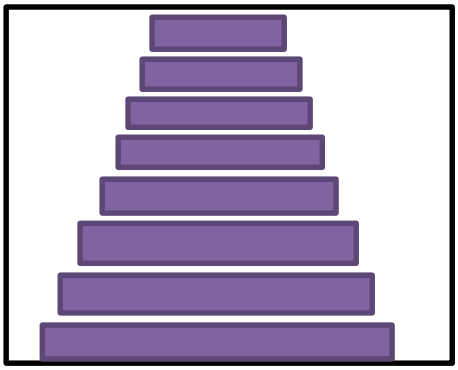
PATTERN AROUND US

Question 1:
Look around you and list three things in which you find some pattern.

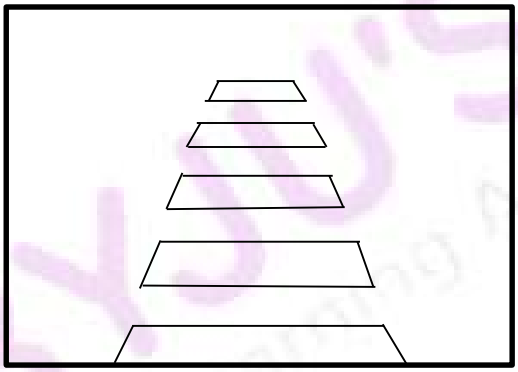
Answer:
Stairs, Giraffe, zebra, leopard.

Question 2:
Draw some patterns which you have found around yourself.

Answer:
Stairs



Zebra Crossing



Question 3:

You will see that these designs have been made by using the same block in different ways.
Can you see a pattern in the way each block is repeated?

Answer:
Yes, the same block has been used once in upward direction and then once in downward direction. Then the same is repeated.

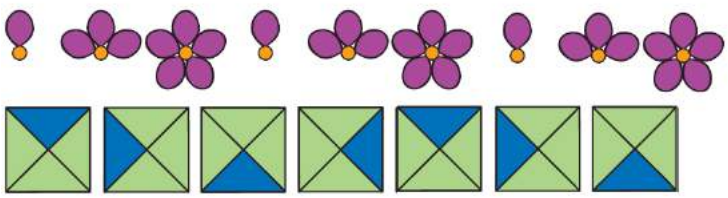
PRACTICE TIME
Question 1:
Given below are some patterns.
Figure out the rule for each and continue the pattern.

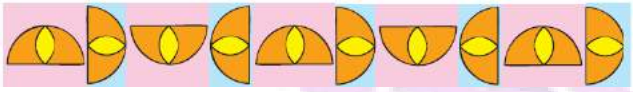
Answer:

Rule for each pattern:
(a) The pot colour is alternate red and blue.
(b) Two times A followed by B.
(c) In the first block, one flower petal is drawn; then 3 are drawn and then 5 petals.
(d) The blue triangle appears in the top, then left, then down and then right.
(e) The object rotates clockwise.
(f) The sequence is: morning, afternoon, evening, night.

Here are the complete patterns:

A A B A A B A A B

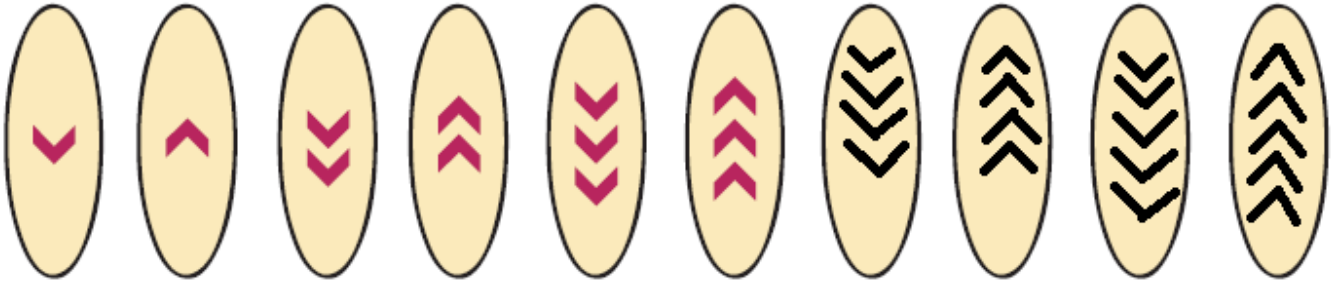




Morning, afternoon, evening, night, morning, afternoon, evening, night.

GROWING PATTERNS
Question 1:
Can you see the rule and continue the pattern?

Answer:
Yes the pattern is that the number of arrows grows by one every two ovals. The first two ovals have 1 arrow. The next two have 2 arrows, so on and so forth. Also, in each set of two, the first oval has downward arrow(s) and the next has upward arrow(s).



NUMBER PATTERNS
Question A:
Look for the rules and continue these growing patterns:

Answer:
(a) 51, 56, 61, 66, 71, 76, 81, 86
(b) 7, 14, 21, 28, 35, 42, 49, 56, 63
(c) 2, 4, 8, 16, 32, 64, 128, 256, 512
(d) 12A, 13B, 14C, 15D, 16E, 17F, 18G

Question B:
Look at these growing patterns. Find out what to add to each number to get the next one:

Answer:
(a) 1, 3, 6, 10, ___, ___, ___, ___, ___.
First number: 1
Second number: 3 (i.e. 1 + 2)
Third number: 6 (i.e. 3 + 3)
Fourth number: 10 (i.e. 6 + 4)

Thus, next number will be
10 + 5 = 15
15 + 6 = 21
21 + 7 = 28
28 + 8 = 36
36 + 9 = 45

So, the final pattern will be: 1, 3, 6, 10, 15, 21, 28, 36, 45.

(b) 0, 2, 6, 12, ___, ___, ___, ___, ___.
First number: 0
Second number: 2 (i.e. 0 + 2)
Third number: 6 (i.e. 2 + 4)
Fourth number: 12 (i.e. 6 + 6)

Thus, next number will be
12 + 8 = 20
20 + 10 = 30
30 + 12 = 42
42 + 14 = 56
56 + 16 = 72

So, the final pattern will be: 0, 2, 6, 12, 20, 30, 42, 56, 72.

(c) 1, 3, 7, 13, ___, ___, ___, ___, ___.
First number: 1
Second number: 3 (i.e. 1 + 2)
Third number: 7 (i.e. 3 + 4)
Fourth number: 13 (i.e. 7 + 6)

Thus, next number will be
13 + 8 = 21
21 + 10 = 31
31 + 12 = 43
43 + 14 = 57
57 + 16 = 73

So, the final pattern will be: 1, 3, 7, 13, 21, 31, 43, 57, 73.

(d) 2, 3, 6, 11, 18, ___, ___, ___, ___, ___.
First number: 2
Second number: 3 (i.e. 2 + 1)
Third number: 6 (i.e. 3 + 3)
Fourth number: 11 (i.e. 6 + 5)
Fifth number: 18 (i.e. 11 + 7)

Addition of sequence of odd numbers i.e. 1, 3, 5, 7 ...

Thus, next number will be
18 + 9 = 27
27 + 11 = 38
38 + 13 = 51
51 + 15 = 66
66 + 17 = 83

So, the final pattern will be: 2, 3, 6, 11, 18, 27, 38, 51, 66, 83.

SECRET MESSAGES
Question 1:
Can you tell what they are trying to say?

Answer:
WHERE ARE YOU
IN THE CANTEEN

Question 2:
These are two secret messages. Look for the patterns and find the hidden sentences.
1 I 2 L 3 O 4 V 5 E 6 Y 7 O 8 U
ATBHCIDS EBFOGOHK IIJS KFLUMN

Answer:
I LOVE YOU
THIS BOOK IS FUN

EVEN AND ODD NUMBER PATTERNS
Question 1:
What patterns do you see in these numbers? Continue the same pattern and fill in the blanks:
96, 98, ___, 102, ___, ___, ___, ___, ___.

Answer:
These numbers are called even numbers.
96, 98, 100, 102, 104, 106, 108, 110, 112.
We can continue this pattern till infinity i.e. there is no limit.

Question 2:
Do any of these even numbers end with 3 or 5?

Answer:
No, none of these numbers end with 3 or 5.

Question 3:
What do even numbers end with?

Answer:
Even numbers end with 0, 2, 4, 6, or 8.

Question 4:
Look at the pattern of numbers in blue. Continue the pattern and fill in the blanks:

Answer:
These numbers are called odd numbers.
99, 101, 103, 105, 107, 109, 111, 113.

Question 5:
What do the numbers in blue end with?

Answer:
The numbers in blue end with 1, 3, 5, 7 or 9.

Question 6:
Write all odd numbers between 400 and 410.

Answer:
401, 403, 405, 407, 409.

Question 7:
Write all even numbers between 155 and 165.

Answer:
156, 158, 160, 162, 164.

Question 8:
If we add 1 to any odd number we get an (even/odd) number.

Answer:
We get even number.

Question 9:
If we add 1 to any even number we get an (even/odd) number.

Answer:
We get odd number.

Question 10:
What do you get if you add an even number to an odd number?

Answer:
If we add an even number to an odd number, we get an **odd** number.
For instance, 3 + 2 = 5; 7 + 4 = 11.

NAMES IN AN ORDER
Question 1:
Adil has to arrange this list so that the names starting with A come first and then come those with B, C, D and so on. Number these names in the order in which they will come.

Answer:

Sharada	11	Mahadevan	8	Tsering	12	Adil	1
Gurinder	4	Baichung	2	Harsha	5	Raja	10
Narayan	9	Kavita	7	Warsha	13	Elvis	3
Jalaj	6						

Question 2:
Which of the following names have the same pattern?
Harsh, Anna, Kanak, Munna, Ongbi

Answer:
Anna, Kanak, Munna.