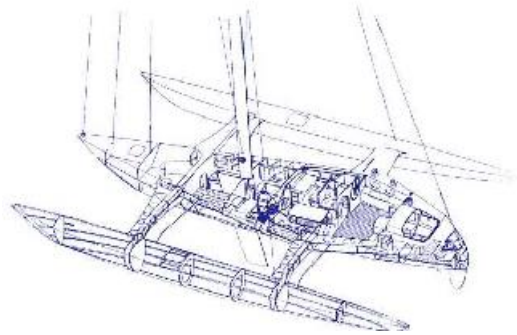


## Activity 1.4.3 Language of Sketching

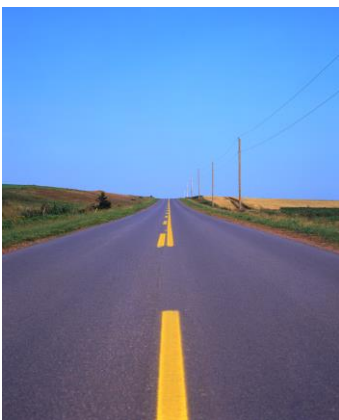
### Introduction

An important skill that you should learn while taking Design and Modeling is the skill of sketching. This language is quick, easy, and “worth a thousand words.” I know some of you say, “My drawings look awful!” If you stay with some of the techniques shown, all of you will be successful in quickly and effectively placing your ideas down on a sheet of paper for all to understand.

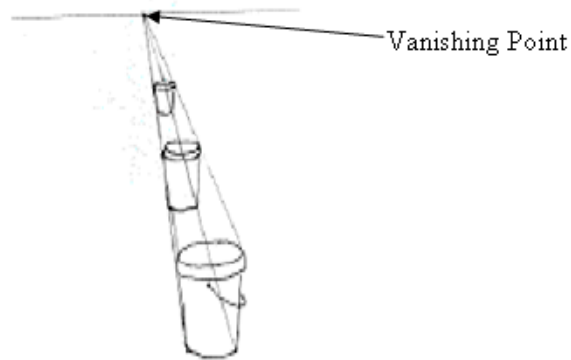
**Thumbnail Sketch:** This is a quick way to get an idea onto a sheet of paper. A sketch is usually small but drawn in proportion. The relationship of height to width should be shown in the thumbnail sketch. It is recommended that you use the pencil very lightly and darken when the drawing is in its final stage. A thumbnail sketch must be as detailed as necessary to convey your idea.



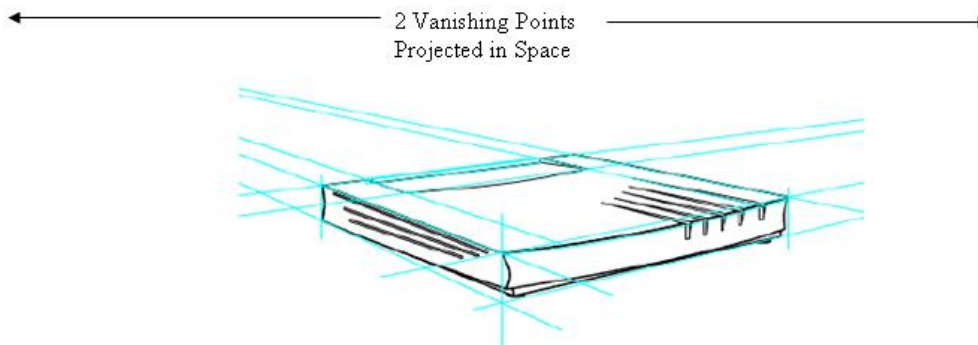
**Perspective Drawing:** Perspective drawings are pictorial representations of objects because they look like a photograph. Perspective drawings appear as the eye sees the object. Geometrically, an ordinary photograph is a perspective. While perspective is of major importance to the architect, industrial designer, or illustrator, the engineer at one time or another is certain to be concerned with pictorial representations of objects.



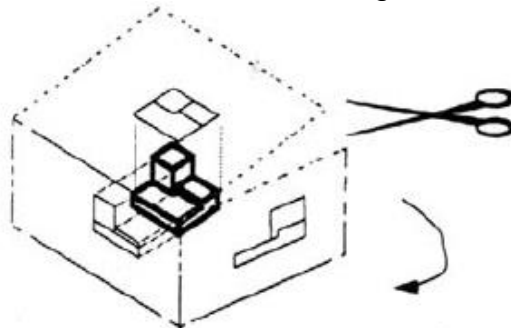
**One-point Perspective:** In a one- point perspective, an object is situated with one face parallel to the plane of projection; only one vanishing point is required.



**Two-point Perspective:** In this type of perspective drawing, the object is situated at an angle with the picture plane but with vertical edges parallel to the picture plane. Two vanishing points are required due to the turning of the object from the picture plane; the result is a two-point perspective. This is the most common type of perspective drawing.



**Orthographic Drawing (commonly referred to as multi-view drawing):** A photograph or a perspective drawing shows an object as it appears to the observer, but not as it truly is. Such a picture cannot describe the object fully, no matter from which direction it is viewed. It is said that a perspective drawing doesn't show TS&S (i.e., true size and shape). What is needed in industry is a complete and accurate description of the shape and size of an object that in the end will be made by the manufacturer. In order to provide information clearly and accurately, a number of views must be systematically arranged so that anyone in the world can understand. Using Universal Language Drawing practices with many views to describe an object accurately and clearly is called Multi-view Drawing or Orthographic Drawing.



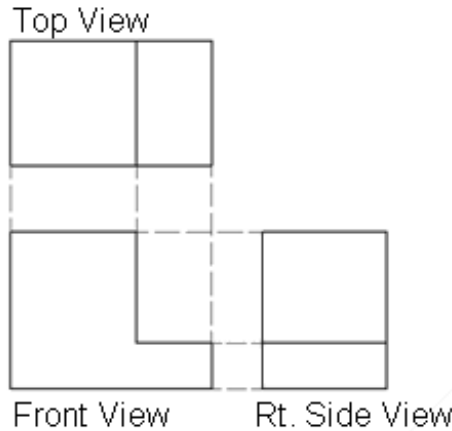
You will learn to look at objects in Design and Modeling™ in a way that “normal humans” do not. When you look at an object as a human, you see three different

dimensions (width, height, depth) all at once (like a perspective drawing). In an orthographic drawing, you will look at the object in three different ways. You will look at the front view and observe two dimensions – height and width; the top view shows width and depth; and, finally, the right side view shows height and depth. You must also keep in mind that this is a Universal Language; therefore, the positioning of the views is standard. The front view is placed in the lower left, the top view is placed directly above the front view, and the right side view is placed to the right of the front view.

Isometric Drawing:



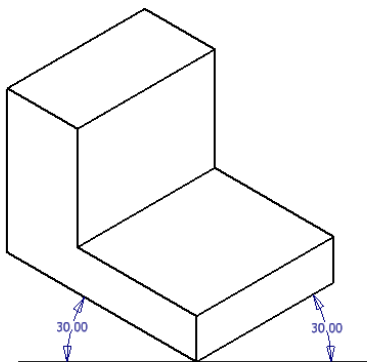
Orthographic Drawing:



Notice, the top view is on top of and directly in line vertically with the front view.

Notice, the right side view is to the right of and directly in line horizontally with the front view.

**Isometric Drawing:** An isometric drawing is often used for quick sketching to explain an idea quickly. It does not show how we actually see an object. The objects are drawn at an angle so that you can see three sides at once. All parallel lines are drawn in parallel, with no vanishing points, so that lengths do not diminish in the distance. Diagonal lines representing horizontal edges are drawn 30° from a horizontal base line.



**Matching:** Place the letter of the correct sketch in front of the term that describes that type of sketch or drawing.

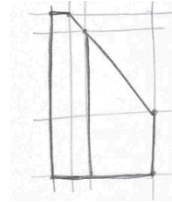
\_\_\_\_\_ Thumbnail Sketch

A.



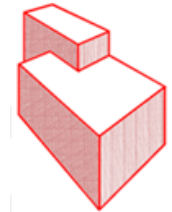
\_\_\_\_\_ One-Point Perspective

B.



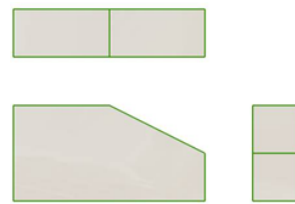
\_\_\_\_\_ Two-Point Perspective

C.



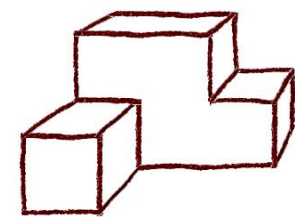
\_\_\_\_\_ Orthographic Drawing

D.



\_\_\_\_\_ Isometric Drawing

E.



## Conclusion

1. Have you used any of these methods to sketch in other classes? If so, which ones and in which class?
  
2. Which method(s) do you think we will use the most in Design and Modeling?