CHAPTER-18

Perimeter

In Deepa's school the preparation for celebrating Republic day were going on. To hang paper streamers, the children fixed four bamboo poles at the four ends of the field and tied a rope to the first bamboo, tying it to the second, third and fourth again tied it back to the first bamboo. Thus a rectangle of the rope was formed.Now Deepa and her friends stuck the paper streamer and flags on this rope.

Deepa said "What is the length of this rope? Let us measure and see."

Meeta got a meter scale from the teacher and started measuring the rope. To do this they started from the first bamboo went to the second, third and fourth bamboo and came back to the first-one. The measurement was 70 meters.

Just then the teacher reached there and asked what they were doing?

- Deepa We wanted to know the length of the rope. We measured it and found it is 70 meters long.
- Teacher How did you find this?
- Meeta We went from the first bamboo, to the second, third, fourth and again to the first and found it was 70 meters long.
- Deepa This means the rectangle made by the rope has a perimeter of 70 meters.
- Teacher Yes, you are absolutely right.

"You know that the measure of the length of the boundary of a figure is called its perimeter."

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Closed and open figures

Some figures are drawn below. Place your finger at any one place and start tracing the figure.



Which of these figures are such that you reached the same point where you started?

.....

Which of the figures are such that you did not reach the same point where you started from?

.....

Figure in which you reach the same point where you started from are called closed figures

Figures in which you do not reach the same point you started from are called open figures.

When Deepa and her friends were finding the perimeter of the rectangle formed by the rope, did they reach the same point where they started from?

So what sort of figure is a rectangle? Open or closed?

We can find the perimeter of only closed figures.

Look at some of the objects around you like the blackboard, books etc carefully write the names of the objects which you find to be closed figures of the in the table below. Find the perimeter of the closed figures.

Object	perimeter (cm.)
Blackboard	
Surface of a table	
Book	

To find the perimeter of the blackboard, table or book, you must have measured all the four edges. Similarly to find perimeter of any closed figure we find the length of the edges.

Find the perimeter of given figures-



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Meaning of perimeter - The total of the length of the sides of any closed figure.

Perimeter of Triangle -

Some triangles are given below with the lengths of each side. Find the perimeter of each triangle-D



What did you do to find perimeter of these triangles?

The perimeter of a triangle = length of first side + length of second side + length of third side

Perimeter of triangle = sum of the length of the three sides of a triangle.

Perimeter of a rectangle

What is the perimeter of the following rectangles-



How did you find the perimeter of these rectangles?

You know that in a rectangle the opposite sides are equal in length. So while finding the perimeter we add twice the length and twice the breadth.

Meaning

Perimeter of a rectangle	=	length + breadth + length + breadth
	=	length + length + breadth + breadth
	=	sum of 2 length + sum of 2 breadths
So perimeter of rectangle	=	$2 \times length + 2 \times breadth$
Perimeter of squares-		

As we know that all four sides of square are equal in length.

\therefore Perimeter of square	=	side + side + side + side
	=	sum of 4 sides
So, perimeter of square	=	$4 \times side$

Now give the perimeter of these figures-



Problems

- 1. The length of a playground is 200 metre and the breadth is 150 metre . If Raju wants to go around the boundary once, how many metres would he have to run?
- 2. A square garden has a side of 250 metres. To put a wire fencing around this, what is the length of wire required?

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3. What is the length of lace which would be required to be put around a handkerchief, which is a square with a side of 15 cm each?

If you wanted to make 5 such handkerchiefs what length of lace would you need?

Some more questions-

Write the perimeter of each rectangle-

- 1. Length = 25 metres, breadth = 20 metres
- 2. Length = 32 metres, breadth = 18 metres

Give the perimeter of the following triangles-

- 1. 6 cm, 8 cm, 10 cm
- 2. 15 cm, 18 cm, 20 cm
- 3. 12 cm, 12 cm, 12 cm

Find the perimeter of the following squares-

- 1. Each side = 8 metres
- 2. Each side = 11 metres
- 3. Each side = 35 metres

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