Light Box

(Developed with help and ideas from Chris de la Tour, the Exploratorium's Institute for Inquiry, Don Rathjen, and Modesto Tamez)

Materials

- 1 "banker's box"
- 1 clear light bulb (40 watts, tubular bulb)
- 1 extension cord
- 1 plug-in light socket adapter
- Duct tape
- Mat knife
- Scissors
- Ruler
- 2 brads
- 1 rubber band
- Hot glue gun and glue (optional)

Assembly:
The box lid will be the BOTTOM of the light box. Use the mat knife to cut a V-shaped notch in the "rim" of one of the long sides of the box.

Use a ruler to find the center of the long side of the rim of the box lid (the side opposite the notch). Mark the center of the rim. Measure and mark 6 cm from each side of the center mark. Cut that 12 cm long piece of the rim (this will become the window).

Place light bulb into adapter, and plug adapter into extension cord. Rotate the light until the brightly lit filament looks the most like a vertical line. This is the side of the light bulb that should face the larger opening you cut in the lid.

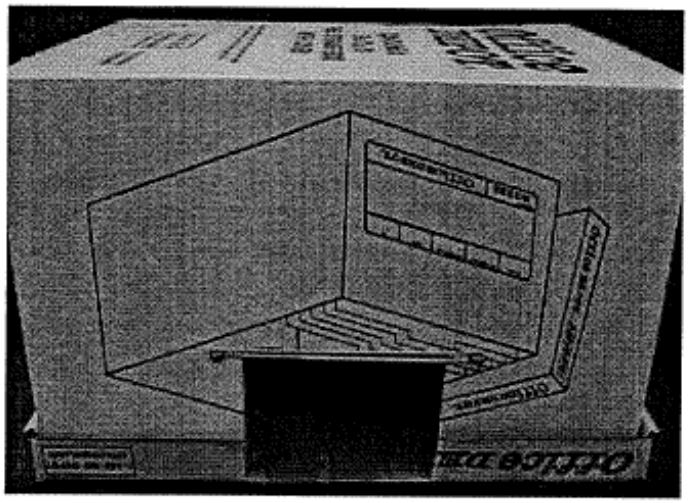
Hot glue or tape the extensions cord in place so that the filament appears most like a line from the window.

Unplug the light again.

Place box lid facing up, and place box bottom onto it. Mark where the V-shaped notch should be cut into the "top" piece. The notch is where the cord exits the box.

Then, mark where you will cut the 12 cm wide window based on the cuts you already made. Cut the window so that it is 12 cm wide and 10 cm tall. Cut the notch.

Push the brads into the box on each side of the "top" of the window.
Stretch a rubber band between the two brads.

Use the mat knife to cut a vent hole, 5 cm x 5 cm in the center of the box bottom (which is now on top).

Now your light box is ready to use.