

Bhavya was drawing a rangoli outside her house.

Her mother came and told her- Bhavya leave the rangoli and go out and get me some Haldi. Your sister will complete the rangoli.

Bhavya's sister Navya completed the other half of the rangoli.



Are there any other ways in which you can divide this rangoli into halves that look alike?

Now Navya told Bhavya "I will draw half the rangoli. You complete it."

Help Navya complete the rangoli.

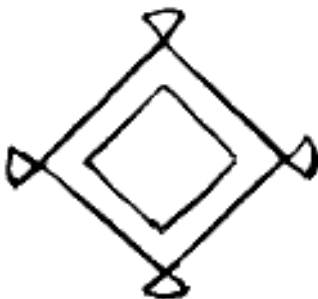
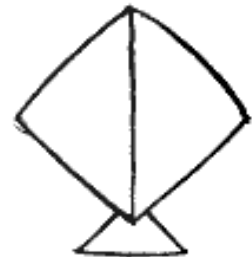
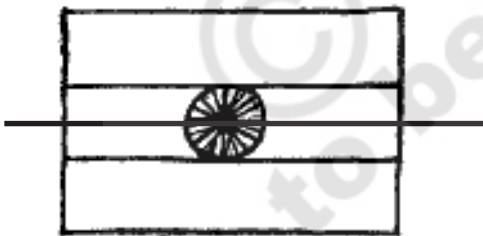
Put a mirror along the incomplete part. What do you find?

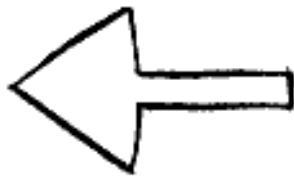
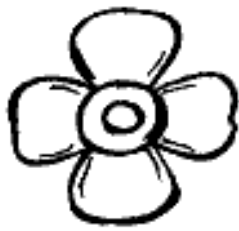




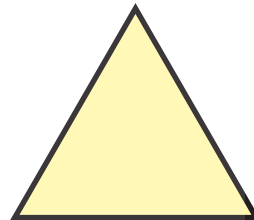
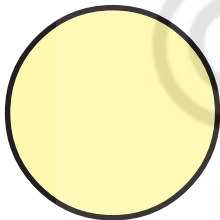
**Do This**

1. Draw a line to divide the following pictures into halves that look alike. Unlike in the first picture, there may be more than one way of doing this.





2. Draw a line which divides the figures given below into halves that look alike.  
Hint: You will find more than one way in which each figure can be divided.



3. Can numbers be divided into halves that look alike?

Which of the following numbers can be divided into halves that look alike? Also, draw the line which divides the number into halves. One has been done for you.



## Try This

1. Look around you. State which are the objects that can be divided into halves that look alike.

## Activity

### Making a mask

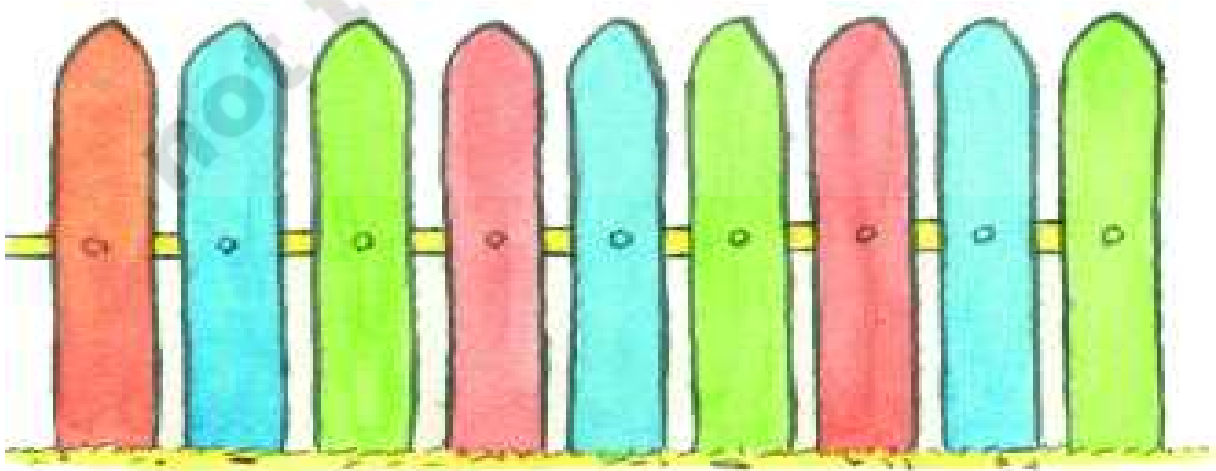
Let us make a mask of an elephant.

1. Take a piece of paper. Draw a line which divides it into half.
2. On one side draw the figure of face of an elephant as shown below.
3. Now fold the paper along the line.
4. Cut along the outline of the face of elephant using scissors
5. Open the fold and make the eyes.
6. Colour it and tie a rubber band to it so that it can be used like a mask.



Rajitha and Sravanthi are going to the Jathara. On the way they crossed various houses.

Rajitha: Sravanthi! look at the beautiful patterns on the boundary walls of these houses.

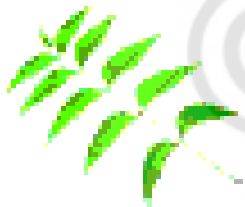


Identify what part of the boundary wall is repeating itself to make the pattern.

Sravanthi: Look, there are patterns on the grills of the boundary walls of these houses also.



Identify what part of the grill is repeating itself to make the pattern.



At the bus stop the girls were standing under a tree, waiting for the bus.

Rajitha: Sravanthi look, the leaves on the stalk are growing in a pattern.

When travelling in the bus, Rajitha and Sravanthi went over this bridge.

Do you notice a pattern in the construction of the bridge?

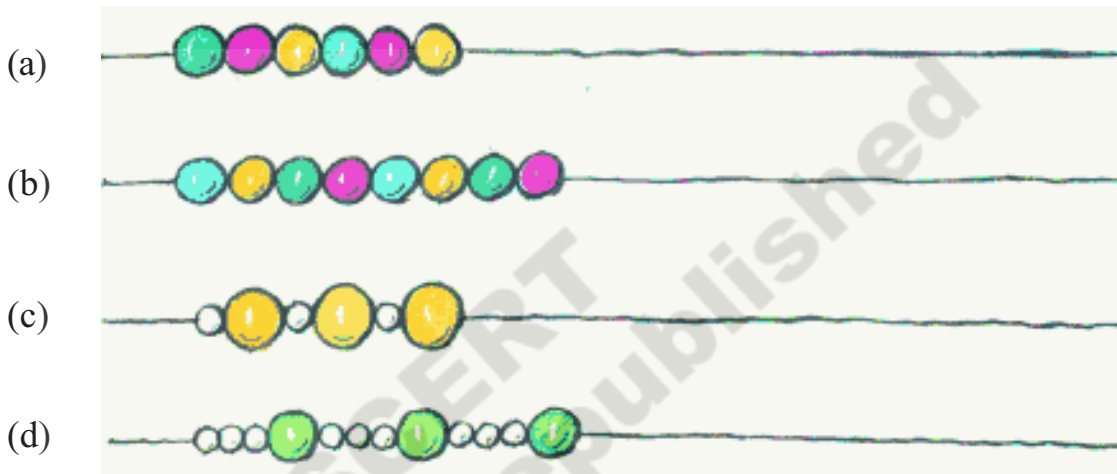


**Think ! what are the things around you that you see patterns in?**

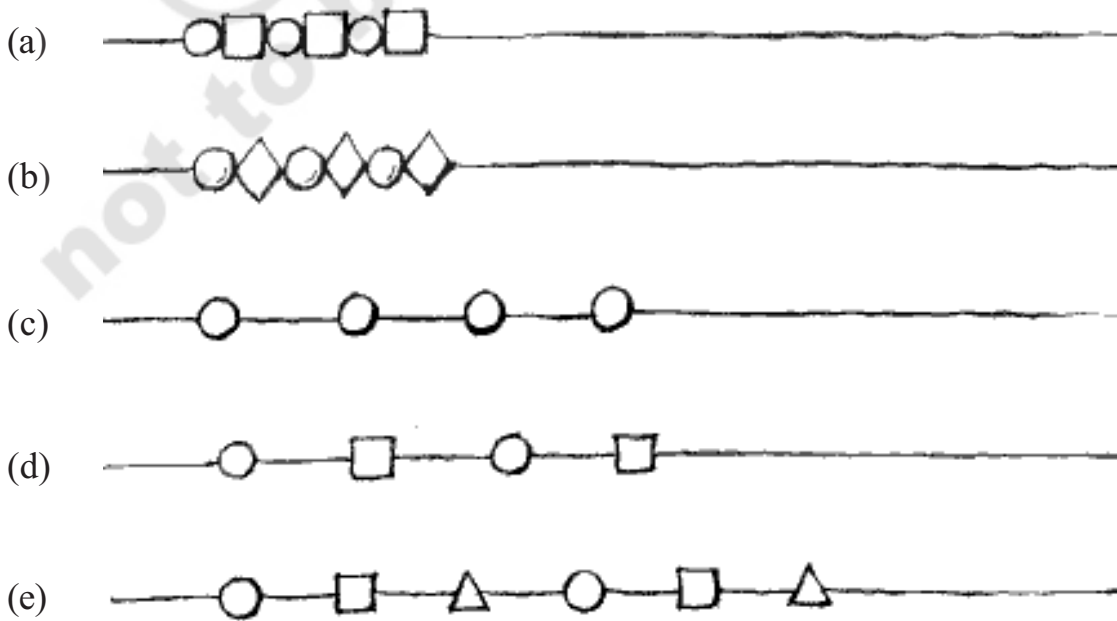
At the jathara, Sravanthi and Rajitha purchased pearl chains for themselves.



1. Recognise the pattern in the pearl chains given below and extend the chain according to the pattern?



2. Here are some other pretty necklaces that the girls saw at the jathara. Identify the pattern and add two more beads to them-



## Do This

1. Draw three chains of different patterns.

### Patterns with turns

These children are playing in the playground during mid-day meal time.

Do you notice a pattern in the way they are standing?



These children are playing kho-kho. Is there a pattern in which they are sitting?

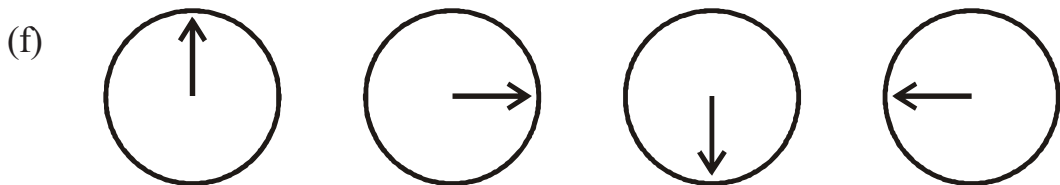
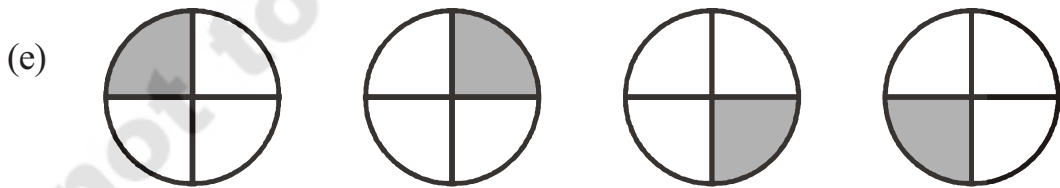
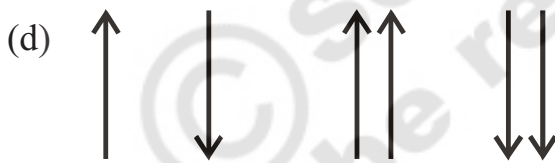
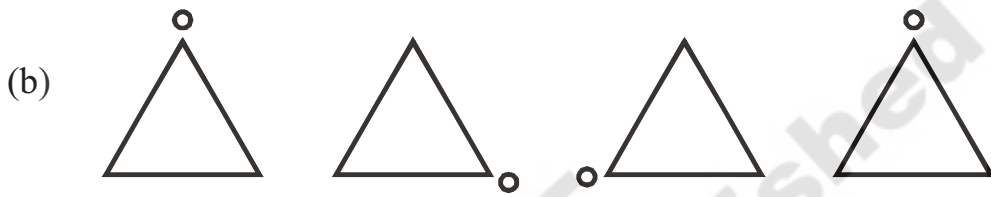
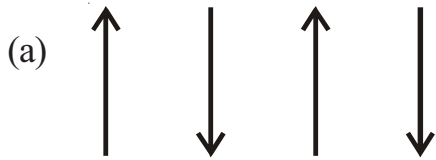


Yes there is. Every alternate child is facing the opposite direction adjacent to her.



**Do This**

1. Carry forward these patterns.



## Patterns in numbers

Identify the patterns in the series of numbers given below.

1. What will be the next number in these series of numbers?

(a) 2, 4, 6, 8, \_\_\_\_\_

(b) 1, 3, 5, 7, \_\_\_\_\_

(c) 3, 6, 9, 12, \_\_\_\_\_

(d) 11, 15, 19, 23, \_\_\_\_\_

(e) 15, 13, 11, 9, \_\_\_\_\_

(f) 21, 27, 33, 39, \_\_\_\_\_

(g) 25, 20, 15, 10, \_\_\_\_\_

(h) 3, 6, 10, 15, \_\_\_\_\_

(i) 8, 16, 24, 32, \_\_\_\_\_

(j) 35, 28, 21, 14, \_\_\_\_\_

(k) 50, 40, 30, 20, \_\_\_\_\_

(l) 9, 19, 29, 39, \_\_\_\_\_

(m) 45, 54, 63, 72, \_\_\_\_\_

What is the relationship between the consecutive numbers in the series?

Some of these patterns are increasing.

Some of these patterns are decreasing.

2. Now, identify the patterns in these number series and carry it forward.

(a) 3, 6, 12, 24 \_\_\_\_\_

(b) 4, 8, 16, 32 \_\_\_\_\_

(c) 32, 16, 8, 4 \_\_\_\_\_

(d) 2, 6, 18, 54 \_\_\_\_\_

(e) 5, 20, 80 \_\_\_\_\_

(f) 400, 200, 100, 50 \_\_\_\_\_

### Patterns in the calendar

Choose any 9 numbers as shown in the calendar.

What is their sum?

Vani added the numbers-

$$13 + 20 + 27 + 14 + 21 + 28 + 15 + 22 + 29 = 189$$

May-2013

S	M	T	W	Th	F	Sa
			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	

Rama- I can do it faster. I will just multiply the middle number by 9 and get the answer-  $9 \times 21 = 189$

Now, choose any 5 numbers as shown in this calendar.

What is their sum?

Vani added all the numbers-  $2 + 9 + 16 + 23 + 30 = 80$

Rama said- I can also do this quickly by multiplying the middle number by 5.

Is Rama correct?

May-2013

S	M	T	W	Th	F	Sa
			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	

### Do This

1. Take any other 9 numbers as shown above. Find out if this pattern is true for those 9 numbers too. You can use any month of any calendar.
2. Take any other 5 numbers in the calendar. Find out if the pattern is true for those 5 numbers. You can use any month of any calendar.