



BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI-110034
CLASS V SUBJECT- MATHEMATICS TERM 2 (2020-21)
TOPIC- FACTORS

NAME - _____ CLASS V/ SEC _____ DURATION - 09.11.2020 to 19.11.2020

LEARNING OUTCOMES: Each child will be able to:

- revise the properties of factors.
- find factors and common factors correctly of at least 4 or 5 numbers.
- apply the concept of factors correctly in 3 or 4 given situations.

Clap! Clap! Clap your hands.....

*Clap your hands on multiples of 2

*Clap your hands on multiples of 3

*Which number you clapped both times? What can this number be called?

LET'S REVISE:

FACTORS

We all know that:

The **numbers that are multiplied together** to give the product can divide the product completely, so they are called **factors**.

Example 1: $2 \times 4 \times 5 = 40$ So, 2, 4, and 5 are factors of 40 because 40 is exactly divisible by 2, 4 and 5.

$$40 \div 2 = 20$$

$$40 \div 4 = 10$$

$$40 \div 5 = 8$$

Example 2: $7 \times 9 = 63$ So, 7 and 9 are factors of 63 because 63 is exactly divisible by 7 and 9.

$$63 \div 7 = 9$$

$$63 \div 9 = 7$$

Let's watch these videos to know more about factors: <https://youtu.be/qc8LHRMs6FQ>
<https://youtu.be/0IZyGB1qQmM>

Let's do some activities to apply the concept of factors in different daily life situations.

Activity 1 : Arrange 24 toffees equally in rows and columns.



Write all the possible arrangements.

$$\square \times \square = 24$$

$$\square \times \square = 24$$

$$\square \times \square = 24$$

$$\square \times \square = 24$$

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

Activity 2 : Now arrange 36 marbles equally in rows and columns.

Arrange 36 marbles in all possible rectangular arrays.



$$1 \times 36 \quad \square \times \square \quad \square \times \square \quad \square \times \square \quad \square \times \square$$

Write all the possible arrangements.

$$\square \times \square = 36 \quad \square \times \square = 36$$

$$\square \times \square = 36 \quad \square \times \square = 36$$

$$\square \times \square = 36$$

So, we can say that 36 is exactly divisible by _____, _____, _____, _____, _____, _____, _____, and _____.

Now we see that

$$\underbrace{4 \times 9}_{\text{Exact divisors of 36}} = \underbrace{36}_{\text{Product (Multiple of 4 \& 9)}}$$

So, 4 and 9 are **factors** of 36 as they can divide 36 completely.

When we multiply two or more numbers, the numbers being multiplied are called factors of the product.



PRACTICE TIME: (TO BE DONE IN THE NOTEBOOK)

Q 1. Fill in the blanks:

- a) $3 \times \underline{\quad} = 24$ b) $7 \times \underline{\quad} = 91$ c) $8 \times \underline{\quad} = 48$ d) $\underline{\quad} \times 6 = 54$

Q 2. Is 9 a factor of 108? Yes / No _____

Why? _____

Q 3. Find any two factors of 120. _____ , _____

Q 4. Find all factors of:

- a) 48 - _____
b) 50 - _____
c) 18 - _____
d) 72 - _____
e) 100 - _____
f) 45 - _____

Q 5. The smallest factor of 35 is _____

COMMON FACTORS

Watch this video to understand COMMON FACTORS and HCF:

<https://youtu.be/KJ0D379OEmo>

EXAMPLE 1:

Find the common factors of 9 and 12.

The diagram illustrates the process of finding common factors for 9 and 12. On the left, under 'Factors of 9', the multiplication pairs 1×9 and 3×3 are shown with arrows pointing to the factors 1, 3, and 9. On the right, under 'Factors of 12', the multiplication pairs 1×12 , 2×6 , and 3×4 are shown with arrows pointing to the factors 1, 2, 3, 4, 6, and 12. A Venn diagram in the center shows two overlapping circles: a green circle for factors of 9 (1, 3, 9) and a yellow circle for factors of 12 (1, 2, 3, 4, 6, 12). The intersection of the two circles contains the numbers 1 and 3, which are labeled as 'Common Factors'.

Factors of 9 = 1, 3, 9
Factors of 12 = 1, 2, 3, 4, 6, 12
So, common factors of 9 and 12 are 1 and 3.
Thus, HCF of 9 and 12 is _____.

So, we observed that **1 and 3 are the common factors of 9 and 12**, as they both divide 9 and 12 exactly.

So, the **HCF (Highest Common Factor)** of 9 and 12 is _____

EXAMPLE 2:

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

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

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

Can you find which marbles will be jumped by Motu and Patlu both? _____

These marbles which will be jumped by Motu and Patlu both are called _____ of 18 and 40.

So, the **HCF (Highest Common Factor)** of 18 and 40 is _____

PRACTICE TIME:

- Common factors of 12 and 16 _____
- Common factors of 15 and 45 _____
- Common factors of 8 and 16 _____
- Common factors of 24 and 72 _____

POINTS TO REMEMBER

- Factors are the exact divisors of the number.
- 1 is the factor of every number.
- The smallest factor of every number is 1.
- The greatest factor of every number is the number itself.
- The factor of a number is smaller than or equal to the number.
- Every number has at least two factors 1 and itself. But the number 1 has only one factor.


LIFE SKILLS

(To be done at home)

LIFE SKILLS

Anju and Manju have joined a Hip-Hop dance class. For practice, the teacher told the 30 children of the class to group themselves equally in groups of 3 or more so that no child is left out. A group of more than 10 children is not allowed. How many groups can be formed?

NUMBER OF CHILDREN IN EACH GROUP	NUMBER OF GROUPS
3	10



AIL ACTIVITY: FACTOR FLOWERS CRAFTIVITY (To be done at home)

On an A4 sheet, create a colourful Garden Scene full of factor flowers. Choose a number and create its factor flower showing all factors of it.

