

HOW TO BUILD YOUR OWN CAMERA OBSCURA

The camera obscura that Cass, Max-Ernest, and Yo-Yoji visited at the Renaissance Faire was so large, their entire class could fit inside, but you can also make a camera obscura small enough to fit in your hands.

What you'll need:

A small cardboard box—It should be about the size of a shoe box, but it should be a traditional brown corrugated box with four flaps on top rather than a lid.

Tracing paper—or some similar translucent paper, like vellum

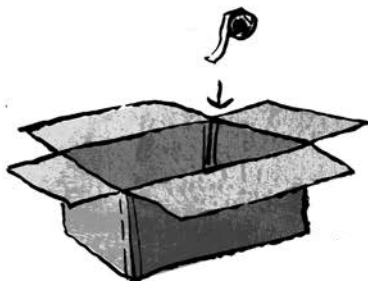
Black tape—or other dark-colored tape

A medium- to large-size nail—as in hammer and nail, not fingernail

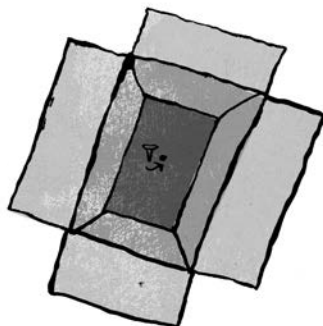
A blanket or large towel—a wizard's cape or spare toga would also work

To make the camera obscura:

Tape up the bottom side of the box—including the middle and the corners—so no light can get through the cracks.

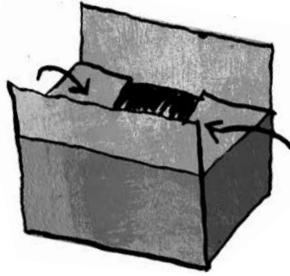


Then take the nail and poke a hole in the exact center of the bottom of the box. The hole should be just big enough to let light through, and the edges of the hole should be as clean and round as possible. This hole is your *aperture*—a fancy word that means *opening*.



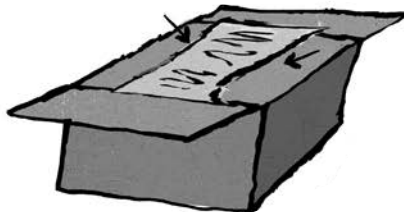
Now set the box upright so the bottom is the bottom again.

OK, this is the trickiest part. Notice that the top of the box has four flaps: two larger outer flaps, and two smaller inner flaps. Open the larger flaps and close the smaller flaps. Then tape the sides of the smaller flaps to the bottom edges of the larger flaps so that the smaller flaps stay flat (level with the top of the box), and so no light gets through.



You should now have a box that is completely sealed except for one rectangular opening.

Cut a piece of tracing paper a little larger than the opening and tape it over the opening, keeping the tracing paper as smooth and taut as possible. This is going to be the “screen” of your camera obscura.



Construction is finished.

To use your camera obscura, you should be standing indoors and facing a bright window. Throw your towel, blanket, or cape over your head. Then hold the camera obscura in front of your face with the “screen” facing you and with the open flaps to either side. The aperture should not be covered by the blanket. But all the sides of the camera obscura should be. You don’t want to see any light except what you see in your viewing screen.

On your screen, you should now be seeing an image of the window you’re standing in front of. The image will be upside down. Wave your hand in front of the aperture: your hand will seem to wave in the opposite direction. Do not try to walk at the same time.

