

A Textbook of Mathematics for Class 5th

# Boxes and Sketches

Chapter 7

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#### **Sweet Box**

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Ulfat went to buy sweets. The shopkeeper took a paper cut-out and quickly made a lovely pink for the sweets!

Look at the photo ad make your own box. Use the cut –out on page. How fast can you fold it?

After coming home Ulfat unfolded the box. She removed the extra flaps so the cut –out looked like this.





She made four shapes. Each is to be folded along the dotted lines. You have to find out which of these can be made into a box.





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### Shapes that Fold into a Cube

a. Javaid wants to make a paper cube using a squared sheet. He knows that all the faces of a cube are squares.

He draws two different shapes.



How many faces does the cube have? \_\_\_\_\_



- Will both these shapes fold into a cube?
- Draw at least one more shape which can fold into a cube.
- ✤ What will be the area of each face of the cube?
- Draw one shape which will not fold into a cube.
- Look around and discuss which things around you look like a cube. List a few.

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#### **Shapes for an Open Box**

Remember the puzzles with five squares in chapter 2? You saw 12 different shapes made with five squares. (Page 33)

If you cut those shapes and fold them, some of those fold into an open box (box without a top)



- Find out which off the other 8 shapes (on page 33) can be folded to make an open box.
- Draw more shapes which will not fold to make an open box.

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#### **Boxes and Shapes**

All boxes are not cubes. Here are some different kinds of boxes. Match each shape below with a box into which it will fold.



#### **Floor Maps**

For making a house a floor map is first made. Have you ever seen a floor map? Here is a floor map of Ahmad's house. It shows where the windows and the doors are in the house.



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Which is the front side of her house? How many windows are there on the front side?

From the floor map we cannot make out what her house really looks like or how high the windows are. So we look for a special way of drawing the house which is deep - to show the length, width and height.

Here are four **deep drawings** of houses.

Which one is Ahmad's house?





Why do the other three deep drawings not match the floor map? Discuss.

c)

#### **Practice Time**

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1. Look at this map of a house. Make doors and windows on the deep drawings of this house.





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- Are there any windows you couldn't show on the deep drawings? Circle them on the floor map.
- 2. Try to make a floor map of your own house.

## A Deep Drawing of a Cube

Altaf and his friends made deep drawings of a cube.

These are their drawings.



- Which of the drawings look correct to you? Discuss.
- Can you add some lines to make drawing f) in to a deep drawing of the cube?





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#### A Simple Way to Draw a Cube

Asifa wants to make a deep drawing of this cube.

She draws the cube like this.





In the same way make a deep drawing of a box which looks like this.



#### **Matchbox Play**

Irfan, Zubair and Sheeba make this bridge using matchboxes.







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Irfan and Sheeba made drawings of the bridge.



If you look at the bridge from the top, how will it look? Choose the right drawing below:



Look at the photo and try to make a deep drawing of this bridge.

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#### Now Let us Do These

Q.NO 4 Make a paper cube and answers the following questions

- a. How many faces a cube has?
- b. How man faces of a cube are squares?
- c. How many corners does a cube have?
- d. How many edges does a cube have?

Q.NO 5 Give three examples of a cube in our daily life.

Q.NO.6 Boxes have different names. So fill in the blanks the suitable name.



#### Answers

| Q. NO. 4 | (a) 6 (b) 6 (c) 8 (d) 12       |
|----------|--------------------------------|
| Q.NO. 5  | Dice, Chalk box, Sweet box etc |
| Q.NO.6   | (a) Cone (b) Cylinder          |
|          | (c) Cubical (d) Pyramid        |
|          |                                |

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