Camera Obscura

Camera obscura means dark room. Camera obscuras can be used to prove that light travels in straight lines. They are dark rooms or boxes with a small hole (aperture) that lets in the light. This makes an image on a wall or screen. Let's find out what we can see when we look through a camera obscura.

You need:

- Scissors
- Sticky tape
- A Ruler
- A pen
- x2 toilet roll tubes
- Tin foil
- Greaseproof paper
- Coloured card/ paper
- Cocktail stick/ needle

1. Measure one of your toilet roll tubes and cut it in half.

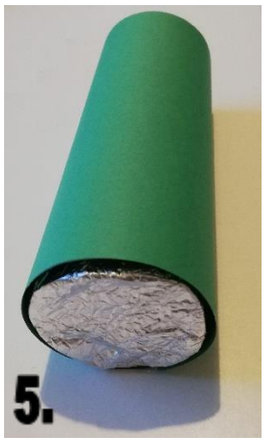
2. Cover one end of the long toilet roll tube in greaseproof paper.

3. Next, we need to attach the small piece of toilet roll tube on top of the long piece of toilet roll so that the greaseproof paper is sandwiched in the middle.

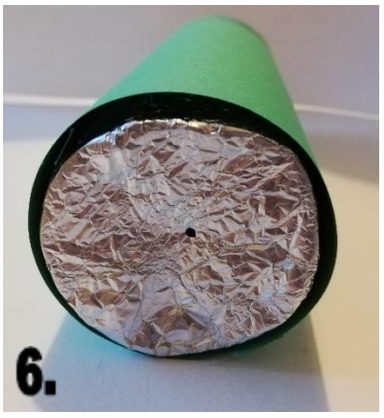
4. We then need to cover the end of the small piece of toilet roll tube with tinfoil.

5. Cover the outside of the tubes in coloured card or paper. This will help make the inside of the camera obscura darker.

6. The final step is to put a very small hole in the middle of the tin foil. Use your cocktail stick or needle to make the hole. Make sure you don't make it too big.



Point your camera obscura towards a window. What can you see? Get someone in your family to stand in front of the window and wave their arms. What is happening?

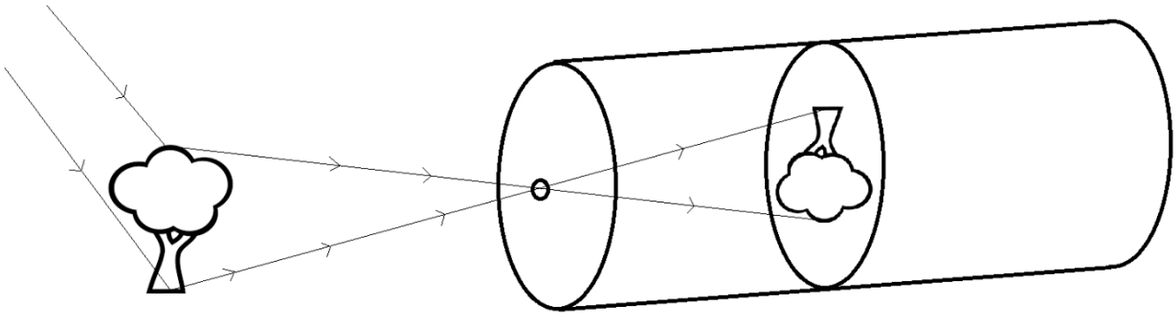


WARNING: Never point your camera obscura directly at the sun as you could damage your eyes.

What's Happening?

Light travels from a light source. Sometimes it is reflected off an object and into our camera obscura. Only a small amount of light can enter because our aperture is so small.

In this picture the light is reflected off the top of the tree through the aperture and to the bottom of our camera obscura screen. Light is reflected of the bottom of the tree into our aperture and onto the top of our camera obscura screen. Because light travels in a straight line the image is upside down and back to front.



What happens if you make the hole bigger?

What happens if you more than one hole in your tin foil?