TECHNOLOGY DEPARTMENT
HISTORY OF PHOTOGRAPHY

CAMERA OBSCURA

The camera obscura was a completely enclosed dark room with a hole in one wall. This hole projected an image of the outside world onto the opposite wall. In the mid 17th century the camera obscura became portable. The picture to the right is of a camera obscura tent. The mirror at the top projects the image into the chamber where it is traced onto a piece of paper. Everything was in place for photography, except the chemistry.

PINHOLE CAMERA

A pinhole camera is similar to Camera Obscura (Dark Chamber). A Pinhole is a camera without a lens. A very fine needle hole in a thin sheet of metal replaces the lens. Light passes through the hole and an image is formed on film in the camera. A pinhole in a dark chamber would project an image of the brilliant scene outside. Our pinhole camera used standard photographic paper for recording an image.

Important parts:

Aperture- allows light to enter the camera, for a pinhole camera it is a fixed size. Normal cameras have an adjustable aperture to control the amount of light entering the camera. Aperture refers to the opening of a lens's diaphragm through which light passes.

Shutter - controls the duration of the exposure. Exposure is how long the aperture will be allowing light to enter the camera.

Photographic Paper: A base of paper coated with a light sensitive emulsion.

- Silver Particles are suspended in emulsion.
- Silver particles that have been struck by light during exposure turn black when processed in developer.

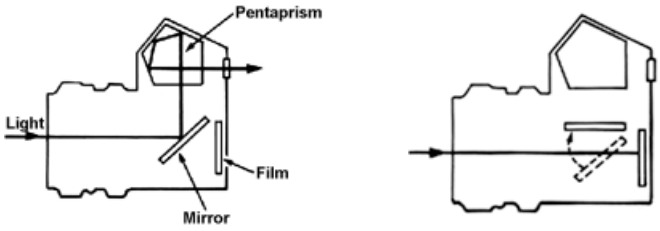
1. Basic Photographic Paper

Process & Chemistry:

1. Exposure - creates latent image.
2. Developer (1 minute) - image appears, causes light struck silver crystals to turn black
3. Stop (15 seconds) - neutralizes developing reaction, halts the developing process.
4. Fix (2 minutes) - removes remaing light sensitive particles, dissolves underdeveloped silver particles.
5. Wash (5 minutes) - cleans chemicals from paper.

SLR (Single Lens Reflex Camera):

Single-lens Reflex Camera Operations



In the SLR camera the light passes through the lens and is reflected off a mirror. The light then passes through a Pentaprism where it is reverted. The mirror remains in the same position until the shutter release button is pressed. When the shutter release button is pressed the viewing mirror rises allowing for the light to pass through to the film plate.

Film: Exposure to light creates a latent image. Through a process using chemistry a negative is made

ISO: film speed or sensitivity to light.

- Indoor shooting: ISO 400 up to 500
- Outdoor shooting: ISO 200
- Very low lighting (candle lit or moon lit): ISO 800, 1600, 3200

Photographic Enlarger: The enlarging lens allow you to pass light through your negative and create a print or photo. Again chemistry is used to develop the image all work must be performed in a darkroom.