



TOPIC- MULTIPLES AND FACTORS

NAME - _____ CLASS IV/ SEC ____ DATE -01/12/2020 -04 /12/2020

Learning outcomes :

Each child will be able to :

- Observe the number patterns in relation to factors and generalise their properties.
- Develop the skill to apply the concept of factors in the given situations.

FACTORS

Factors

Hey! It's my birthday. I have got 24 toffees.

Oh! These are in a pile. Let's arrange them in a pattern.

See, I have arranged them on the table.

But there may be other ways also.

Write all the possible arrangements

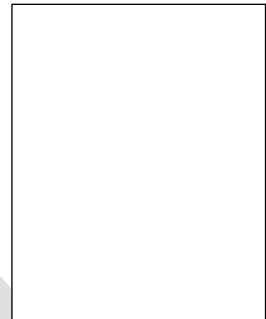
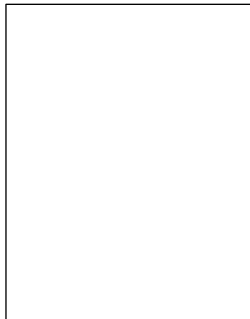
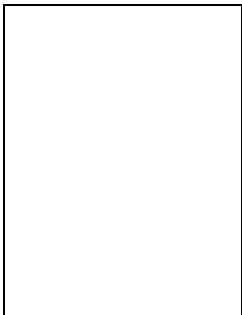
1 row of 24 toffees	2 rows of 12 toffees	3 rows of 8 toffees	4 rows of 6 toffees

× = 24
 × = 24
 × = 24
 × = 24

So, we can say that 24 is exactly divisible by 1, 2, 3, 4, 6, 8, 12 and 24.

Now, let's take one more example:

Arrange 12 shells/ stones in all possible rectangular arrays.



1x12 _____

Write all the possible arrangements.

1. _____ = 12

2. _____ = 12

3. _____ = 12

4. _____ = 12

So, we can say that 12 is exactly divisible by _____, _____,
_____, _____, _____.

FACTORS ARE THE EXACT DIVISORS OF A NUMBER.

When we multiply two or more numbers, the numbers being multiplied are called factors of the product and the product is called the multiple of those numbers which were being multiplied.

Example:

$$7 \times 5 = 35$$

- 7 and 5 are the factors of 35.
- 35 is the multiple of 7 and 5.

LET'S PRACTISE

Q1. Fill in the blanks:

- a. $3 \times 6 = 18$; So 3 and 6 are factors of _____.
- b. $8 \times 4 = 32$; So 8 and 4 are factors of _____.
- c. $2 \times 3 \times 9 = 54$; So _____, _____ and _____ are factors of 54.
- d. $2 \times 4 \times 3 = 24$; So _____, _____ and _____ are the factors of _____.
- e. $15 =$ _____ \times _____
- f. $20 =$ _____ \times _____
- g. The first factor of 9 is _____.
- h. $1 \times$ _____ $= 18$
- i. $3 \times$ _____ \times _____ $= 21$

USE THE FOLLOWING LINKS FOR THE BETTER UNDERSTANDING OF THE CONCEPT:

<https://youtu.be/bgox1vcitBY>

<https://youtu.be/cSm0rqc2Bv4>

Finding Factors

Let's Understand :

Example 1

Find the factors of 30.

$$\begin{array}{l} \downarrow \\ 1 \times 30 \\ 2 \times 15 \\ 3 \times 10 \\ 5 \times 6 \\ \uparrow \end{array}$$

Factors of 30 are:

1, 2, 3, 5, 6, 10, 15, 30.

Example 2

Find the factors of 81.

$$\begin{array}{l} \downarrow \\ 1 \times 81 \\ 3 \times 27 \\ 9 \times 9 \\ \uparrow \end{array}$$

Factors of 81 are:

Let's Have Fun :

Help Motu and Patlu to jump on marbles in the pond.

Let me jump on factors of 40. Colour the marbles red which are jumped on by Motu.

Let me jump on factors of 18. Colour the marbles blue which are jumped on by Patlu.

Marbles in the pond: 1, 5, 6, 3, 2, 11, 7, 4, 20, 15, 9, 8, 40, 10, 12, 5, 9, 2, 6, 4, 1, 8, 7, 3, 18, 9, 11, 13, 10, 14, 12.

Now, we have learnt about factors that:

- _____ is the factor of every number.
- The smallest factor of every number is _____.
- The largest factor of every number is _____.
- Factors of every number lies between _____ and _____.
- There are _____ factors of any number.
- Factors are _____ divisors of the number.
- The smallest factor of 25 is _____.
- The largest factor of 19 is _____.
- Factors of 20 lie between _____ and _____.

Q2. Find the factors of the following:

- 20
- 35
- 21
- 20
- 55