

SHEET 1

PENANG SANGAM HIGH SCHOOL

P. O. BOX 44, RAKIRAKI

LESSON NOTES - 20

SCHOOL: PENANG SANGAM HIGH

SUBJECT: TECHNICAL DRAWING

YEAR/ LEVEL: 11 C/D

Strand	TD11.3 APPLIED DRAWING
Sub - Strand	TD11.3.3 PICTORIAL PROJECTION
Content Learning Outcome	TD11.3.3.1 Demonstrate knowledge and skills in oblique projections and 1 point perspective of simple woodwork projects and engineering drawings.

PERSPECTIVE PROJECTION

A Perspective drawing is a pictorial view of a photograph is a perspective view.

FIVE MAIN ELEMENTS INVOLVED WHEN DRAWING PERSPECTIVE VIEWS

- (A) The viewer or observer - the position of the viewer's eye is referred to as the eye (E).
- (B) The object being viewed.
- (C) The Perspective projection plane - this plane is referred to as the picture plane (PP).
The PP is a vertical plane that is usually placed between the viewer and the object.
- (D) The lines of sight (projectors) - these are known as visual rays.
- (E) The surface upon which the viewer stands - this is referred to as ground plane (GP).



ACTIVITY

A perspective drawing can be obtained by standing in front of a large glass window and looking at a building through the window. Using a pen with water soluble ink, trace the outline of the building on the glass. The window becomes the picture plane, the floor is the ground plane and the rays of light from the object to the eye are the visual rays. This glass window can also be used to demonstrate 3 important factors;

1. The further behind a window(PP) an object is, the smaller it will appear.
2. The perspective view becomes smaller, the closer the viewer moves to the picture plane.
3. The height of the viewer's eye above the floor (GP) alters the shape of the view.

Perspect

Note: To draw perspective view these 3 factors must be fixed. The representation is known as Perspective Layout.

Perspective Drawings are particularly useful to closely resemble photographs before anything.

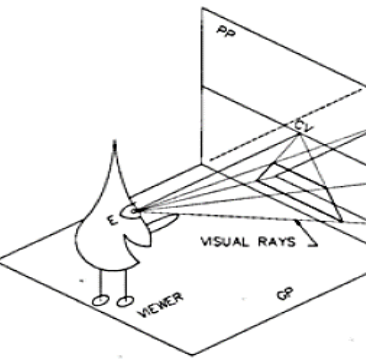
Figure below shows how a roadway appears to vanish in the distance. The point where the road and footpath vanish is called the vanishing point (VP) and is on the horizon.

A Perspective projection uses a single plane. This means that the lines of sight (projectors) effect. The perspective view is drawn where l

In perspective, the ground appears to rise from the viewer's feet until the horizon is directly in front of the eyes. The Horizon Line (HL) is drawn on the picture plane at eye level, parallel to the ground.

RULES TO REMEMBER

1. Lines parallel to the picture plane remain parallel to it.
2. Parallel Lines at 90° to the picture plane vanish at a single point called the centre of vision. The centre of vision is on the horizon line and directly in front of the eye.
3. Parallel lines that are not parallel to the picture plane vanish at a single vanishing point. This vanishing point will be on the horizon line if the lines are on, or parallel to, the ground plane. The vanishing point will be either on the right or left of the viewer.



TERMS AND ABBREVIATIONS

Picture Plane

A vertical transparent plane. The perspective view is drawn on this plane.

Ground Plane

The Plane on which the viewer stands, it is generally a horizontal surface.

GEOMETRICAL SOLIDS

Perspective views of Geometrical Solids are drawn by combining the previous two methods. Other solids are represented by enclosing them in square or rectangular prisms.

EXAMPLE 2

Draw the perspective view of a shaped block resting with an elevation on the ground plane and with a plan touching

Perspective means 'looking through' so if one was to stand before a window with one eye closed and draw on the glass what is seen, the result will be a perspective as shown below.



Steps

1. Draw the Perspective layout and locate the starting point.
2. Draw the plan and elevation in position.
3. Draw the Front face (In this case it will same as elevation).
4. Draw lines from the front face to the centre of vision.
5. Draw a visual ray from C to the picture plane and project down to locate point C in

