TOPIC- PRIME and COMPOSITE NUMBERS

NAME - _____ CLASS V/ SEC _____ WEEK - 23.11.2020 to 27.11.2020

LEARNING OUTCOMES:

Each child will be able to:

- identify prime and composite numbers correctly.
- observe/find at least 5-6 prime or composite numbers correctly in the number grid.
- find at least 5 – 6 pairs of twin primes correctly.

We studied the concept of factors last week, let us now do one activity to recapitulate the concept of factors.

Observe the given grid. Fill the natural numbers in the pattern shown and complete the grid. Colour the columns and observe the factors of the number.

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

N U M B E R S

What do we observe? _____

_____

**OBSERVATIONS:** (from the above grid)

1. Complete the factors observed:

Number on X-axis (Horizontal line)	Factors (FACTOR BAR) on Y-axis (Vertical line)
1	1
2	1, 2
3	1, 3
4	1, 2, 4
5	1, 5
6	1, 2, 3, 6
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

We observed that, some numbers have two factors, while others have more than two factors. (Refer to the **AIL ACTIVITY: FACTOR FLOWER CRAFTIVITY** also which we did last week)

❖ **The numbers that have only two factors i.e. 1 and itself** are 2, 3, 5, 7 _____ _____ and so on.

THESE NUMBERS ARE CALLED PRIME NUMBERS.
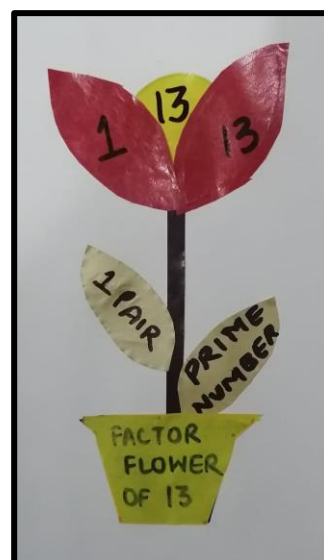
❖ **The numbers that have more than 2 factors are 4, 6, 8, 9, _____ and so on.**

THESE NUMBERS ARE CALLED COMPOSITE NUMBERS.

But, there is one number which has only 1 factor, i.e, 1 (One)

So, we can say that **1 (One) is a unique number which is neither prime nor composite.**

ACTIVITY 2

Let's do an activity to find prime and composite numbers between 1 and 100.

About 230 BC, a Greek Mathematician, Eratosthenes, developed a method of finding prime numbers. This method is called the **Sieve of Eratosthenes.**

Watch this YouTube video:- **https://youtu.be/xayZP1OXjQ4**

Sieve of Eratosthenes

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

★ Put red bindi on 1.
★ Put black bindi on 2 and cross out all the other even numbers.
★ Put black bindi on 3 and cross out all the multiples of 3.
★ Put black bindi on 5 and cross out all the multiples of 5.
★ Put a black bindi on 7 and cross out all the multiples of 7.
★ Put black bindis on all the numbers which are not crossed out.
★ Find out the number on which black bindis are pasted.

Observe the grid and answer the following

a) _____ is the smallest and only even prime number.
b) _____ is the smallest composite number.
c) _____ is the smallest odd composite number.
d) _____ has also one factor.
e) _____ is the smallest even composite number.
f) _____ is the smallest prime number

(TO BE DONE IN THE NOTEBOOK)

1. **List the prime numbers in each row.**

   1st Row: _____

   2nd Row: _____

   3rd Row: _____

   4th Row: _____

   5th Row: _____

   6th Row: _____

   7th Row: _____

   8th Row: _____

   9th Row: _____

   10th Row: _____

2. **The smallest prime number is _____.**

3. **The smallest composite number is _____.**

4. **_____ is the only even prime number.**

5. **The smallest odd composite number is _____.**

6. **_____ is neither prime nor composite.**

7. **The smallest prime number after 40 is _____.**

8. **The greatest prime number before 40 is _____**

9. **There are _____ prime numbers between 1 and 100.**

10. **Seven consecutive composite numbers are _____.**

11. **_____ and _____ are two consecutive prime numbers.**

12. **The smallest prime number after 55 is _____.**

13. **The greatest prime number before 76 is _____.**

14. **_____ is the only prime number between 90 and 100.**

15. **Find out all pairs of prime numbers which have a difference of 2 e.g. (3, 5) (5,7), (11, 13), (_____), (_____), (_____), (_____), (_____) etc.**
    (These pair of prime numbers are called TWIN PRIMES)

16. **The composite numbers between 30 and 40 _____.**

17. **The composite numbers between 80 and 100 _____**

    _____

18. **Find out such pairs of numbers which have only 1 as a common factor**

    _____

Do you know what these pairs of numbers are called?

(These pairs are called COPRIME NUMBERS)