THE STEP BY STEP

1 - Poke a pinhole in the short end of your cardboard box (use a thumb tack, paper clip, needle, or sharp pencil tip).

2 - Cut a square (about 2 inches on each side) into the opposite end of the box.

3 - Cover the square hole with wax paper.

4 - In a dark or dimly lit room, point the pinhole towards a light source (a lamp, window, candle, tv, holiday light, etc) and an image will appear on the wax paper. If you want to use your pinhole camera outside or in a brightly lit room, you will need to cover your head and the wax paper end of the camera with a towel or blanket to block the light.

5 - If you alter your camera a little (do not cut the viewing square, and use photosensitive paper on the inside of the box where the wax paper is now), an image can be captured for later processing and viewing.

ADDITIONAL QUESTIONS

How does your pinhole camera work?

What is an aperture? What is a focal length?

Why is your image upside down? What is the camera obscura effect?

What happens when you make the "pinhole" larger or smaller? How about if we make two pinholes?

How is the pinhole camera similar to a human eye? How is it different?

ADDITIONAL RESOURCES

Develop Your Own Pinhole Camera Photographs
https://www.youtube.com/watch?v=O4bf2IO3-Wg

National Geographic: Pinhole Cameras
https://video.nationalgeographic.com/video/00000144-0a2b-d3cb-a96c-7b2fa82b0000

Pinhole Photography: History & Images

TED-ED: Eye vs Camera
https://www.youtube.com/watch?v=OGqAM2Mykng

Wired: build a pinhole videocam
https://www.wired.com/story/build-your-own-pinhole-videocam/