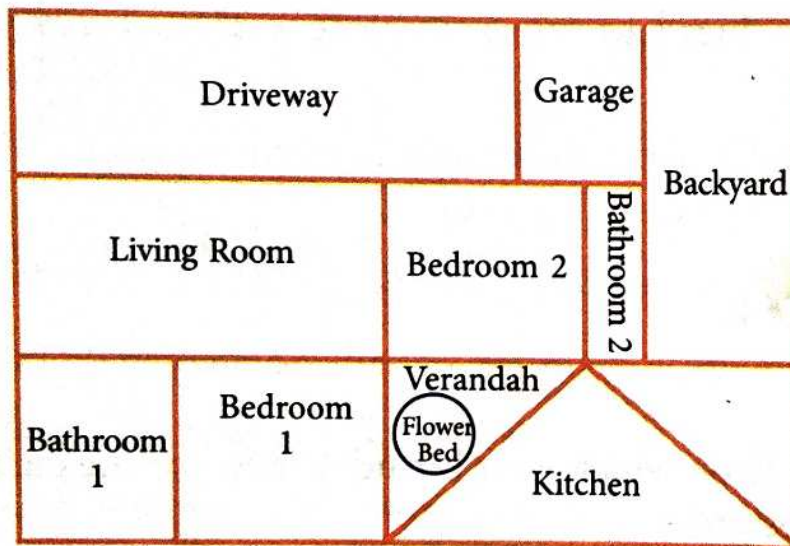




Warm Up

1. This is a drawing of the rooms of my house. Can you identify the shape of each room?



Living room Rectangle

Driveway Rectangle

Bedroom 2 Square

Bathroom 1 Square

Flower bed Circle

Kitchen Triangle



Vocabulary

- ♦ Horizontal
- ♦ Vertical
- ♦ Slanting
- ♦ Rectangle
- ♦ Square
- ♦ Triangle
- ♦ Circle
- ♦ Cuboid
- ♦ Cube
- ♦ Sphere
- ♦ Cylinder
- ♦ Cone

2. These are some commonly used objects in everybody's kitchen. Can you tell the name of the solid shape the object matches with?

(a)



Cuboid

(b)



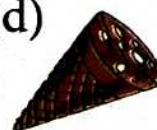
Cylinder

(c)



Sphere

(d)



Cone

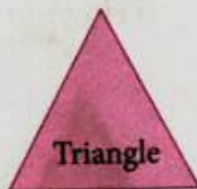
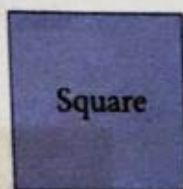
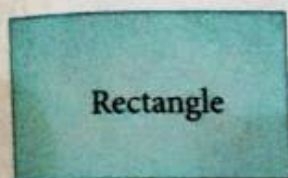
(e)



Cube

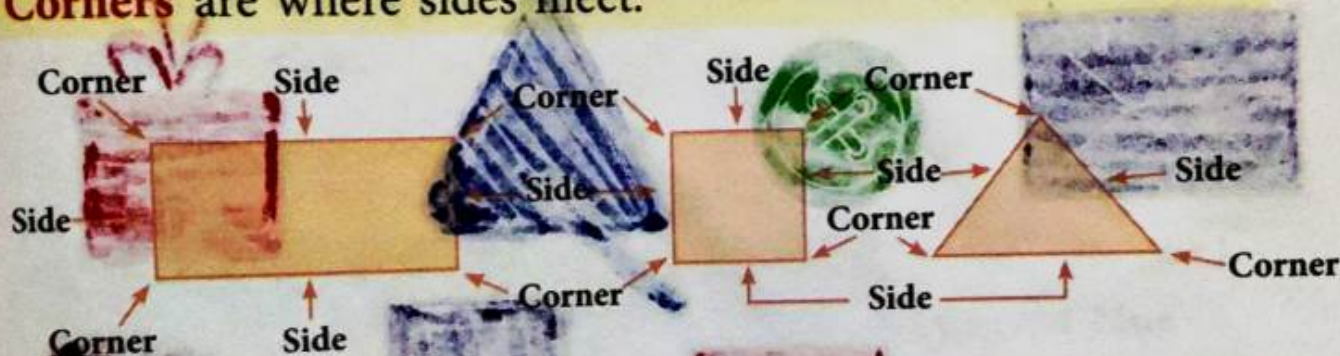
PLANE SHAPES

A plane is a **flat surface** that has length and width but no thickness. A **plane shape** has two dimensions—**length** and **width**—and lies on a plane. Some of the plane shapes we already know are:



Some of these plane shapes have sides and corners.

- The straight lines that make up a shape are called **sides**.
- **Corners** are where sides meet.



Class Work

Look at the pictures given below. Identify each shape. Count the corners and sides of each shape. Fill in the blanks.

All my sides are equal.

I am a Square.
I have 4 sides
and 4 corners.



I am a Triangle.
I have 3 sides
and 3 corners.



I am a Circle.
I have 0 sides
and 0 corners.

Opposite sides are equal.

I am a Rectangle.
I have 4 sides
and 4 corners.



I am an Oval.
I have 0 sides
and 0 corners.



Activity (Teacher to Assist)



Directions: Find the shapes and colour them as per the following colour code.

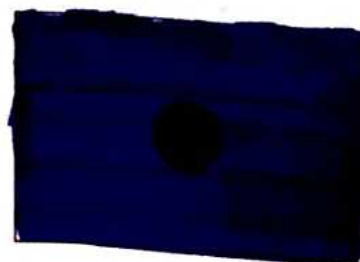
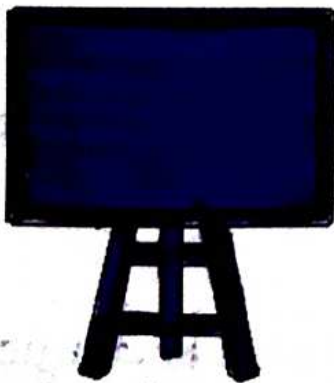
Circle

Square

Triangle

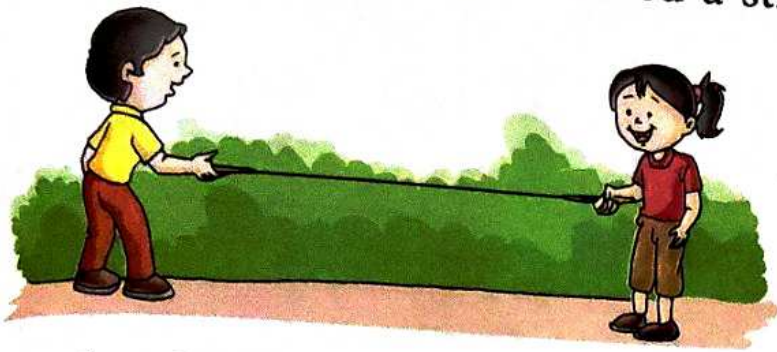
Rectangle

Oval



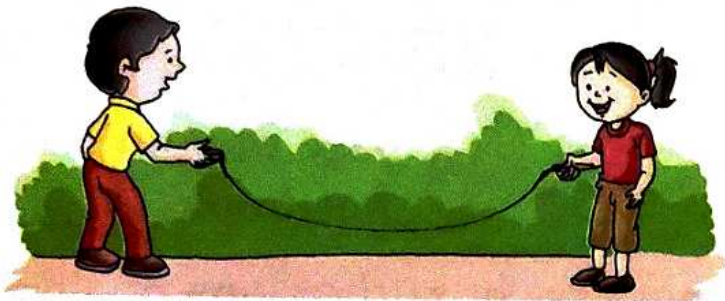
STRAIGHT LINES AND CURVED LINES

Two children were holding a skipping rope at each end. They stretched it tight. The skipping rope formed a straight line as shown below.



Straight Line

Now, they hold the rope a bit loose. The skipping rope forms a curved line as shown below.



Curved Line

A line is represented as:  **Line**

The arrows at both the ends show that a line does not stop, it continues in both directions without ending.

The part of a line is called a **line segment**. 

Line Segment

Types of Straight Lines

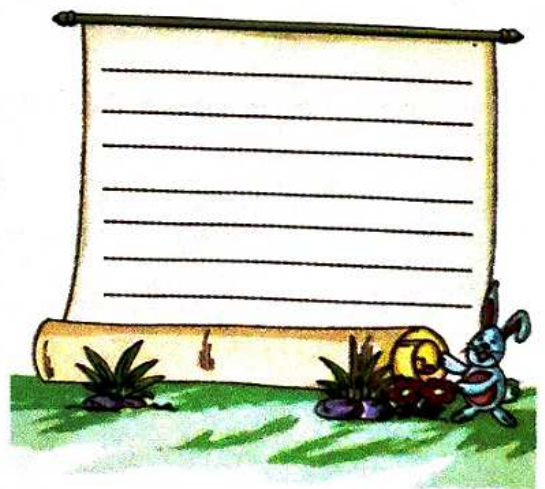
Straight lines are of three types:

1. **Horizontal or sleeping line:** A horizontal or sleeping line is that which goes straight across.

The lines on your writing paper are examples of horizontal lines.



Horizontal Line
or
Sleeping Line



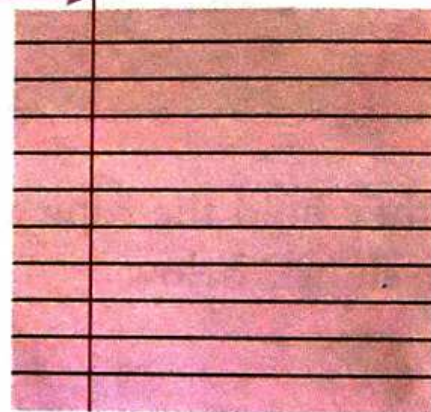
2. **Vertical or standing line:** A vertical or standing line is that which goes straight up and down.

A cricket stump standing on the ground, the margin line in your notebook are examples of **vertical lines**.



Cricket stumps

Margin
Line



A page of your
notebook

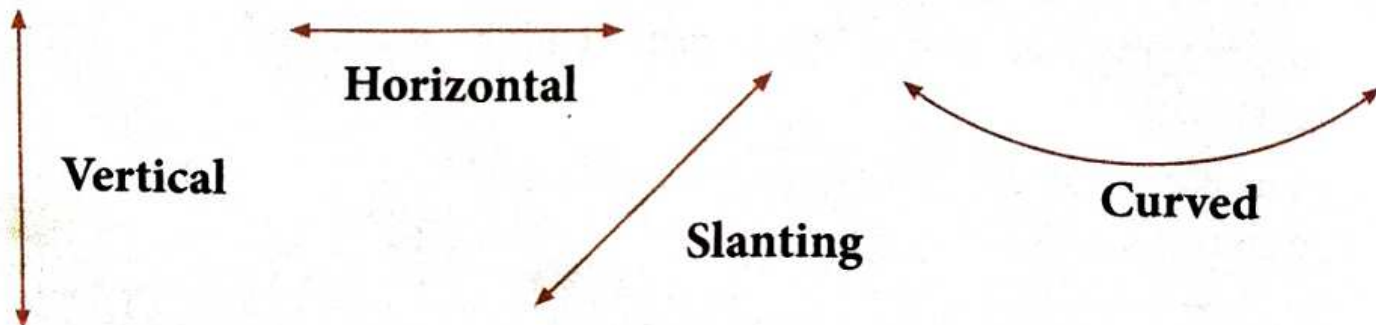
Vertical Line
or
Standing Line

3. **Slanting line:** A slanting line goes straight as the slope of a hill.



Slanting Line

Thus, the four basic types of lines are:



Vertical

Horizontal

Slanting

Curved

Look at the following letters of the English alphabet.

A C P I F H S V N

Which of the following letters are made of:

1. Line segments only? A, I, F, H, V, N
2. Curves only? C, S
3. Both curves and line segments? P
4. Write three other letters which are made of line segments only.
E, K, L
5. Write three other letters which are made of line segments and curves.
B, D, G
6. Write one letter that is made of slanting lines only. Y

Activity (Teacher to Assist)



EL



Draw the given lines by moving the pencil first on the dotted lines and then draw them freehand.

Horizontal Line	Vertical Line	Slanting Line



Class Work

Rohan has drawn a figure using different types of lines.

Count the number of horizontal, vertical, slanting and curved lines in the given picture and write the number in each of the given blank box.

Horizontal Lines

11

Vertical Lines

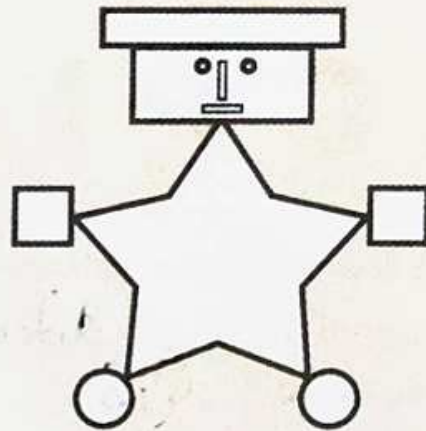
12

Slanting Lines

10

Curved Lines

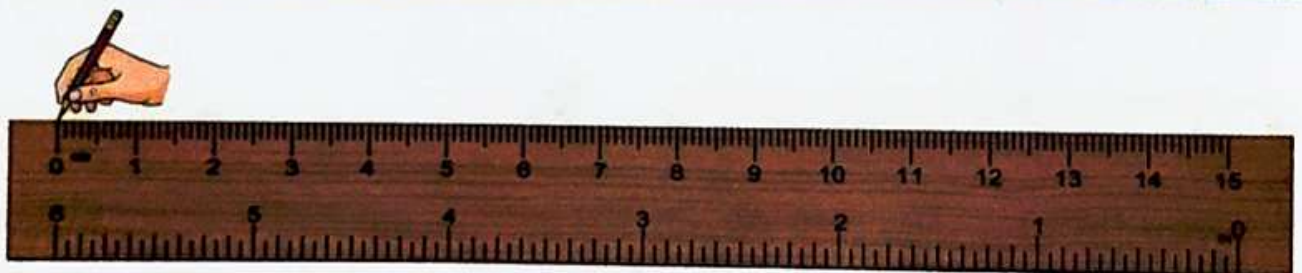
4



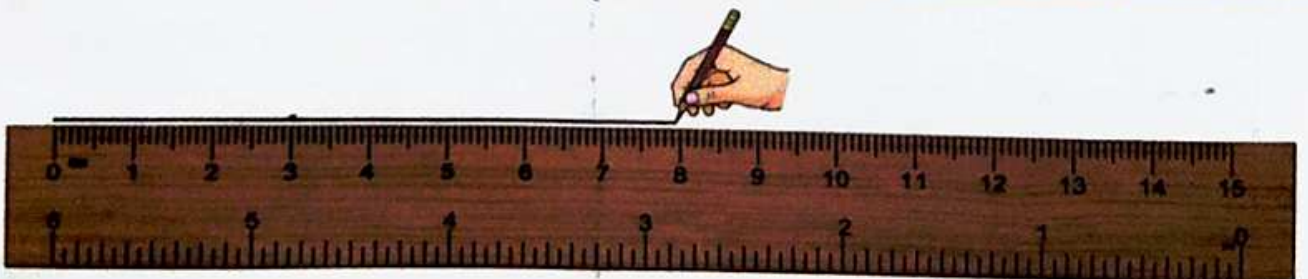
DRAWING A STRAIGHT LINE USING A RULER

To draw a straight line using a ruler, we take the following steps:

Step 1: Place the ruler on the sheet of a paper where you want to draw the line. Put your pencil on the zero mark of the ruler.



Step 2: Move the pencil along the edge of the ruler till you have a line as long as you want.



Class Work

Draw lines of the given lengths.

1. 8 cm

2. 7 cm

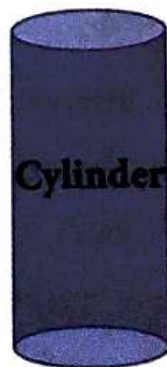
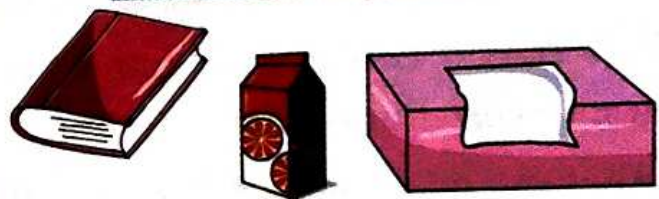
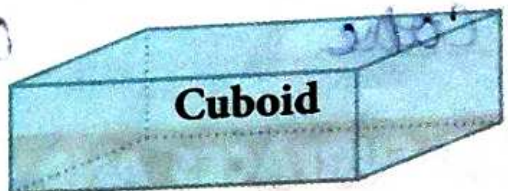
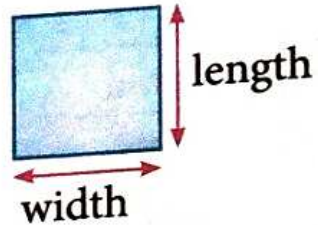
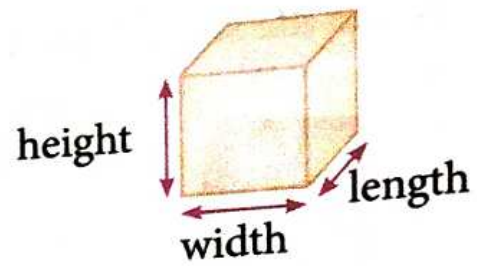
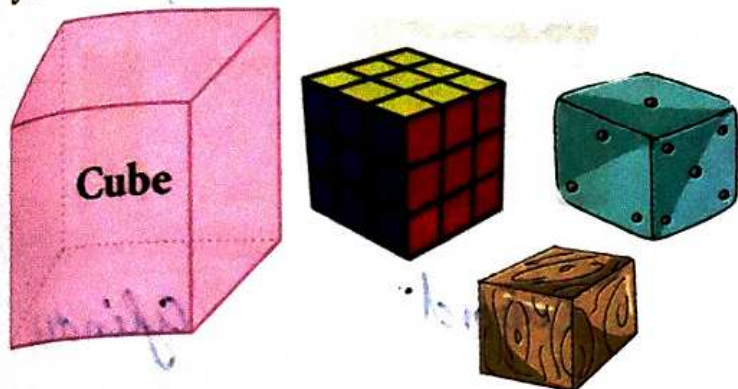
3. 5 cm

SOLID SHAPES

Solid shapes are **three-dimensional shapes** that have three dimensions—**length**, **width** and **height**.

Plane shapes have only two dimensions—**length** and **width**.

Common solids and their examples are given below:



Exercise 11A

Name the solid shape that each object is shaped like. One has been done for you.

- | | | | |
|--|--|---|--|
| 1.  | 2.  | 3.  | 4.  |
| Cuboid | Cylinder | Cone | Sphere |
| 5.  | 6.  | 7.  | 8.  |
| Cone | Cuboid | Cuboid | Cylinder |

FLAT SURFACES AND CURVED SURFACES

When you move your hand over the table top or the top of your book, does your hand turn? **No**

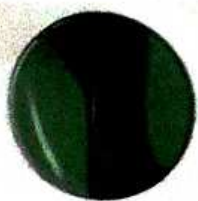
Such surfaces are called **flat surfaces**.



All the objects shown above have flat surfaces.

When you move your hand over the surface of a ball or an orange, does your hand turn? **Yes**

Such surfaces are called **curved surface**.



All the objects shown above have curved surfaces.

Some objects have both flat surfaces and curved surfaces.

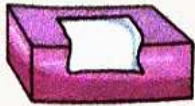
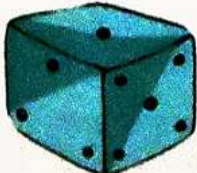


Note:

1. You can stack objects with flat surfaces, that is, you can keep a ruler one above the other and so on.
2. You can roll objects with curved surfaces, that is, a ball and a glue stick can be rolled.

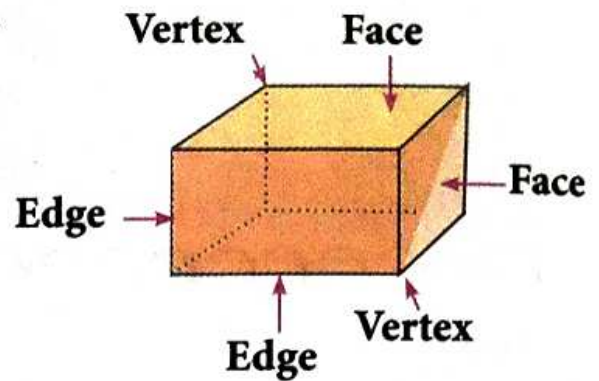
Class Work

Look at the objects and fill in the blanks.

1.  An orange has flat surfaces and curved surface.
2.  A can has flat surfaces and curved surface.
3.  An ice cream cone has a flat surface and curved surface.
4.  A tissue box has flat surfaces and curved surfaces.
5.  A ludo dice has flat surfaces and curved surfaces.

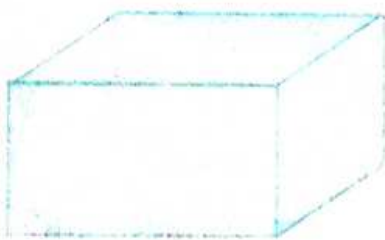
FACES, EDGES AND VERTICES OF A SOLID SHAPE

- A **face** is a flat surface of a solid shape.
- An **edge** is a line segment or side where two faces meet.
- A **vertex** (plural vertices) is a point where three or more sides meet.
- Objects shaped like a sphere have only one curved surface.



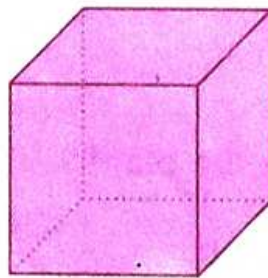
Class Work

Identify the solid figure and then write the number of faces, edges and vertices. (The child should in fact take a concrete shape in hand and count.)



Cuboid

Faces: 6
Edges: 12
Vertices: 8



Cube

Faces: 6
Edges: 12
Vertices: 8



Cylinder

Faces: 3
Edges: 2
Vertices: 0

Quick Review

1. Rani has lunch at the time shown by the given clock.
What time is it? 12:30
2. Kathy buys a watch for ₹340 and a book for ₹105 less.
What is the cost of the book? $340 - 105 = 235$
3. Which of the following is the least?
100 mL, 10 L, 1 L, 10 mL



$$\begin{array}{r} 340 \\ -105 \\ \hline 235 \end{array}$$

Chapter Test



1. Read the clues and identify the figures.

- (a) I am a plane shape with four equal sides.
- (b) I am a solid shape with six square faces.
- (c) I am a solid shape that can roll and has no flat face.
- (d) If you place a glue stick on a sheet of paper and trace one of its flat face, what shape do you get?

Square
Cube
Sphere
Circle

2. Choose the best term from the box and fill in the blanks.

edge, three, face, roll, dimensions

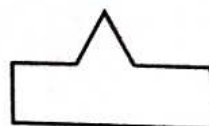
- (a) The flat surface of a solid shape is called a face.
- (b) The side formed by the meeting of two faces of a solid shape is an edge.
- (c) A solid shape with a curved surface can roll.
- (d) Plane shapes have two dimensions whereas solid shapes have 3 dimensions.

MCQs

Tick (✓) the correct answer.

3. Neha used two shapes to make this picture. Which two shapes did she use?

- (a) square, triangle
- (b) triangle, circle
- ☒ (c) rectangle, triangle
- (d) square, rectangle

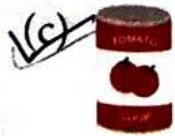


4. The figure given below is made up of _____ straight line(s) and _____ curved line(s).



- ☒ (a) 1, 7
- (b) 3, 7
- (c) 4, 9
- (d) 1, 9

5. Which of the following solids has both curved and flat surfaces?

- (a) 
- (b) 
- ☒ (c) 
- (d) 

6. A tissue box  has _____ vertices and _____ faces.

- (a) 10, 6
- (b) 12, 6
- (c) 12, 4
- ☒ (d) 8, 6

7. Each flat surface of a cube is a

(a) circle

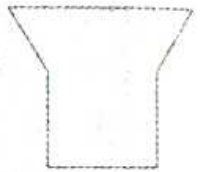
(b) rectangle

☒ (c) square

(d) oval

Challenge! 21st CS

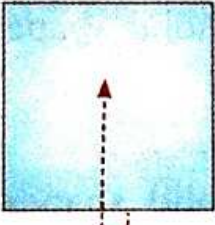
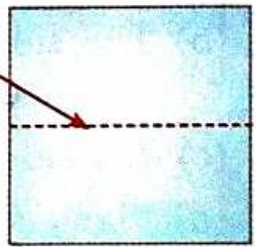
Draw lines in the adjacent figure to divide it into two triangles, one rectangle and one square.

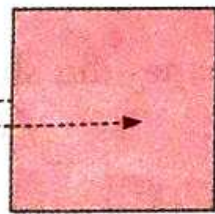
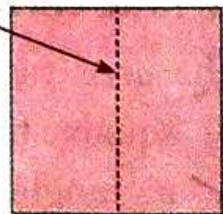


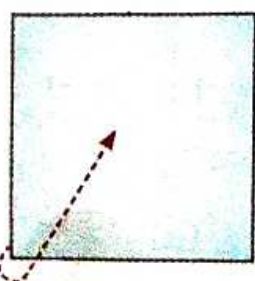
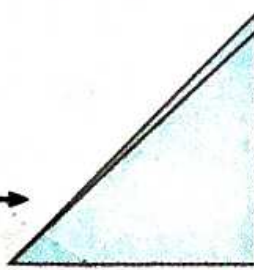
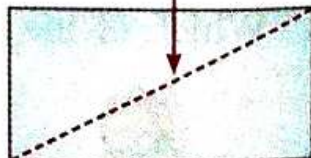
Maths Lab Activity (Teacher to Assist) EL

Making Horizontal, Vertical and Slanting Lines by Paper Folding

Take a square-sized paper.

1.  **Fold**  **Press** **Open**  **Horizontal line**
Fold it along the middle by turning right. You get a **horizontal line**.

2.  **Fold**  **Press** **Open**  **Vertical Line**
Fold it along the middle by turning up. You get a **vertical line**.

3.  **Fold**  **Press** **Open**  **Slanting line**
Fold as shown You get a **slanting line**.

Now, try and fold the same square sheet twice to get two slanting lines.