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SUBJECT: MATHS TITLE: PLAY WITH PATTERNS (NOTES)

CLASS:IV MONTH: NOVEMBER
























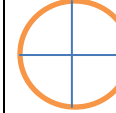
FROM THIS LESSON YOU WILL LEARN THE FOLLOWING:

***UNDERSTANDING PATTERNS AND COMPLETING INCOMPLETE PATTERNS.**

*** TO INCREASE YOUR REASONING SKILLS.**

*** HORIZONTAL LINE IS “ROW” AND VERTICAL LINE IS “COLUMN”.**

I.) COMPLETE THE PATTERN:

							
							
							
A B C	D E F	G H I	J K L	M N O	P Q R	S T U	V W X
26Z	25Y	24X	23W	22V	21U	20T	19S
864	764	664	564	464	364	264	164
9	109	209	309	409	509	609	709
11	22	33	44	55	66	77	88

MAKE A PATTERN WITHOUT NUMBERS:

A B Z	C D Y	E F X	G H W	I J V	K L U
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NO NUMBER COMES TWICE:

Look at the number box.can you see a pattern?

1	2	3
3	1	2
2	3	1

In this each row and column are different.

Now you try writing the letters – A , B , C in the box so that no letter comes twice in any line.

Ans: The following pattern is here.

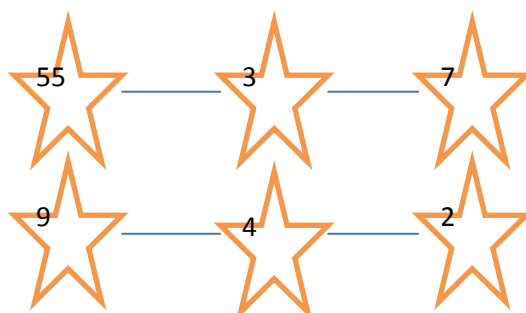
A	B	C
C	A	B
B	C	A

In this ,each row and column are different.

MAGIC PATTERNS:

Now you will fill these stars.Use numbers 1-9 and the rule that the numbers on each line add upto 15.

Ans: Here we take three numbers from 1 – 9 such that the sum is 15.

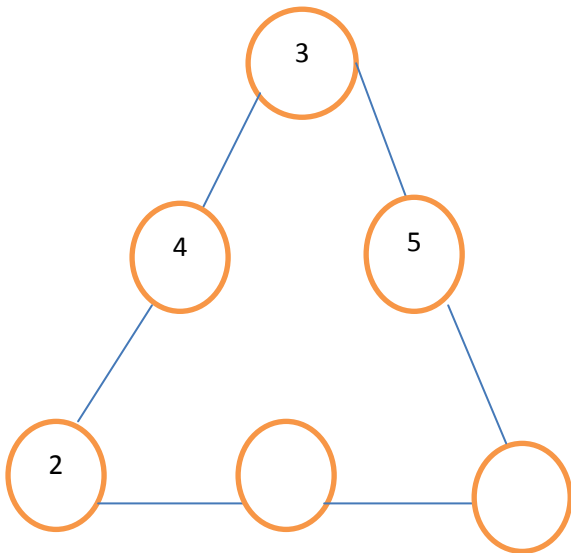




MAGIC TRIANGLES:

Look at this number pattern,

RULE: Numbers on each side of the triangle add upto 9.

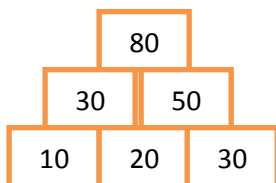


$$\bigcirc + \bigcirc + \bigcirc = 9$$

See if the other sides of the triangle also add upto 9.

NUMBER TOWERS:

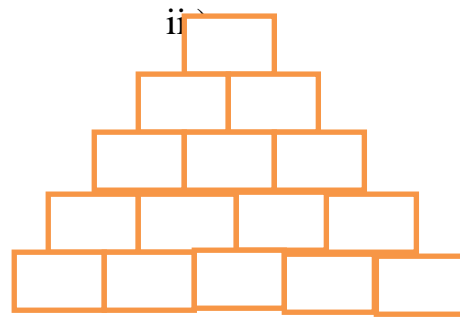
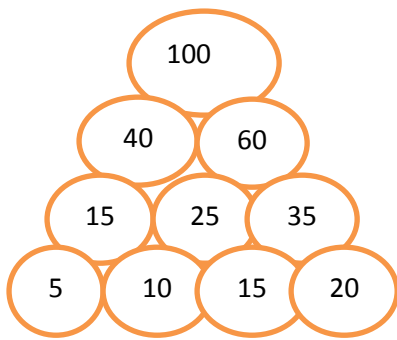
Numbers can be arranged as a tower. We start from below and get this number pattern.



RULE: We add 2 numbers below to get the number in the box above them.

- i.) $20 + 30 = 50$
- ii.) $30 + 50 = 80$

Using the same rule, complete the following number towers:



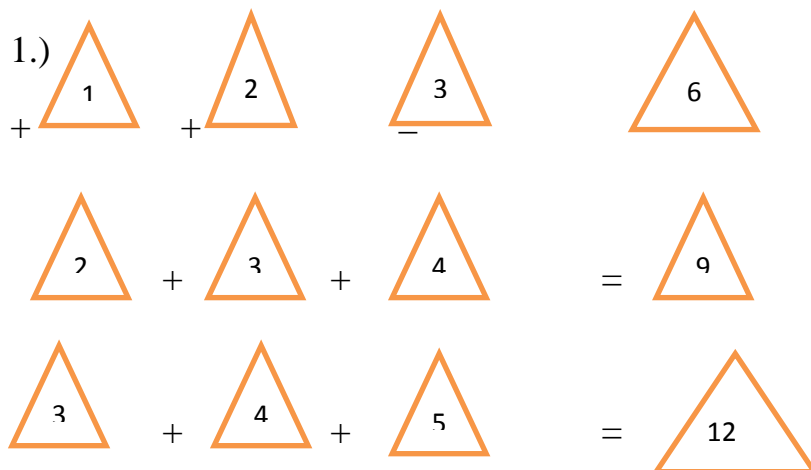
THE SAME SUM RULE:

Now you write any number and the three numbers after that. Make a pattern using the rule:

27	28	29	30
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27	+	30	=	57
28	+	29	=	57

PATTERNS WITH ADDITION:



Here the sum grows by 3 each time.

2.)

1	+	2	+	3	+	4	=	10
2	+	3	+	4	+	5	=	14
3	+	4	+	5	+	6	=	18

Here the sum grows by 4 each time.

3.)

1	+	2	+	3	+	4	+	5	=	15
2	+	3	+	4	+	5	+	6	=	20
3	+	4	+	5	+	6	+	7	=	25
4	+	5	+	6	+	7	+	8	=	30
5	+	6	+	7	+	8	+	9	=	35

Here the sum grows by 5 each time.

SECRET MESSAGES:

1.) Complete the list of letters and numbers to help you:

Ans:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
									0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6

2.) Teenu wants to write to his friend “GOOD MORNING”.What will he write by using the same rule?

Ans: Teenu will write : 7 15 15 4 13 15 18 14 9 14 7

3.) If we change the rule and write 1 in place of “B”, 3 in place of “D” and so on,then how will he write “LET US DANCE”?

Ans:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
2	1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
6										0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5

Here “LET US DANCE” will be written as

11 4 19 20 18 3 26 13 2 4

MORE SECRET MESSAGES:

1.) What was Kahuli’s secret message?

Ans: Message is XF BSF GSJFOET

New arrangement of letters for secret message is as follows:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A

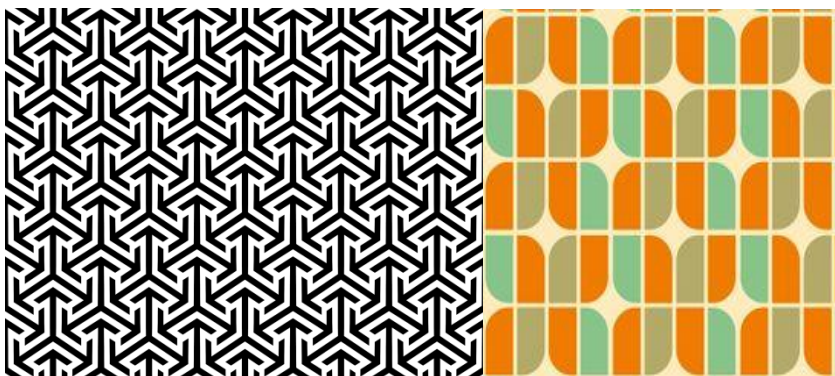
Therefore secret message means, “WE ARE FRIENDS”.

2.) Use the same rule to write- “MEET ME ON THE MOON”.

Ans: The secret message is NFFU NF PO UIF NPPO.

FLOOR PATTERNS:

Have you ever seen a floor with tiles of these shapes?



These designs are made by covering the floor completely with tiles that fit into each other without any gaps.