. Type the multiplication fact. **ANS**



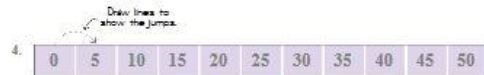
7 jumps of 5 steps each, $7 \times 5 = 35$



9 jumps of 5 steps each, $___ \times 5 = ___$



10 jumps of 5 steps each, $___ \times 5 = ___$



9 jumps of 5 steps each, $___ \times 5 = ___$



MULTIPLYING BY 10

Tina keeps her storybooks neatly.
 There are 3 shelves of books.
 Each shelf has 10 books.
 Repeated addition fact = $10 + 10 + 10 = 30$
 Multiplication fact = $3 \times 10 = 30$
 Total books = 30



10 Fill in . ANS

Ramu's shop has necklaces.

Each necklace has beads.

Repeated addition fact = _____

Multiplication fact = _____

Total beads = _____



Skip count by 10

10 Begin at 10 and click to colour every tenth number. ANS

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Use the same colour for all the numbers.



10 Type the numbers you have coloured. ANS

10	20	40					100
----	----	----	--	--	--	--	-----

The coloured boxes have numbers that end with .

10 Read the 10 times table. Type the multiplication fact. ANS

	1 time 10 is 10.	$1 \times 10 = 10$
	2 times 10 is 20.	$2 \times 10 =$ _____
	3 times 10 is 30.	$3 \times 10 =$ _____
	4 times 10 is 40.	$4 \times 10 =$ _____
	5 times 10 is 50.	$5 \times 10 =$ _____
	6 times 10 is 60.	$6 \times 10 =$ _____
	7 times 10 is 70.	$7 \times 10 =$ _____
	8 times 10 is 80.	$8 \times 10 =$ _____
	9 times 10 is 90.	$9 \times 10 =$ _____
	10 times 10 is 100.	$10 \times 10 =$ _____

The butterfly wants to reach the flower. She jumps 10 steps each time.



4 jumps of 10 steps each

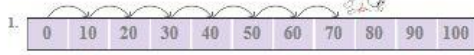
How many times does the butterfly jump? ANS

Write the multiplication fact. $\times =$

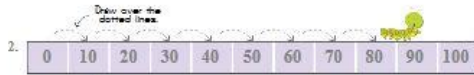


Exercise 4.4

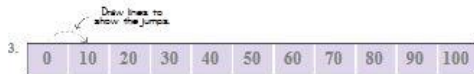
Fill in the blanks. **ANS**



jumps of 10 steps each, $7 \times 10 = 70$



jumps of 10 steps each, $___ \times 10 = ___$



6 jumps of 10 steps each, $___ \times 10 = ___$

MULTIPLYING BY 0

There are 3 flower pots in Sakshi's house. How many flowers are there in the pots?

There are 0 flowers.

$0 + 0 + 0 = ___$ flowers **ANS**

3 groups of 0 flowers each

$3 \times 0 = 0$



When you multiply any number by 0, the answer is always 0.

MULTIPLYING BY 1

Now Sakshi has put 1 flower in each pot.

$1 + 1 + 1 = ___$ flowers **ANS**

3 groups of 1 flower each

$3 \times 1 = 3$



When a number is multiplied by 1, the answer is the number itself.

I Can Do It!

Fill in. **ANS**

1. $4 \times 0 = ___$

2. $12 \times 1 = ___$

3. $21 \times 0 = ___$

4. $3 \times ___ = 3$

5. $7 \times ___ = 0$

6. $82 \times ___ = 82$

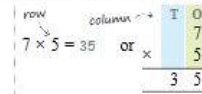
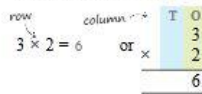
7. $___ \times 1 = 15$

8. $___ \times 1 = 6$

9. $100 \times ___ = 100$

Another way to write multiplication sums

You can write a multiplication sum in two ways: in a row or in columns.



Exercise 4.5

A. Use multiplication tables to fill in the blanks. **ANS**

1. $7 \times 2 = 14$

2. $3 \times 5 = ___$

3. $6 \times 10 = ___$

4. $4 \times 2 = ___$

5. $5 \times 2 = ___$

6. $9 \times 5 = ___$

7. $6 \times 2 = ___$

8. $4 \times 5 = ___$

9. $10 \times 10 = ___$

10. $9 \times 2 = ___$

11. $5 \times 10 = ___$

12. $7 \times 5 = ___$









B. Multiply. **ANS**

1.
$$\begin{array}{r} \text{T O} \\ 3 \\ \times 2 \\ \hline 6 \end{array}$$
 2.
$$\begin{array}{r} \text{T O} \\ 6 \\ \times 5 \\ \hline 30 \end{array}$$
 3.
$$\begin{array}{r} \text{T O} \\ 9 \\ \times 2 \\ \hline \end{array}$$
 4.
$$\begin{array}{r} \text{T O} \\ 7 \\ \times 2 \\ \hline \end{array}$$

5.
$$\begin{array}{r} \text{T O} \\ 7 \\ \times 5 \\ \hline \end{array}$$
 6.
$$\begin{array}{r} \text{T O} \\ 3 \\ \times 5 \\ \hline \end{array}$$
 7.
$$\begin{array}{r} \text{T O} \\ 8 \\ \times 5 \\ \hline \end{array}$$
 8.
$$\begin{array}{r} \text{T O} \\ 3 \\ \times 5 \\ \hline \end{array}$$

C. Click to colour the flower green if the answer is correct. Click to colour the flower red if the answer is incorrect. **ANS** ■ ■

1.
$$\begin{array}{r} \text{T O} \\ 10 \\ \times 2 \\ \hline 12 \end{array}$$
  2.
$$\begin{array}{r} \text{T O} \\ 7 \\ \times 2 \\ \hline 14 \end{array}$$
  3.
$$\begin{array}{r} \text{T O} \\ 6 \\ \times 2 \\ \hline 10 \end{array}$$
 

4.
$$\begin{array}{r} \text{T O} \\ 5 \\ \times 5 \\ \hline 25 \end{array}$$
  5.
$$\begin{array}{r} \text{T O} \\ 15 \\ \times 1 \\ \hline 12 \end{array}$$
  6.
$$\begin{array}{r} \text{T O} \\ 10 \\ \times 6 \\ \hline 60 \end{array}$$
 

D. Type T for True or F for False. **ANS**

1. 7 times 5 is 35. ● 2. 4 groups of 10 is 14. ●
 3. $2 + 2 + 2 + 2 = 10 \times 2$ ● 4. 9 multiplied by 2 is 18. ●
 5. $0 \times 2 = 2$ ● 6. $10 \times 10 = 110$ ●



STORY SUMS

1. Sanjeev used 10 sheets of paper to make a project. How many such sheets of paper will Sanjeev need to make 5 projects?

Number of sheets of paper Sanjeev needs to make 5 projects
 $= 10 \times 5 = 50$

Sanjeev needs 50 sheets of paper to make 5 projects.

2. In a neighbourhood there are 10 rows of houses. If there are 8 houses in each row, how many houses are there in the neighbourhood?

Number of houses in the neighbourhood = $10 \times 8 = 80$

There are 80 houses in the neighbourhood.



Exercise 4.6

Solve these sums. **ANS**

1. Rehana collects ₹10 coins. If she has collected 10 such coins, how much money does she have? $\text{●} \times \text{●} = \text{₹}$
 2. There are 9 trees in a park. If there are 2 monkeys on each tree, how many monkeys are there in the park? $\text{●} \times \text{●} = \text{●}$

1. Aman has 10 coins of ₹2 each. Alisha has 4 coins of ₹5 each. Can they together buy a ball that costs ₹40? **ANS**



HOTS Questions





Ma Maths Lab Activity

- A. Aim:** To understand multiplication as repeated addition
You will need: Notebook, colour pencils, dice and pencil



Steps

- Work in pairs.
- Student A rolls a dice. She/He calls out the number rolled, for example, 3. Student B draws 3 big circles.
- Now, Student B rolls the dice. She/He calls out the number rolled, for example, 5. Student A draws 5 dots in each big circle.
- One of them writes the addition fact: $5 + 5 + 5 = 15$
- The other one writes the multiplication fact: $3 \times 5 = 15$
They take turns to repeat steps 2 to 5.

B. Let's Play Pop!

Sit in a circle. Start counting from number 1. If the number to be called is in the table of 5, the student says POP instead of it.

For example, 1, 2, 3, 4, POP, 6, 7, 8, 9, POP!

If a student makes a mistake in calling out her/his number, she/he is out and the game begins once again.

The game can also be played using other multiplication tables.







Mental Maths

A. Tick (✓) the correct option. **ANS**

- 5 times 1 is
 - $1 + 1 + 1 + 1$.
 - $5 + 1$.
 - $1 \times 1 \times 1$.
 - 5×1 .
- $2 + 2 + 2$ is equal to
 - 3×2 .
 - $2 \times 2 \times 2$.
 - 2×1 .
 - 2×2 .
- $10 + 10 + 10 + 10$ is the same as
 - 4 times 10.
 - $4 + 10$.
 44.
 - 10×0 .
- 3×2 is the same as
 - $3 + 3 + 3$.
 - $2 + 5$.
 32.
 - $2 + 2 + 2$.
- Double of 6 means
 - $2 + 2$.
 - 2×6 .
 - $2 + 6$.
 3.

B. Tick (✓) the correct option. **ANS**

- The queen has 2 bags of coins. If there are 9 coins in each bag, how many coins does the queen have in all? 
 - 16
 - 17
 - 18
- Rohit bought 2 packets of candles. Each packet has 10 candles. How many candles does Rohit have? 
 - 20
 - 15
 - 5
- There are 5 baskets. Each basket has 7 oranges. How many oranges are there in all? 
 - 25
 - 35
 - 45
- Uncle Samant bought 5 boxes of apples. Each box has 10 apples. How many apples are there? 
 - 50
 - 40
 - 30



Worksheet

10 Joy, Mary, Mummy and Papa are at their farm. **ANS**

- 10 1. Joy puts 6 eggs in one tray.

How many eggs are there in 5 trays?

- 10 2. Mummy uses 2 tomatoes to make 1 bowl of soup.

How many tomatoes does she use to make 6 bowls of soup?

- 10 3. Papa milks the cows. He collects 3 jugs of milk from each cow.

How many jugs of milk does Papa collect from 10 cows?

- 10 4. Mary feeds 1 packet of grain to each goat.

How many packets of grain does she need to feed 9 goats?

