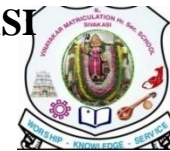


## TODAY'S TOPIC



## PATTERNS

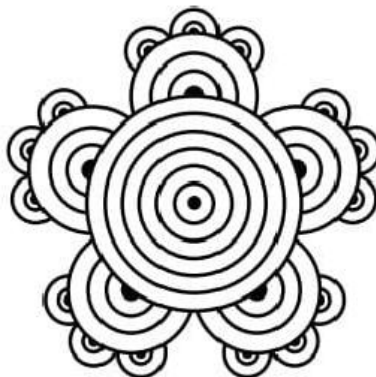


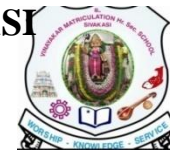
### 3.1 Iterative patterns and processes



#### Introduction

Rangoli is created by the **growing patterns** of colours and shapes. These are few rangolis exhibiting such patterns.





## PATTERNS OBTAINED BY ADDING NUMBERS

addition fact of 0	addition fact of 10										
$\begin{array}{r} 0 \\ + 0 \\ \hline 0 \end{array}$	$\begin{array}{r} 0 \\ + 10 \\ \hline 10 \end{array}$	$\begin{array}{r} 1 \\ + 9 \\ \hline 10 \end{array}$	$\begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array}$	$\begin{array}{r} 3 \\ + 7 \\ \hline 10 \end{array}$	$\begin{array}{r} 4 \\ + 6 \\ \hline 10 \end{array}$	$\begin{array}{r} 5 \\ + 5 \\ \hline 10 \end{array}$	$\begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array}$	$\begin{array}{r} 7 \\ + 3 \\ \hline 10 \end{array}$	$\begin{array}{r} 8 \\ + 2 \\ \hline 10 \end{array}$	$\begin{array}{r} 9 \\ + 1 \\ \hline 10 \end{array}$	$\begin{array}{r} 10 \\ + 0 \\ \hline 10 \end{array}$

addition fact of 1	addition fact of 11										
$\begin{array}{r} 0 \\ + 1 \\ \hline 1 \end{array}$	$\begin{array}{r} 1 \\ + 0 \\ \hline 1 \end{array}$	$\begin{array}{r} 1 \\ + 10 \\ \hline 11 \end{array}$	$\begin{array}{r} 2 \\ + 9 \\ \hline 11 \end{array}$	$\begin{array}{r} 3 \\ + 8 \\ \hline 11 \end{array}$	$\begin{array}{r} 4 \\ + 7 \\ \hline 11 \end{array}$	$\begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array}$	$\begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array}$	$\begin{array}{r} 7 \\ + 4 \\ \hline 11 \end{array}$	$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array}$	$\begin{array}{r} 9 \\ + 2 \\ \hline 11 \end{array}$	$\begin{array}{r} 10 \\ + 1 \\ \hline 11 \end{array}$



Find out the missing numbers and write them in the given blank.

$$\begin{array}{r} 23 \\ + 3\underline{7} \\ \hline 60 \end{array}$$

$$\begin{array}{r} 74 \\ + 5\underline{6} \\ \hline 130 \end{array}$$








$$\begin{array}{r} 45 \\ + 1\underline{6} \\ \hline 61 \end{array}$$

$$\begin{array}{r} 12 \\ + \underline{9}3 \\ \hline 105 \end{array}$$

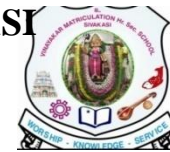
$$\begin{array}{r} 25 \\ + \underline{9}3 \\ \hline 118 \end{array}$$



## PATTERNS IN REPEATED ADDITION

'Multiplication' refers to 'repeated addition'.					
					
 Z6L2S2					
Example					
Pictorial representation					
Repeated addition statement	3	$3 + 3$	$3 + 3 + 3$	$3 + 3 + 3 + 3$	$3 + 3 + 3 + 3 + 3$
Multiplication fact	$1 \times 3 = 3$	$2 \times 3 = 6$	$3 \times 3 = 9$	$4 \times 3 = 12$	$5 \times 3 = 15$










### 3.4 Division as repeated subtraction

'Division' refers to 'repeated subtraction'.

**Example**







$$20 \div 4$$

Step: 1		$20 - 4 = 16$
Step: 2		$16 - 4 = 12$
Step: 3		$12 - 4 = 8$
Step: 4		$8 - 4 = 4$
Step: 5		$4 - 4 = 0$



## Activity 1:

Fill in the blanks with repeated addition & multiplication

1.		$3 + 3 + 3 = 9$ $3 \times 3 = 9$
2.		  
3.		  
4.		  
5.		  
6.		  

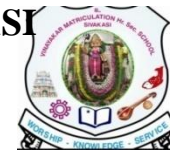
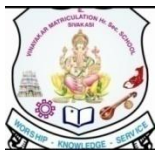


## Activity 2:

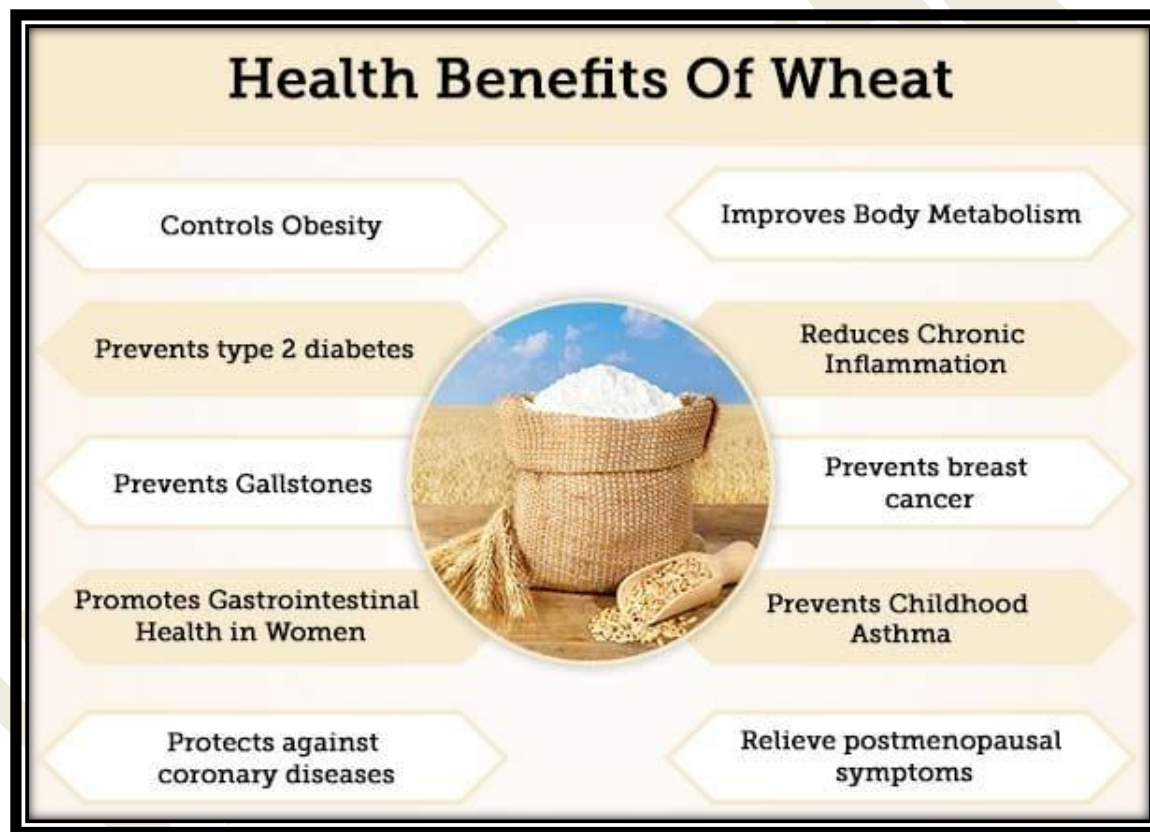
Solve the following division problems by using the method of repeated subtraction.

<p>1. <math>12 \div 3 =</math> <input type="text" value="4"/></p> <p><math>12 - 3 = 9</math> <math>9 - 3 = 6</math> <math>6 - 3 = 3</math> <math>3 - 3 = 0</math> So, <math>12 \div 3 = 4</math> Since 3 is subtracted 4 times to reach 0.</p>	<p>2. <math>20 \div 10 =</math> <input type="text"/></p>	<p>3. <math>35 \div 5 =</math> <input type="text"/></p>
<p>4. <math>24 \div 8 =</math> <input type="text"/></p>	<p>5. <math>63 \div 9 =</math> <input type="text"/></p>	<p>6. <math>45 \div 15 =</math> <input type="text"/></p>



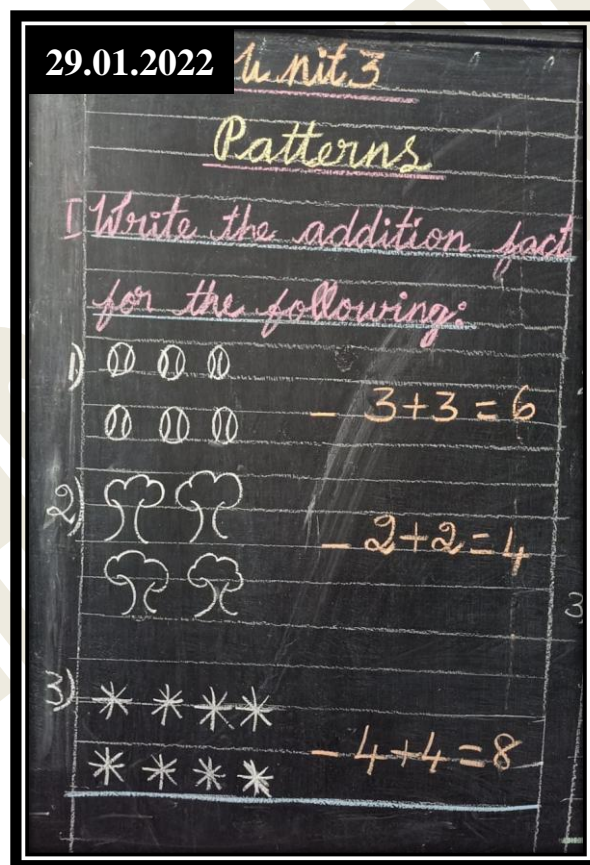


## Health Tips:





Today (29.01.2022) we are going to write the MATHS class work.  
Students write neatly. Use pen for writing.





DATE : 29.01.2022  
DAY : SATURDAY

3<sup>rd</sup> STD MATHS

WS NOTES-M02-9 pages  
CW NOTES-M02-5 pages



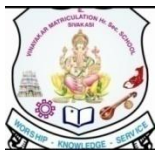
*II Write the Multiplication fact for the following:*

1)  $\triangle \triangle \triangle \triangle$   
 $\triangle \triangle \triangle \triangle = 2 \times 4 = 8$

2)  $\# \# \#$   
 $\# \# \# = 3 \times 3 = 9$   
 $\# \# \#$

3)  $\text{Ice cream cones}$   
 $\text{Ice cream cones} = 3 \times 5 = 15$   
 $\text{Ice cream cones}$

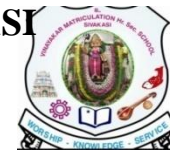




DATE : 29.01.2022  
DAY : SATURDAY

3<sup>rd</sup> STD MATHS

WS NOTES-M02-9 pages  
CW NOTES-M02-5 pages



III Match the following:

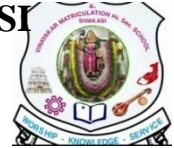
1) Multiplication - Repeated addition

2) Division - Repeated subtraction

3)  $6 \times 8$  - 48

4)  $7 + 7 + 7 + 7$  - 28

5)  $12 - 4 - 4 - 4$



IV Express the division facts as repeated subtraction using patterns:

a)  $15 \div 3$

Step 1:

$$\begin{array}{r} \text{oooooo} \\ \text{ooo} \\ 15 - 3 = 12 \end{array}$$

Step 2:

$$\begin{array}{r} \text{oooooooo} \\ \text{oo} \\ 12 - 3 = 9 \end{array}$$

Step 3:

$$\begin{array}{r} \text{oooooo} \\ \text{oo} \\ 9 - 3 = 6 \end{array}$$

Step 4:

$$\begin{array}{r} \text{oooo} \\ 6 - 3 = 3 \end{array}$$

Step 5:

$$\begin{array}{r} \text{ooo} \\ 3 - 3 = 0 \end{array}$$

Ans:

Number of steps = 5  
 $15 \div 3 = 5$





b)  $18 \div 6$

step 1:

○○○○○○○○○○  
○○○φφφφφφφ  
 $18 - 6 = 12$

step 2:

○○○○○○○○φφφ  
φφφ  
 $12 - 6 = 6$

step 3:

φφφφφφ  
 $6 - 6 = 0$

Ans: Number of steps = 3  
 $18 \div 6 = 3$

THANK YOU!