2 Shapes and Angles

Scan me
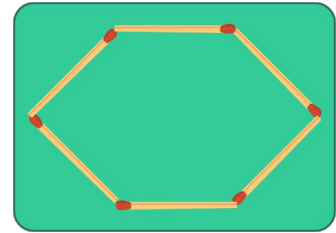
Rohini made this shape. Mohini have to make similar shape.

Mohini : Is it a closed shape or an open shape?

Rohini : It is a closed shape.

Mohini : How many sides are there?
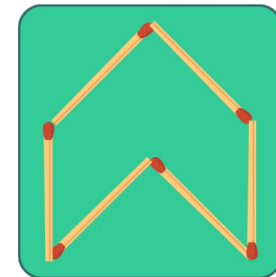
Rohini : It has 6 sides.

1. Mohini made this. Now you give the answers.

(a) Is it a closed shape?

Ans. Yes.

(b) Does it have 6 sides?

Ans. Yes

But it is not the same as the one made by Rohini. **So Mohini tried again.**
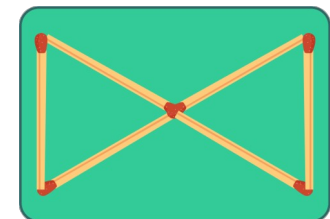
2. This is what she made.

(a) Is it a closed shape with 6 sides?

Ans. Yes.

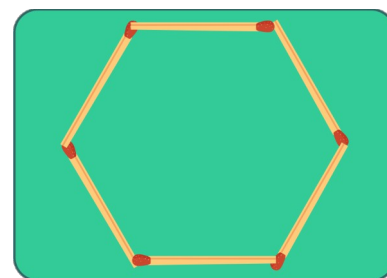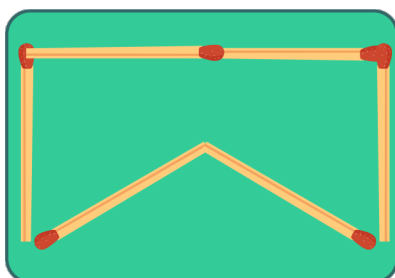(b) Is it the same as one made by Rohini?

Ans. No

(c) Is there some way to say in what way these shapes are different?

Ans. These shapes are different because of the angles they make with adjacent sides.
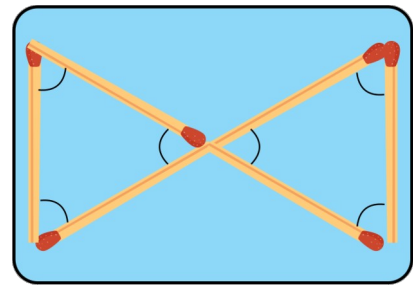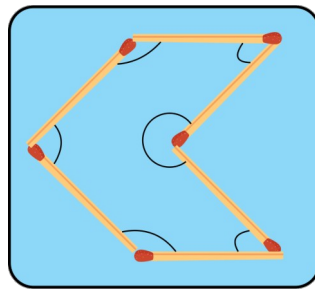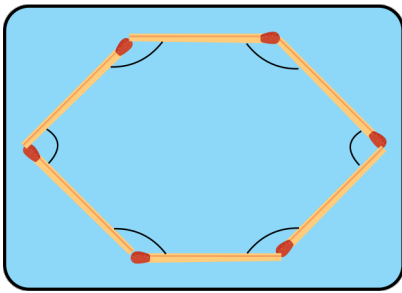
(d) Mohini tried again but got different shapes. Guess and make two more shapes Mohini could have made.

Ans. Mohini could make following shapes.

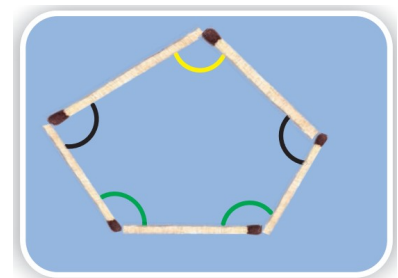(e) Look at the angles marked in these shapes. Can you see the difference?

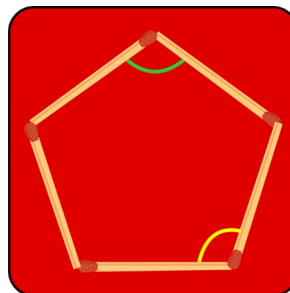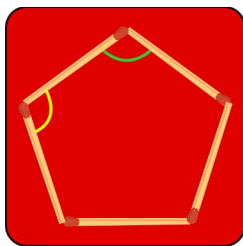Ans. Yes, the angles in each figure is different and thus the shape changes.

Practice time

3.Look at the shape and answer.

The angle marked in <u>green</u> colour is the biggest angle.
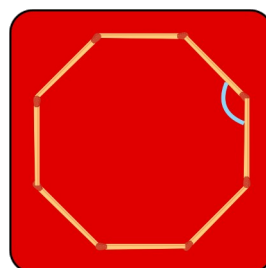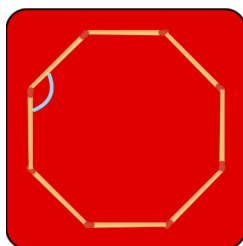

4. Look at the shape and answer.

(a) Are the angles marked with yellow equal?

Ans. Yes, this is pentagon shape with all angles and sides equal

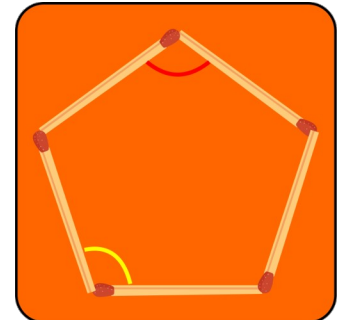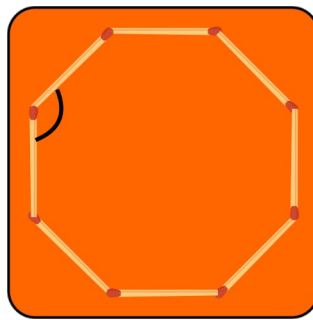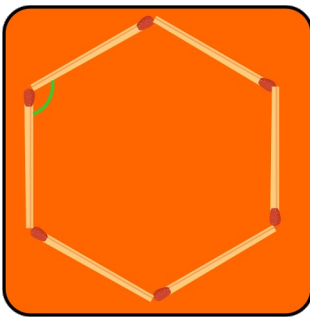(b) Are the angles marked with green equal?

Ans. Yes, this is pentagon shape with all angles and sides equal

(c) Are the angles marked with blue equal?

Ans. Yes.

5. Four different angles are marked in four colours. Can you find other angles which are the same as the one marked in red? Mark them in red. Do this for other colours.

Ans.   The angle marked in yellow is same as the one marked in red.
        All angles of the hexagon are same as the angle marked in green.
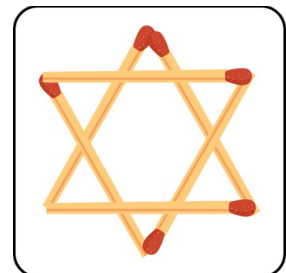   All angles of the octagon are same as the angle marked in black.

6. How many different shapes can you make by changing the angle between the matchsticks in each of these? Try.
Ans. There are unlimited shapes possible by changing the angle, students can try by themselves.
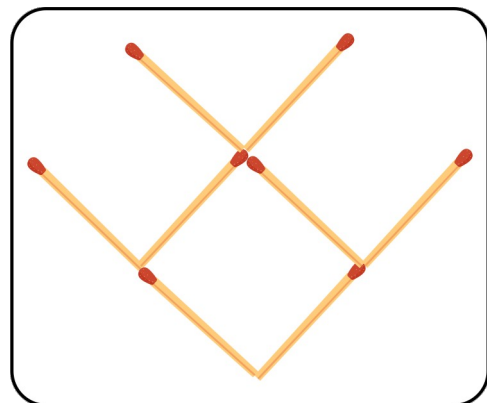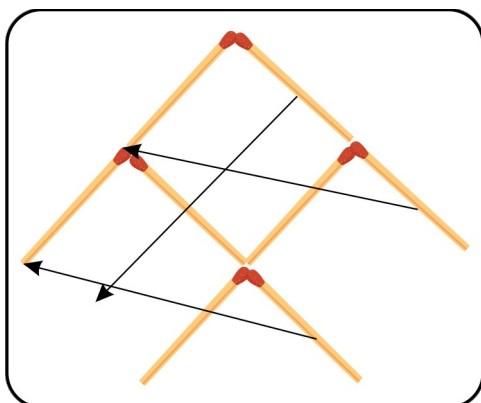
<p style="text-align:center">**Matchstick Puzzles**</p>

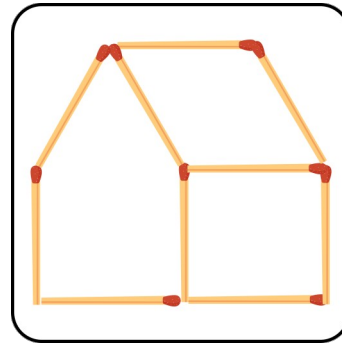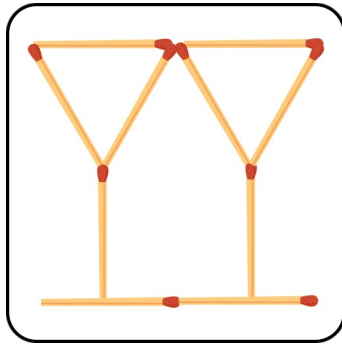**7. Make 8 triangles using 6 matchsticks. Try!**
Ans.   Here are 8 triangles using 6 match sticks. 2 big
        triangles and 6 small triangles.

8. Take 8 matchsticks and make a fish like this. Now pick up any 3 matchsticks and put them in such a way that the fish now starts swimming in the opposite direction. Did it?
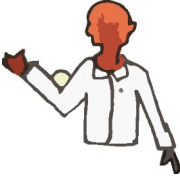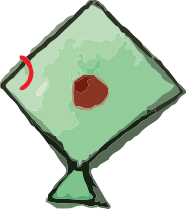
9. Using 10 matchsticks make this shape. Pick any 5 matchsticks and put them in such a way that you get the shape of a house.
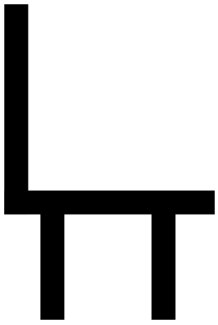
Angle Tester

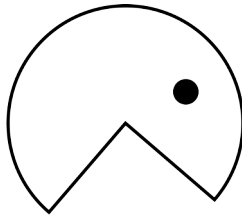10. Look at the angles in the picture and fill in the table.

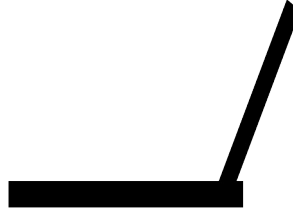| Angle	Right Angle	More than a Right Angle	Less than a Right Angle
			✔
			✔
	✔		
		✔	
		✔	

11. Draw anything of your choice around the angle shown. Also write what kind of angle it is. The first one is done.

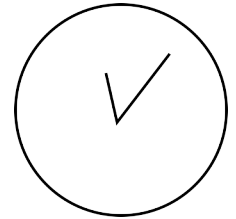| Right Angle | Right Angle | More than Right Angle | Less than Right angle |

12. Write 3 names using straight lines and count the angles.

Name	Number of Right Angles	Number of Angles more than a Right Angle	Number of Angles less than a Right Angle
LINA	5	2	5
MEENA	8	2	8
MAX	0	8	4

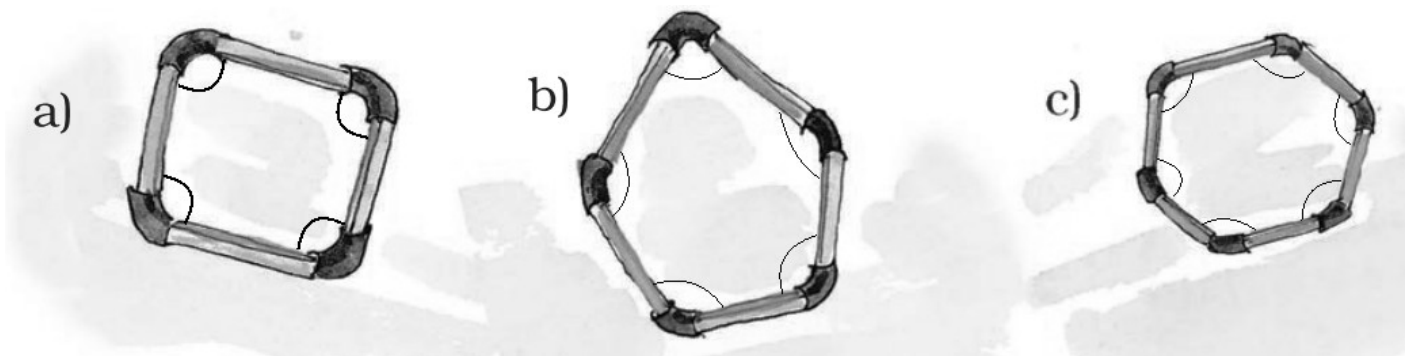## 13. These are two slides in a park.

a) Which slide has a larger angle?

Ans. Left Slide has a larger angle

b) Which slide do you think is safer for the little boy? Why?

Ans. Right Slide is safe as it's angle is smaller.

14. Find out how many angles are there in each of these shapes. Mark them.

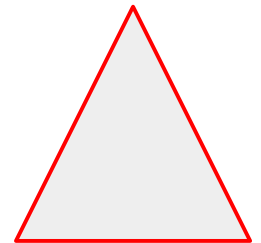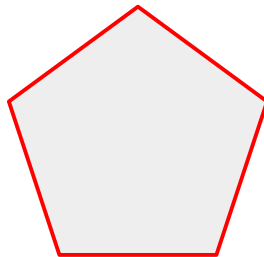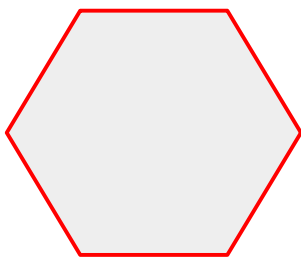Four Angles   Five Angle   Six Angles

Now push each shape downwards with the tip of your finger. Does the angle change when pushed down by the finger?

Find out and write your results in the table given:

Angles Changes in first three shapes, in triangle no change in angle

Shapes and Towers

15. From the activity 'Changing Shapes' can you guess why triangles are used in these towers, bridges, etc.?
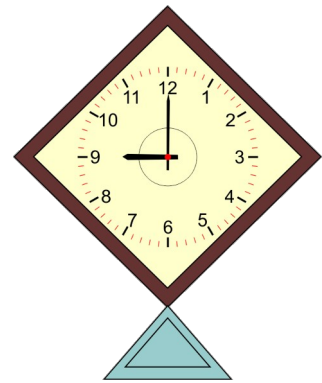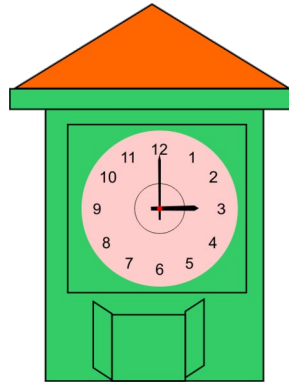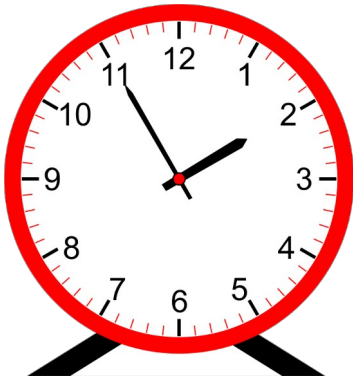
Ans. A triangular shape is strong and does not change easily when pressed.
Triangular shapes are used in bridges, towers, etc. to make them stronger.

16. Look around and find out more places where triangles are used.
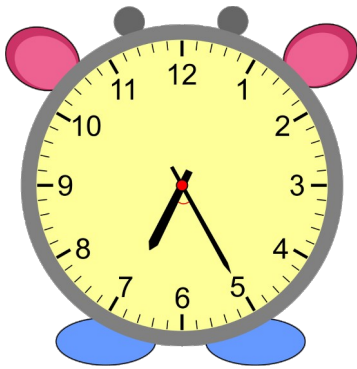
Triangles can be found at many places like Bus stops, Railway stations, Roofing, stadiums, towers, etc.
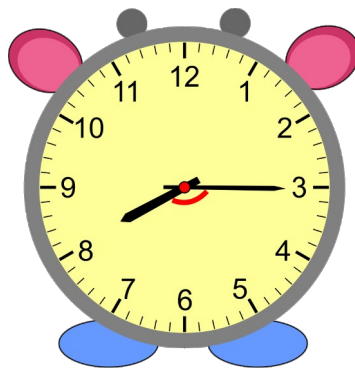
Angle and Time

17. There are many times in a day when the hands of a clock make a right angle. Now you draw some more.
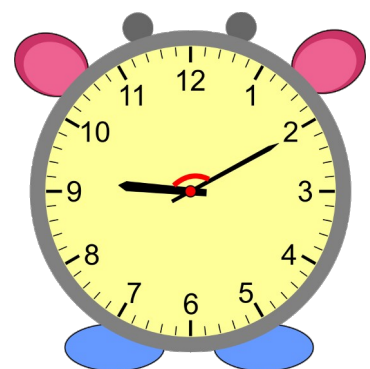

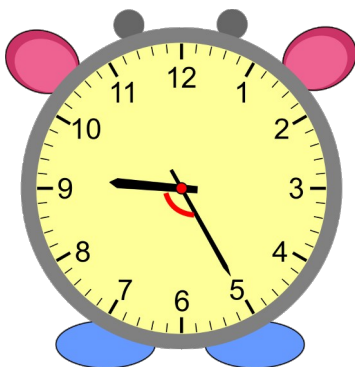## 18. Write what kind of angle is made by the hands at these times. Also write the time.
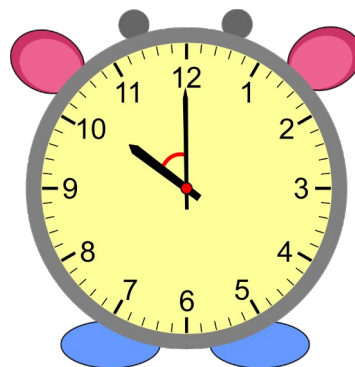Ans.

7:25
less than a Right Angle

8:15
more than a Right Angle
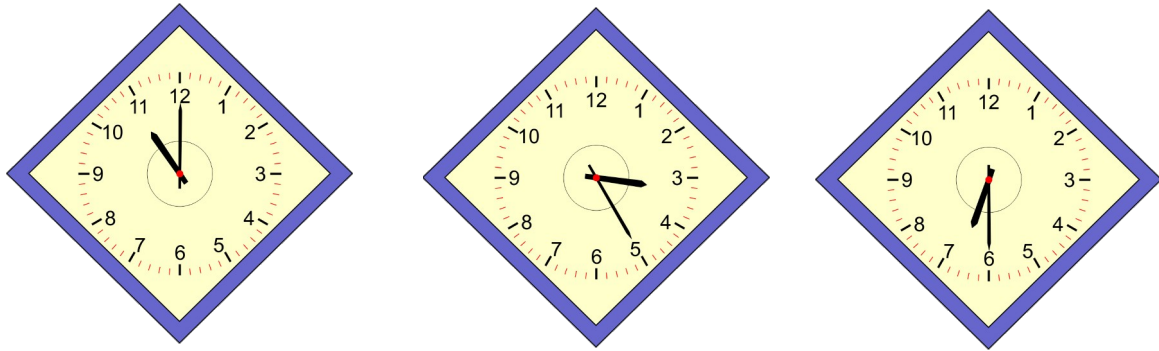
9:10
more than a Right Angle

9:25
more than a Right Angle

10:00
less than a Right Angle

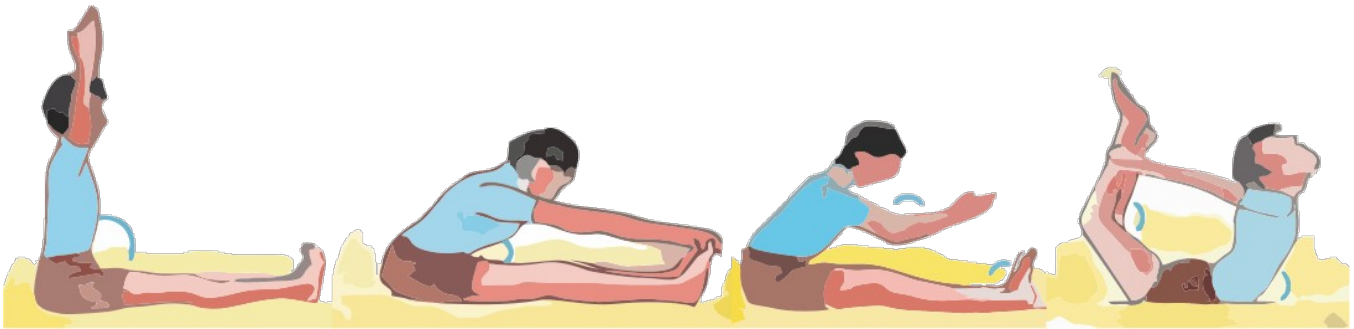**19. Draw the hands of the clock when they make an angle which is less than a right angle, Also write the time.**

Ans.

Angles With Yoga

20. Measure as many angles as you can made by different parts of the body while doing 'Asanas'

Ans.

a. Thigh and abdomen = 90 degree

b. Thigh and abdomen = less than 90 degree, Hand and leg = less than 90 degree

c. Arm and hand = more than 90 degree, leg and toe = more than 90 degree

d. Thigh and leg = more than 90 degree, Floor and abdomen = less than 90 degree