

Worksheet 1
Using Technology as a Method

Art historians use many methods to better understand a work of art and to interpret its various meanings. These methodologies have developed over time and experience waves of popularity often in connection with the development of new definitions of “art.” When studying photo history, it makes sense to first consider the technology of using light to record a permanent image on a flat, static surface. While we will consider the progression of camera technology throughout the semester, we will find that it is based on several founding understandings of the natural world.

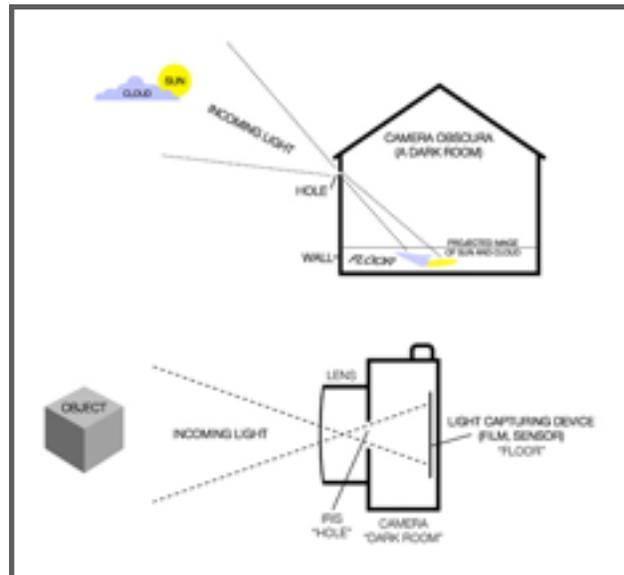
Read the following description of basic photographic technology then, define the terms, or describe the function they serve, in the table on the reverse.

“A camera is essentially a lightproof box with a hole, called an aperture, which is usually adjustable in size and regulates the amount of light that strikes the film. The aperture is covered with a lens, which focuses the image on the film, and a shutter, a kind of door that opens for a controlled amount of time, to regulate the length of time that the film is exposed to light- usually a small fraction of a second. Modern cameras also have a viewer that permits the photographer to see the same image that the film ‘will see.’

Photography is based on the principle that certain substances are sensitive to light and react to light by changing value. In early photography, a glass plate was coated with a variety of emulsions; in modern black-and-white photography, film is coated with an emulsion of silver halide crystals (silver combined with iodine, chlorine or other halogens) suspended in a gelatin base. (Color photos use a different light-sensitive emulsion).

The film is then exposed. Light reflected off objects enters the camera and strikes the film. Pale objects reflect more light than do dark ones. The silver in the emulsion collects most densely where it is exposed to the most light, producing a ‘negative’ image on the film. Later, when the film is placed in a chemical bath (developed), the silver deposits turn black, as if tarnishing. The more light the film receives, the denser the black tone created. A positive image is created from the negative in a darkroom; then the film negative is placed over a sheet of paper that, like the film, has been treated to be light sensitive, and light is directed through the negative onto the paper. Thus, a multiple number of positive prints can be made from a single negative.”

-Stokstad, Marilyn. *Art History*. Revised Second ed. Vol. 2. New York: Prentice Hall Inc., and Harry N. Abrams, 2005.



Definition or description

Aperture

Lens

Shutter

Light-sensitive emulsion

Exposure

Developing

Negative image

Positive image

What was the camera obscura and what role did it play in early photography?

What three things are necessary to use light to permanently record an image? What historical developments encouraged the invention of photography in the mid 1800s? In other words, why wasn't photography developed sooner given the long understanding of the three things necessary to create a photographic image?
