

Drafting First Year

Module 3 *Free as the Wind*



What this module is about

If you were free as the wind you could go anywhere you want and do whatever pleases you. In freehand drawing, you can also enjoy that freedom. You can create and make things alive and meaningful through the power of your imagination.

Freehand drawing is a liberating experience between you and your pencil. You can draw the mountains, the brooks, the trees and the waves on the shores. With your capability to create, you can make simple lines an object of curiosity. The flowers, the pebbles and the clouds can arouse your dull spirits! Yes, you can create many things, using your wildest imagination!

In this module, you will learn freehand drawing. Freehand drawing is a technique in which hand movements are not hampered and you do not need expensive drawing tools and instruments, except a pen or pencil.

So keep on moving your hand and draw. Enjoy a new learning experience.



What you are expected to learn

After going through this module, you are expected to:

1. Explain the alphabet of lines and their uses;
2. Draw the alphabet of lines correctly;
3. Enumerate the basic lines in freehand drawing;
4. Explain the procedure in freehand drawing; and
5. Draw orthographic and isometric freehand drawing.



How to learn from this module

1. Understand the given facts and situations.
2. Perform the given activities.
3. Answer the self-check exercises honestly.

4. Apply theories and principles learned in daily life situations.

If you are ready now, you can take your pretest. Good luck!



PRETEST

Fill in the blanks with the correct word/s to complete the statements.

1. A line that shows the position of a moving object is called _____.
2. _____ is a line that represents the visible edges of an object.
3. Horizontal lines are drawn from _____ to _____.
4. The process of drawing an object in two or three views is _____.
5. _____ is a type of drawing in which no instrument or straight edge is used.
6. When lines are drawn in varying degrees of thickness, we use the _____ type of freehand drawing.
7. The process of making the surface of an object appear in various tones is known as _____.
8. The three (3) views of orthographic drawing are top view, front view and _____.
9. The heaviest line in the alphabet of line is _____.
10. _____ is an upright line, usually 90° from the ground.

Lesson 1

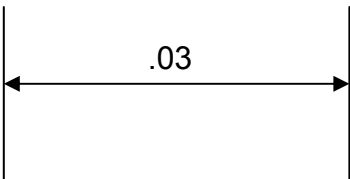

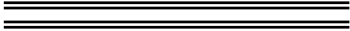

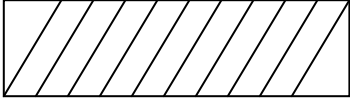

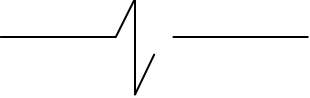

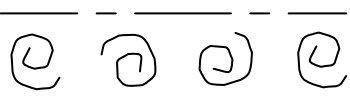
The Alphabet of Lines

Since lines make up all forms and shapes, let us start our lesson by studying its many “faces”.

The alphabet of lines is a set of standardized and conventional lines used in drawing. Each line in this “alphabet” has a meaning, hence, the set of lines is called alphabet of lines. Draftsmen, architects and engineers can easily read the meaning of each line.

The table below shows the graphic illustration of the Alphabet of Lines.

Name	Symbols	Thickness of Lines
1. Object line	_____	Medium
2. Hidden line	-----	Light
3. Center line	_____ — _____	Very light

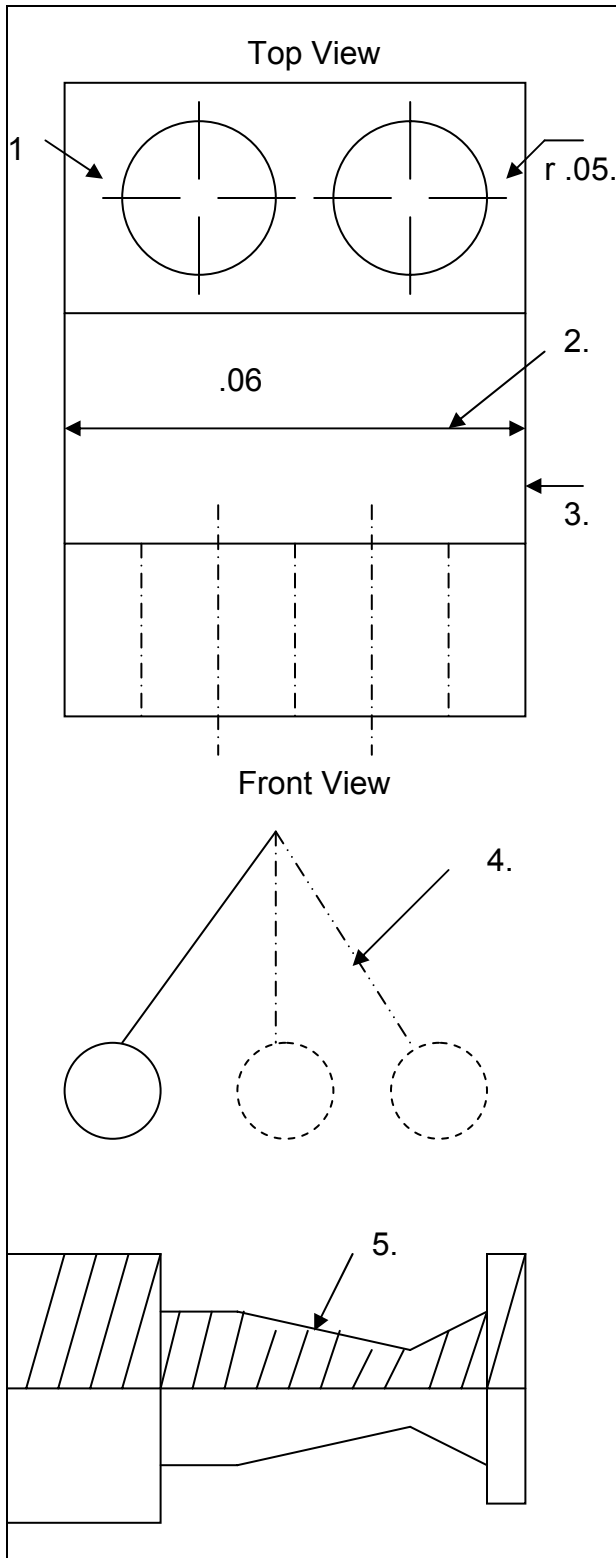
4. Dimension line		Light
5. Projection line		Light
6. Border line		Very heavy
7. Leader line		Light
8. Section line		Light
9. Cutting plane line		Heavy
10. Long break line		Light
11. Short break line		Heavy
12. Ditto line		Medium

Let us now interpret the meaning of the different lines.

1. Object line – represents the visible portion of an object.
2. Hidden line – represents the invisible part of an object.
3. Center line – represents the central portion of rounded objects.
4. Dimension line – indicates the measurement of the object being drawn.
5. Projection line – indicates the extent of the dimension line.
6. Borderline – the heaviest among the lines used to frame the drawing.
7. Leader line – leads the eye to the notation in the drawing.
8. Section line – a line composed of thin inclined lines that represent a surface that has been cut into a section view.
9. Cutting plane line – represents a portion of the object that has been taken or “cut” in a section view.
10. Long break line – represents part of an object that has been foreshortened to fit in the drawing paper.
11. Short break line – represents foreshortened objects such as tubes and wooden pieces.
12. Ditto line – represents the position of a moving object, like the alternate position of a moving pendulum.

Activity 1

Identify the alphabet of lines indicated by the given number.



1. _____

2. _____

3. _____

4. _____

5. _____



Self-check

A. Identify the line which each statement refers to:

- _____ 1. The line that represents the visible portion of an object.
- _____ 2. The line that represents the central portion of circular objects.
- _____ 3. The line that represents the invisible portion of the object drawn.
- _____ 4. The line that shows the extent of the measurement of an object.
- _____ 5. The heaviest line in the alphabet that frames the whole drawing.

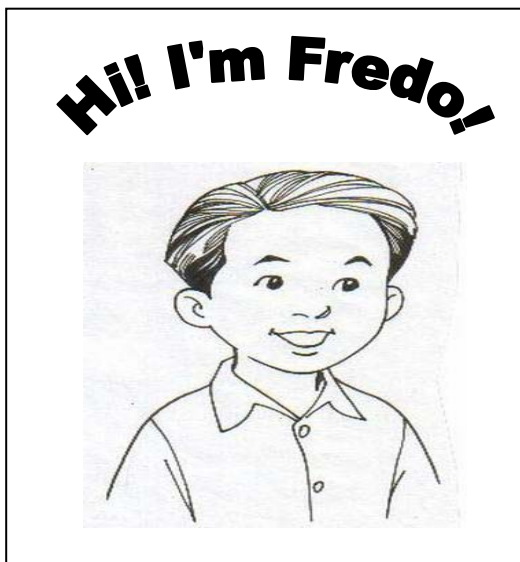
B. Draw the following Alphabet of Lines:

- 6. Leader line
- 7. Cutting plane line
- 8. Section line
- 9. Ditto line
- 10. Short break line

Lesson 2

Basic Lines in Freehand Drawing

Freehand drawing is a drawing technique which does not use drawing instruments or straight edges.



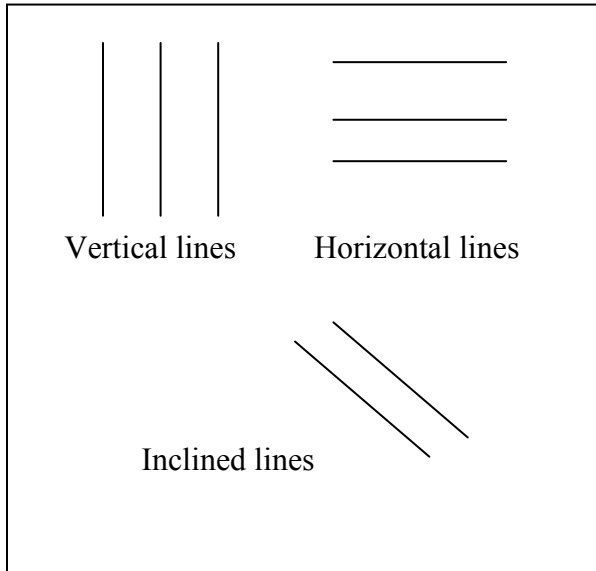
There are two kinds of lines used in drawing, the straight and curved lines.

Straight lines include:

- 1. horizontal lines
- 2. vertical lines
- 3. inclined lines

Curved lines include:

- 1. regular curved lines
- 2. irregular curved lines

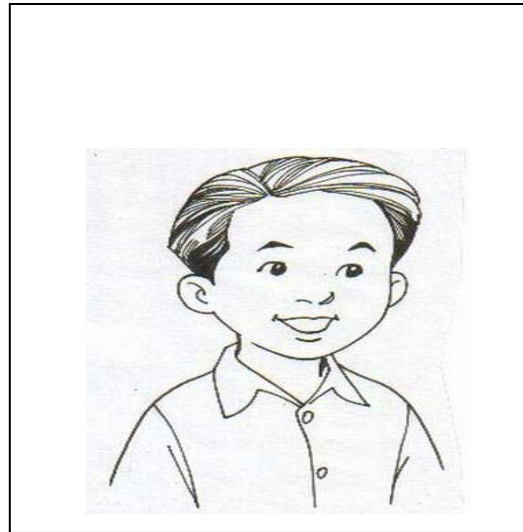


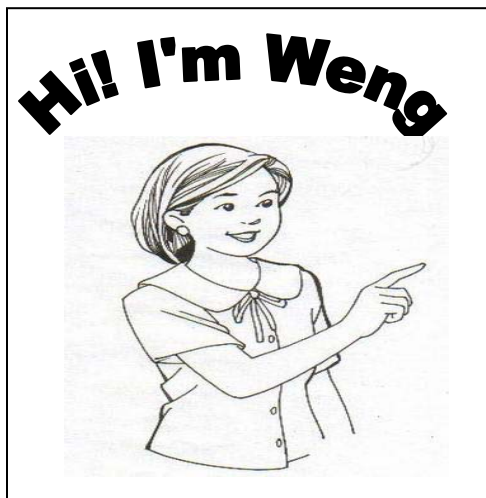
What is a horizontal line?

A horizontal line is a line that lies parallel to the horizon.

A vertical line is an upright line usually 90° from the ground

Inclined lines lie between horizontal and vertical lines

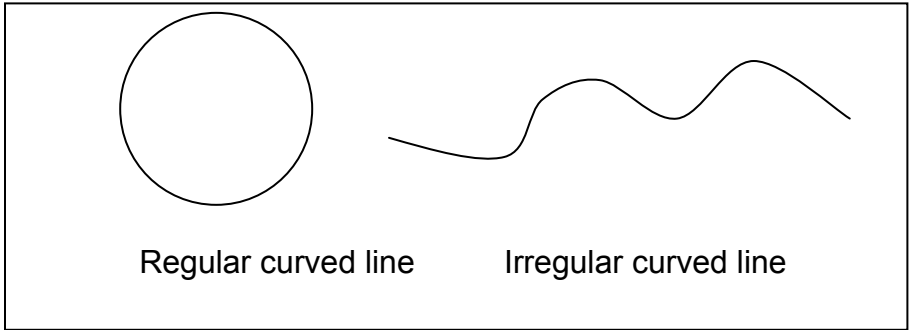




Let us define curved lines.

Curved lines are lines that are not straight such as circles, arcs and ellipses.

Irregular curved lines are more difficult to draw for they do not follow any particular pattern such as the waves, scrolls, and leaves.



Now, let's see how straight lines are drawn. There are four techniques in drawing straight lines as indicated below.

1. Horizontal lines are drawn from left to right, using wrist movements.

2. Lines inclined to the right are drawn from bottom to top.

3. Vertical lines are drawn from top to bottom also using wrist movements.

4. Lines inclined to the left are drawn from top to bottom.

Fredo again!

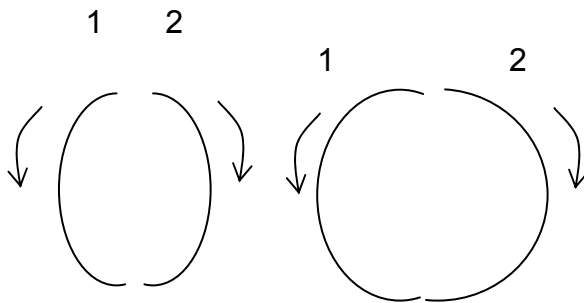


In freehand drawing, remember the following:

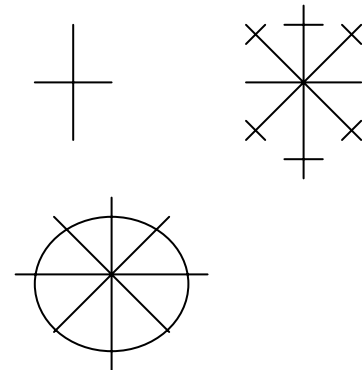
1. Sharpen your pencil before starting to work.
2. See to it that your workplace is clean.
3. Always observe speed accuracy and neatness.

Following are techniques in drawing regular curved lines:

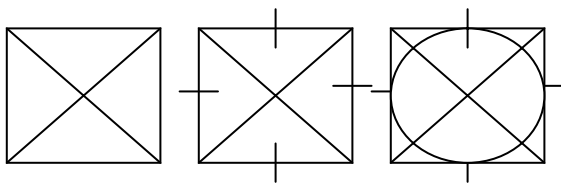
1. Two-stroke Technique



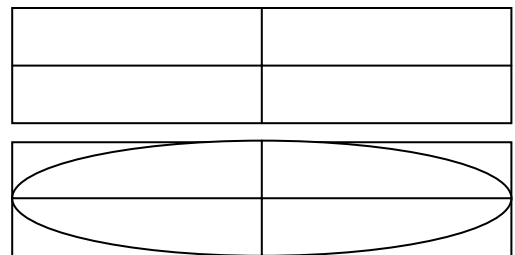
2. Radii Technique



3. Boxing Technique

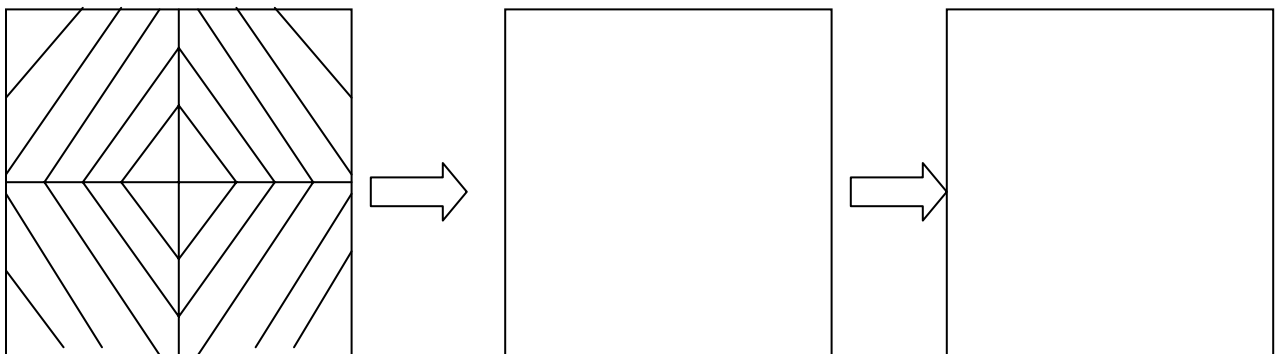
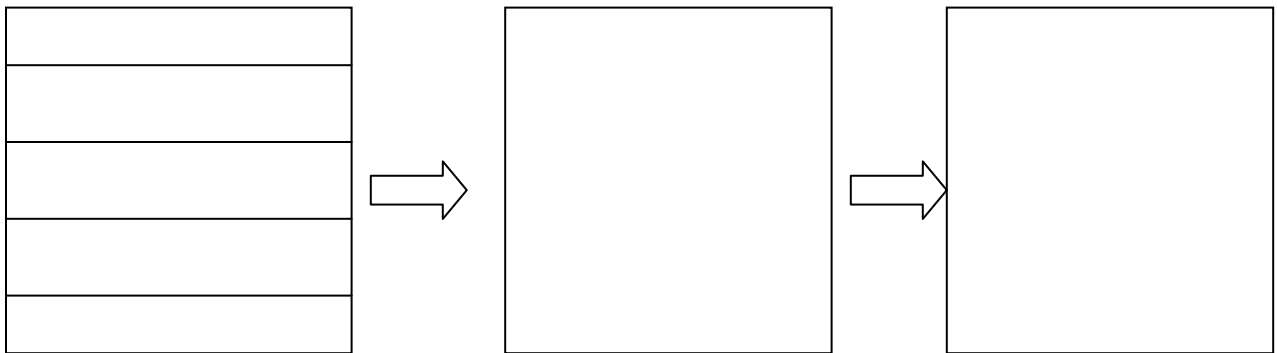
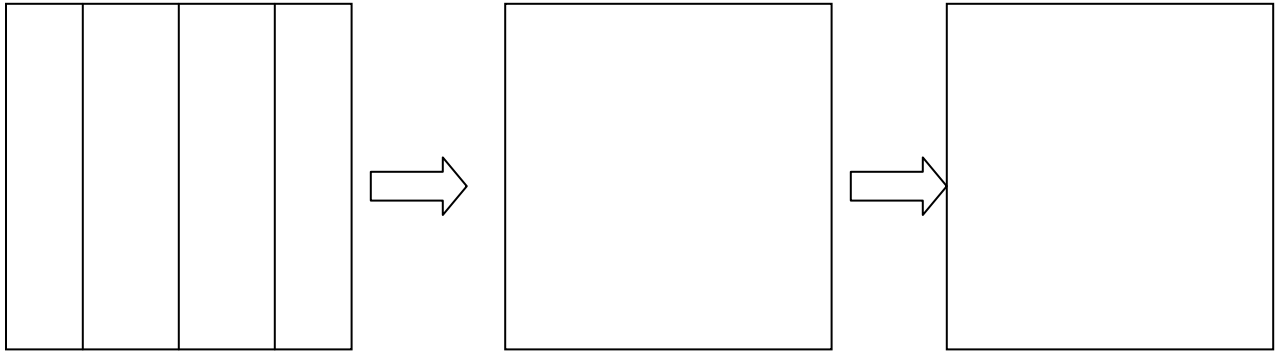


4. Parallelogram Technique



Activity 2

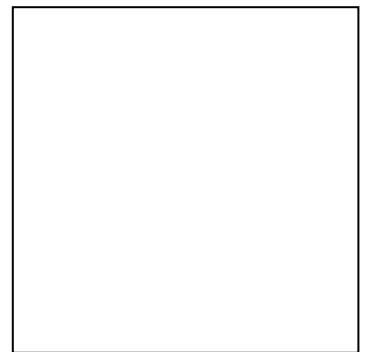
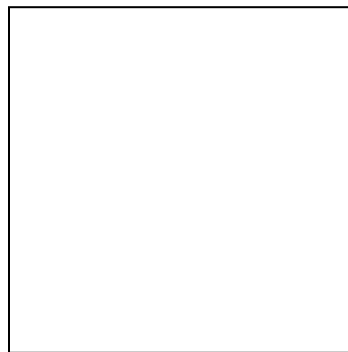
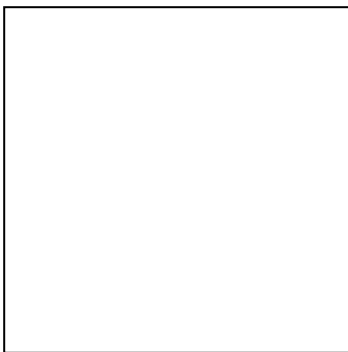
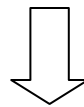
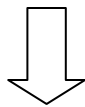
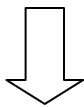
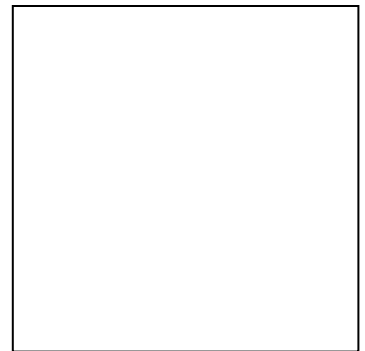
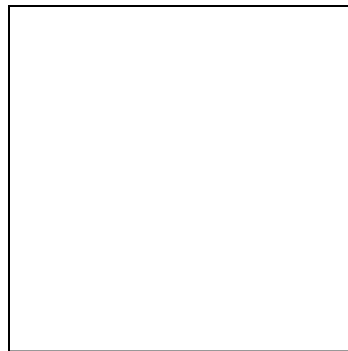
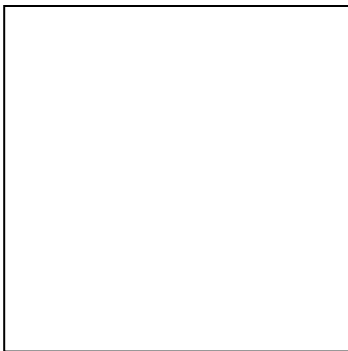
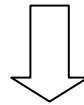
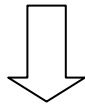
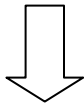
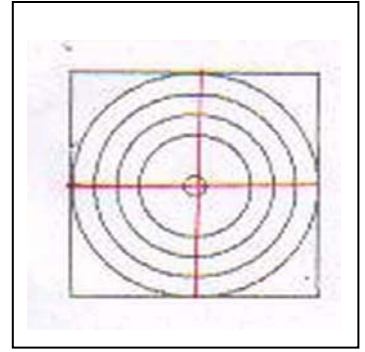
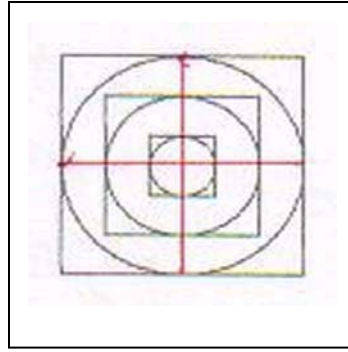
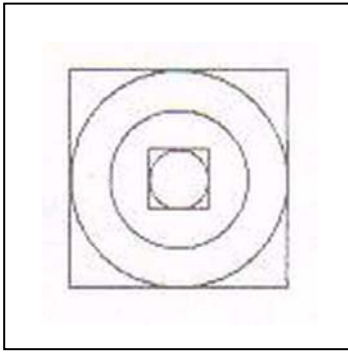
Practice drawing straight lines by copying the examples on the left.



Did you draw the straight lines correctly? What is the movement of the pencil in drawing vertical lines? What is the movement of the pencil in drawing horizontal lines?

Activity 3

This time you will practice drawing regular curved lines. Copy the samples in the first three squares.





Self-check:

Fill in the blanks to complete each statement.

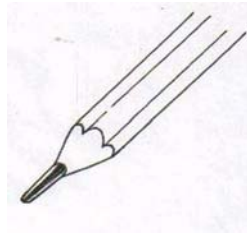
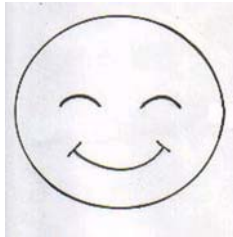
1. A line that lies parallel to the horizon is the _____.
2. A line that lies between the horizontal and vertical lines is _____.
3. Circles and arcs are examples of _____ lines.
4. Lines inclined to the left are drawn from top to _____.
5. Horizontal lines are drawn from bottom to _____.

Lesson 3

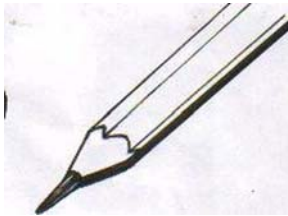
TYPES OF FREEHAND DRAWING

There are many ways of freehand drawing. You can draw freehand by outlining, accented or by shading using pencils. Soft pencils range from 1B to 6B.

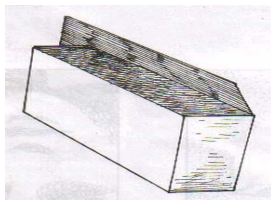
1. Outlining drawing objects in single line without shading.



2. Accented outline – the object drawn has varying degrees of thickness.

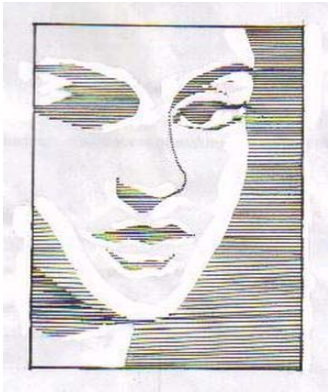


3. Shading – the process of making the surface of an object appear in various tones.

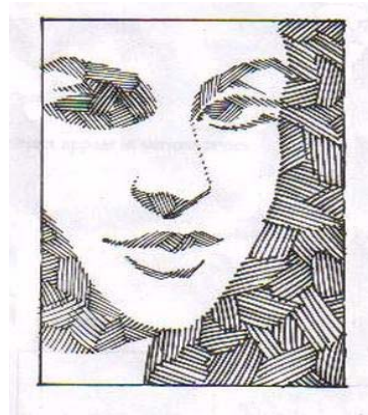


Following are different ways of shading:

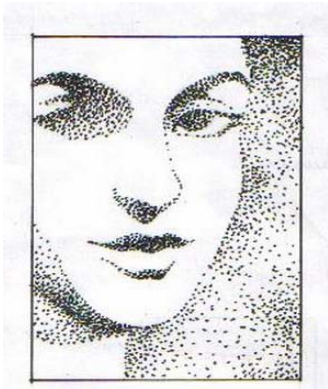
1. Line shading



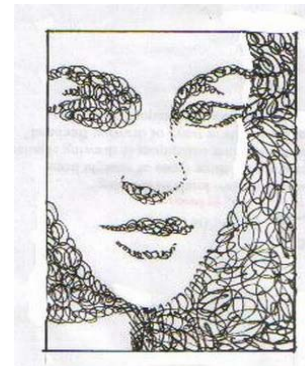
2. Cross hatching



3. Stippling



4. Doodling



Self-check:

Answer the following:

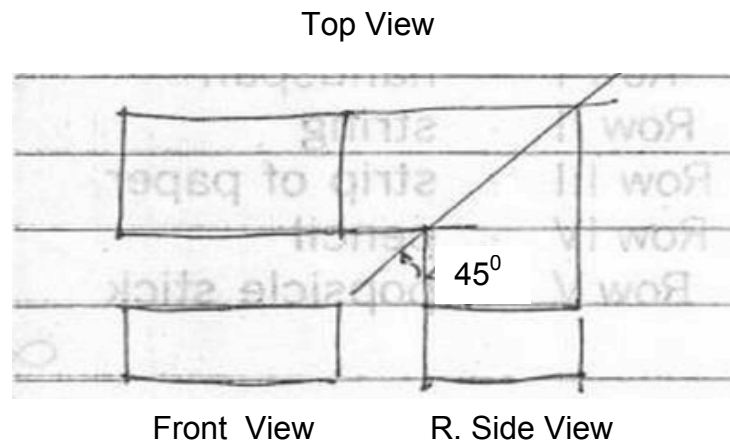
1. Enumerate the three types of straight lines.
2. What are the four techniques in drawing regular curved lines?
3. What are the three ways of drawing freehand?
4. Enumerate the four techniques of shading.

Lesson 4

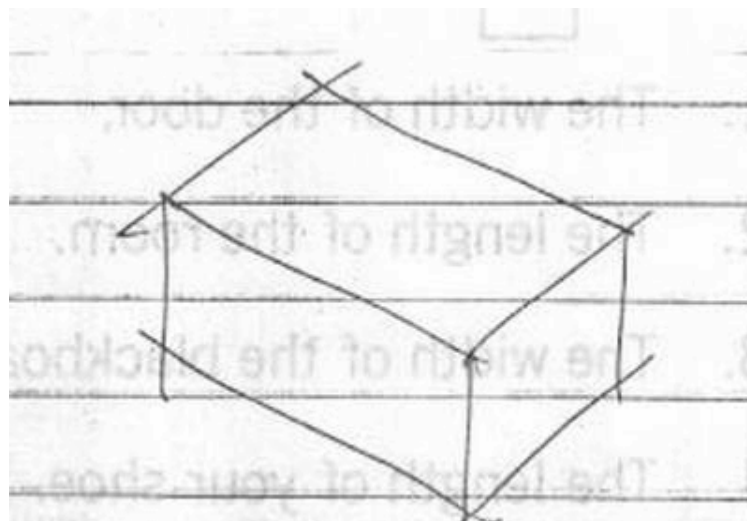
Orthographic and Isometric Freehand Drawing

Orthographic projection is a type of drawing which shows two or more views. Orthographic projection is based on the isometric drawing.

Orthographic projection has six (6) general views, but only three (3) are commonly used. These are top view, front view and the right side view, arranged as follows:

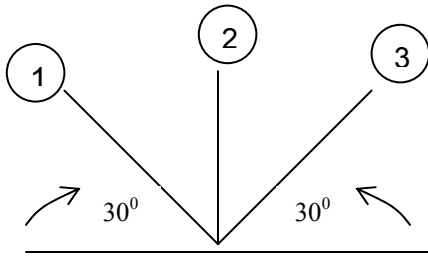


Isometric drawing is a pictorial view of an object. The meaning of “iso” is equal, while “metric” means measure. The reason for this distinction is that all measurements of isometric drawing are equal to the measurement in its orthographic projection. Below is a sample of an isometric drawing:



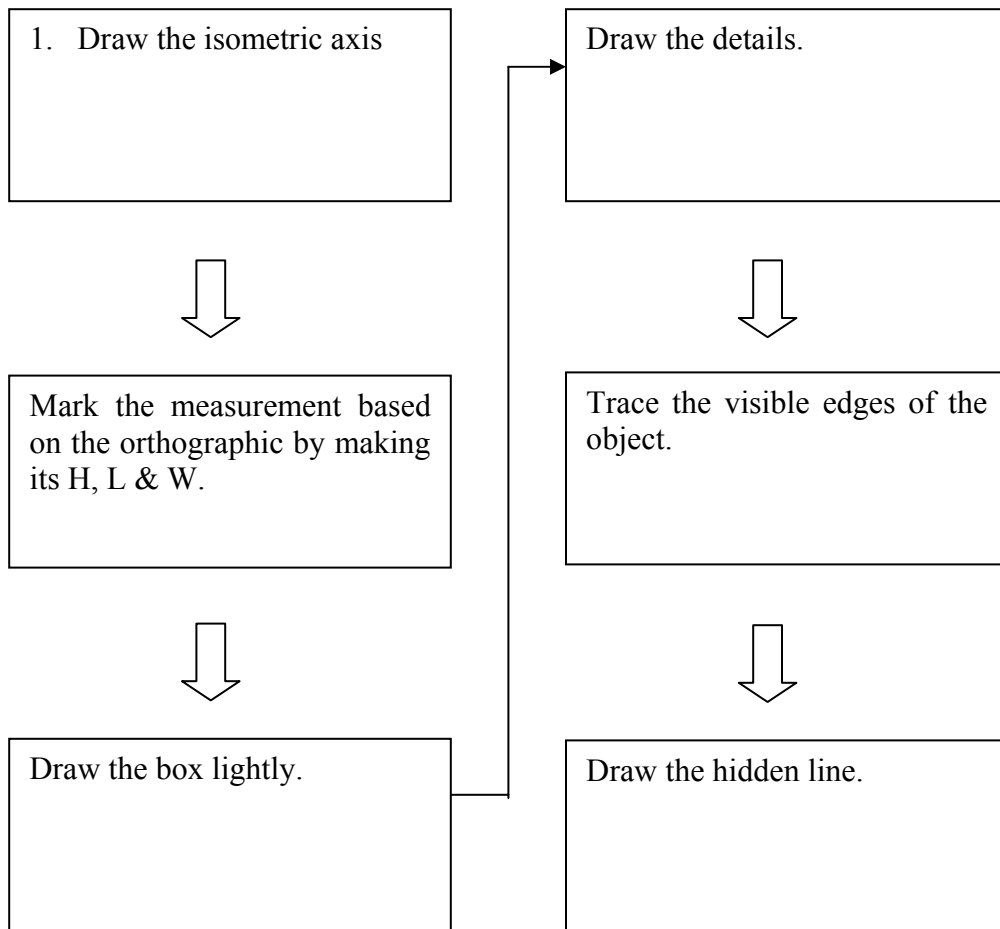
Isometric Block

To illustrate the isometric drawing, one must first learn to draw the 3 isometric axes:



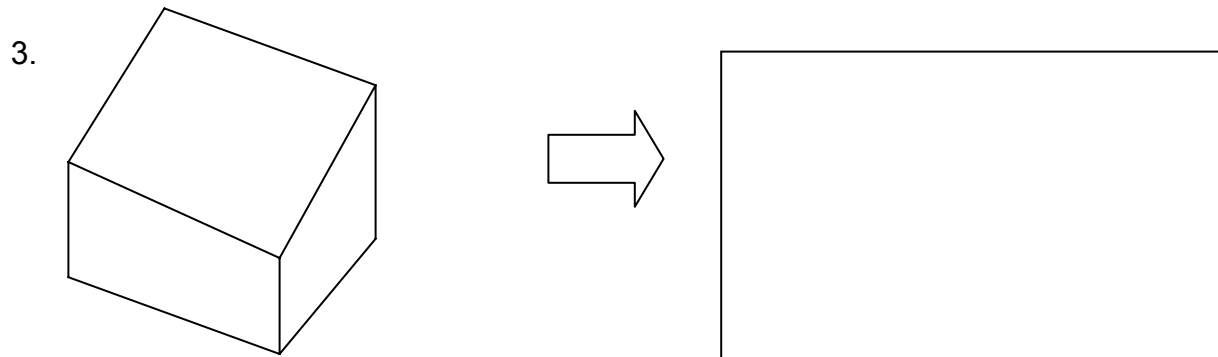
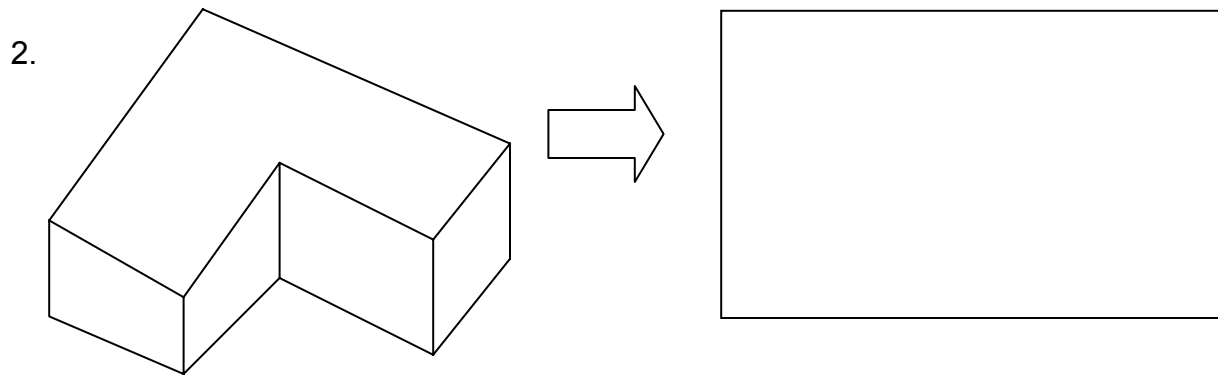
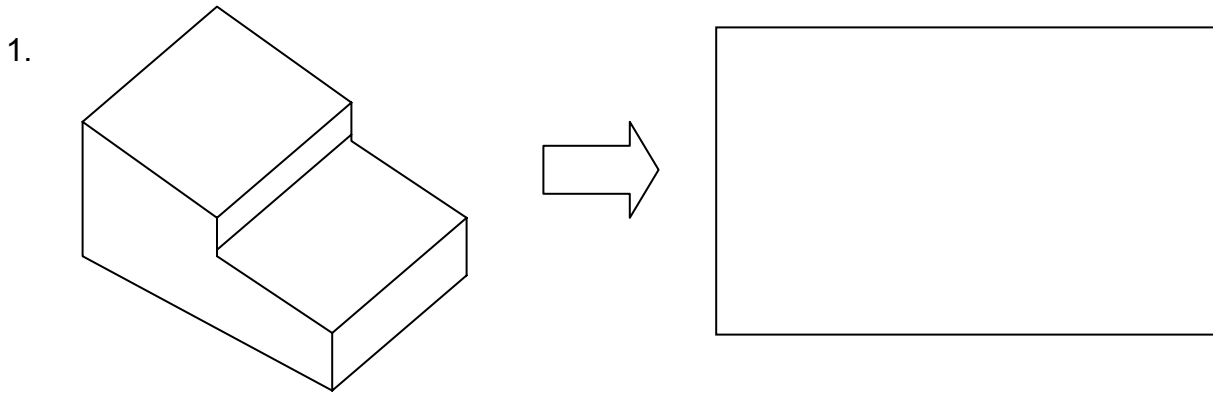
1. 30° – cross
2. Vertical axis
3. 30° right – cross axis

Following is the flow chart of steps in drawing the isometric block:

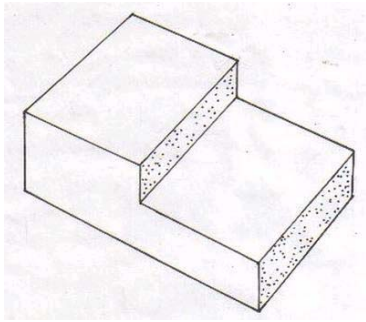


Activity 4

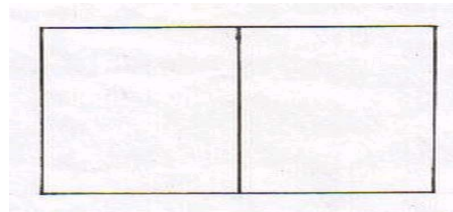
Copy the isometric blocks on the left. Follow the procedure explained in the previous page. Draw your own isometric in the boxes provided on the right.



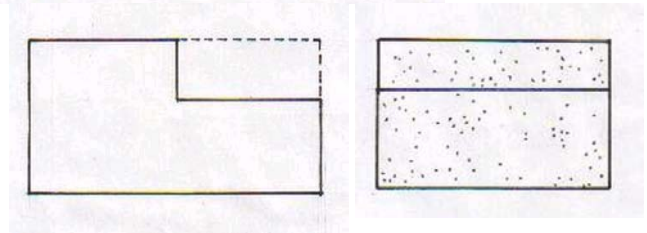
The illustrations below shows how to project orthographic views from Isometric blocks:



Front View

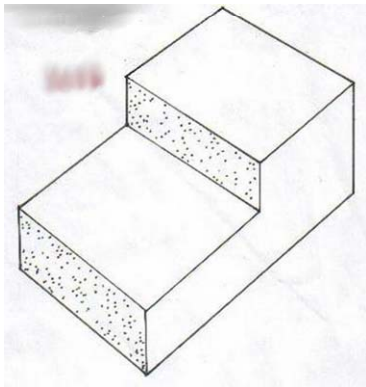


Front View

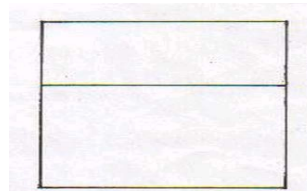


R. Side View

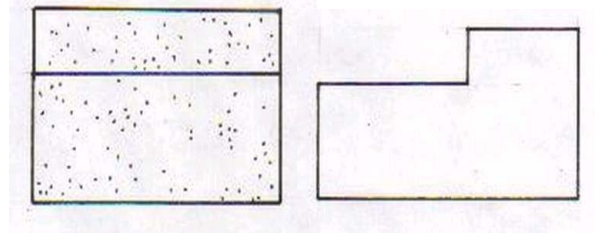
In drawing an orthographic projections, your eyes should be guided by the letter and the number in every point and surface of the objects.



Front View



Front View

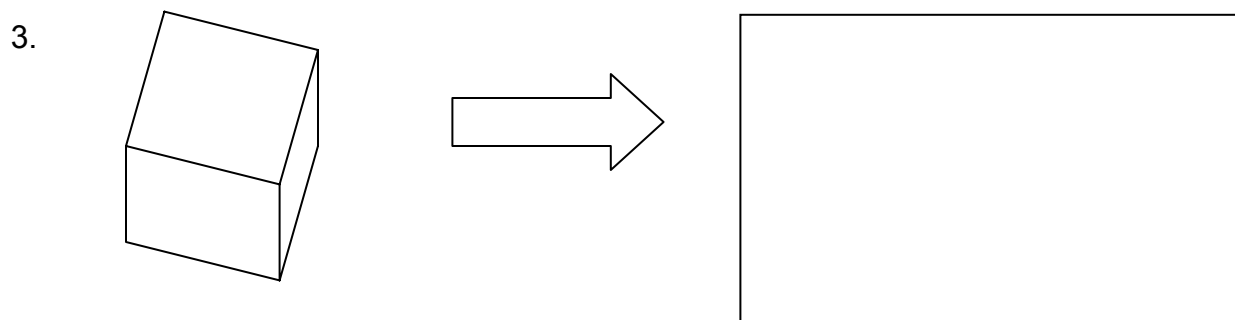
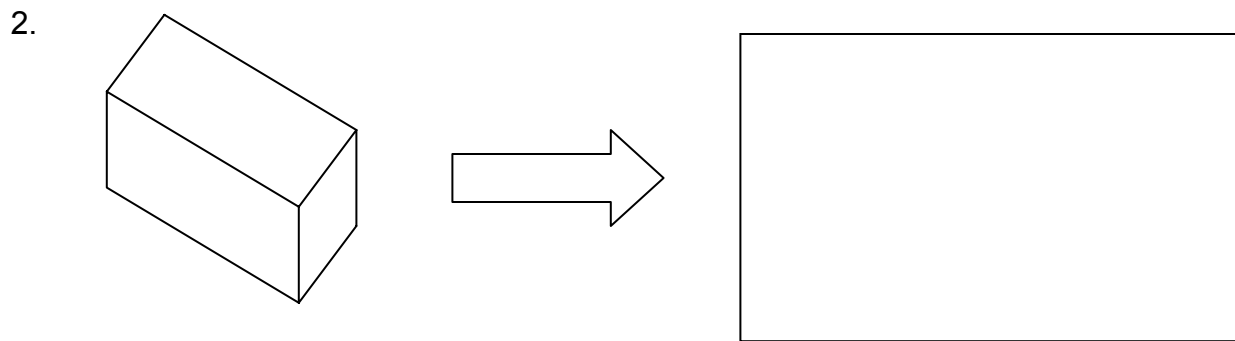
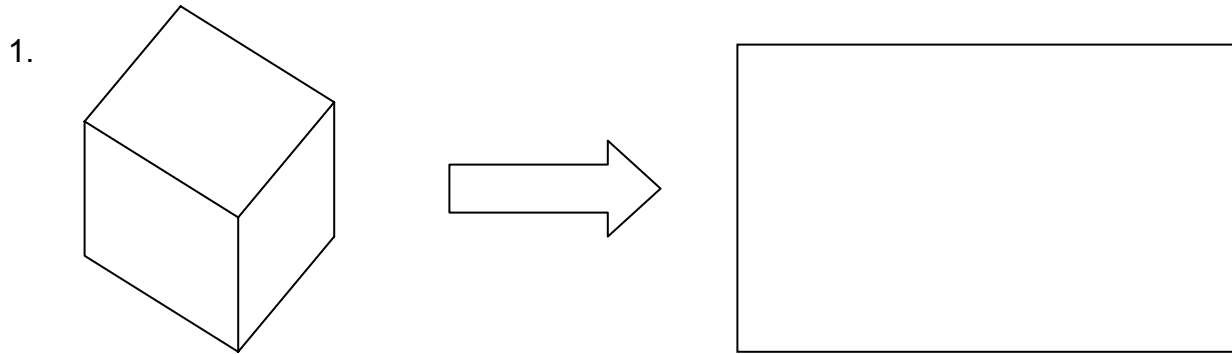


R. Side View

In drawing the orthographic projection, assume that the front view is located on the left side of the isometric block.

Activity 5

Draw the orthographic projection of the following isometric blocks:



Very good! You can now move on to the summary of this module.



LET'S SUMMARIZE

- ◆ The alphabet of lines is a set of standardized and conventional lines used in drawing.
- ◆ Freehand drawing is a drawing without the use of drawing instruments or straight edges.
- ◆ There are three kinds of straight lines, the horizontal, vertical and inclined.
- ◆ Examples of regular curved lines are circles, arcs, and ellipses.
- ◆ There are three types of freehand drawing, namely: outlining, accented outlining and shading.
- ◆ Shading could be done using other techniques such as line-shading, cross-hatching, stippling and doodling.
- ◆ Orthographic projection is a type of drawing which shows two or more views.
- ◆ Isometric drawing is a pictorial view of an object.



POSTTEST

Multiple Choice. Choose the best answer. Write the letter corresponding to the best answer on the blanks before each number.

- _____ 1. Horizontal lines are usually drawn from
- a. right to left
 - b. left to right
 - c. both ways
 - d. in any way
- _____ 2. A type of drawing that no drafting tool or instrument is used.
- a. sketching
 - b. freehand
 - c. artist's
 - d. designer's
- _____ 3. Which of the following is not a method of drawing regular curved lines?
- a. two stroke
 - b. radii
 - c. crate
 - d. box

- _____ 4. It is a line that represents the visible edges of an object.
- object line
 - center line
 - projection line
 - leader line
- _____ 5. Lines inclined to the left are drawn from
- top to bottom
 - bottom to top
 - left to right
 - right to left
- _____ 6. Which among these is not a regular curved line?
- circle
 - arc
 - ellipse
 - cone
- _____ 7. Drawing of objects in one single line without shading is
- accented
 - outlining
 - freehand
 - shading
- _____ 8. The use of dots instead of regular shading is termed
- doodling
 - pointing
 - stippling
 - dotting
- _____ 9. A type of drawing that shows two or more views.
- accented
 - isometric
 - outlining
 - orthographic projection
- _____ 10. A line that represents the position of a moving object is
- section line
 - ditto line
 - leader line
 - hidden line

You are now through with Module 3. Please check your answers to posttest by referring to the answer key on the last page of this module.

Relax for a while and prepare yourself mentally for the next set of modules in Handicrafts. You will enjoy it as you did in this module. Good luck!



ANSWER KEY

Pretest

1. Ditto line
2. Object line
3. Left to right
4. Orthographic
5. Freehand
6. Accented outline
7. Shading
8. Right side view
9. Borderline
10. Vertical

Lesson 1: Activity 1

1. Center line
2. Dimension line
3. Projection line
4. Ditto line
5. Section line

Lesson 1: Self-check

1. Object line
2. Center line
3. Hidden line
4. Projection line
5. Border line

Lesson 2: Self-check

1. Horizontal line
2. Inclined line
3. Curved lines
4. Bottom
5. Top

Lesson 3: Self-check

1. Horizontal
 - ◆ vertical
 - ◆ inclined
2. Two-strokes
 - ◆ radii
 - ◆ box
 - ◆ parallelogram
3. Outline
 - ◆ accented

- ◆ shading
- 4. Line-shading
 - ◆ doodling
 - ◆ cross-hatching
 - ◆ stippling

Posttest

1. b
2. b
3. c
4. a
5. a
6. d
7. b
8. c
9. d
10. b