

## How to Make a Camera Obscura:

### Materials:

- Ruler
- Marker
- Long aluminum snack can with transparent lid (example a Pringles can)
- Knife
- Vellum, tracing paper, or wax paper
- Duct tape (preferably black)
- Pushpin or large safety pin
- Decorative paper
- Double-sided tape
- Foam

### Directions:

- Measure and draw a line around the can 2 inches from the bottom.
- Cut through the line with the knife to create two can sections (use adult supervision).
- Trace the bottom of the can onto a sheet of vellum (tracing or wax paper), then cut the circle out.
- Stack the pieces in this order: the bottom of the can (open end up), the lid, the vellum circle, and the top of the can.



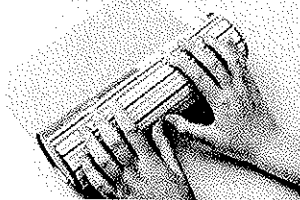
- Thoroughly wrap the seam with duct tape so that no light can come in.



- Flip the viewer over and use the pushpin to make a small hole in the center of the can's bottom. The smaller the hole, the sharper the image.



- Cut out a piece of foam to put over the perimeter of the open end of the can. Cut the foam piece in a circle and then cut the center out so it looks like a bagel. (This will make the camera more comfortable and by shaping to your face, it will prevent light from coming into the camera.)
- Tape down the foam and cover the camera with the black duct tape (again this will prevent any light leaks).
- For a more finished look, cover the viewer with paper secured with double-sided tape. Then decorate it to personalize your camera.



- To use your viewer, hold it up to one eye and gaze at a bright scene (something lit by sunlight or outside on a sunny day works best). To block out light, use one hand to cup the viewer to your eye.
  - Note: It is best to be in a bright room or outside on a sunny day. Your image may appear clear if you cover your head and “camera obscura” with a hood or dark sheet. The goal is not to have any light in the “camera” or around the viewfinder area but a lot of light outside the “camera obscura” so that you have a bright image reflected on the vellum inside. The image you see will be an exact replica of what is around you except that it will be inverted upside down.

These directions are taken from Disney Family Fun:

<http://familyfun.go.com/crafts/how-to-make-a-camera-obscura-841057/>