



Timatanga Hou Camera Obscura: how to make a camera obscura room

How to make a room at your school, or in your home into a camera obscura



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How to make your own camera obscura

...converting a room into a camera obscura



Watch a 2 minute Youtube clip as Diane Stoppard make a camera obscura from her bathroom

[How to Build a Camera Obscura \(with Diane Stoppard\)](#)



What you need

- a suitable room
- basic tools - scissors, cutting blade, tape measure, staple gun
- black builders plastic and tape
- a thick blanket or blackout curtaining to cover the door
- a thick tin foil (old pie plate)
- a hole punch

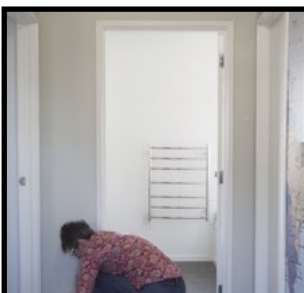
Select a room that allows you to block out all the light coming into it

Choose one that has a window facing a good view outside. It is best if the sun is falling on view outside the window, as it will give you a brighter scene. Any sun shining onto your window will mean your inside image will be soft and flared. Moving objects (e.g. cars driving past, trees in wind, sea) outside your window will be interesting in your final image.

Find a room that will be easy to block out all the light from. The fewer windows and doors in the room the better, as there will be less to block out. You will be using tape to stick up your block-out material so check the window and door jams can handle this without peeling off paint etc.

White or light walls and ceiling will reflect the light and make a brighter image.

Bathrooms at home and storerooms/offices at school often work well.



Finding the perfect room...

- can it block out all the light?
- does it have a sunny view and lots of movement to watch?
- does it have just a few windows or doors to block out?
- does it have fairly plain/bare light coloured walls and ceiling?

Make a pinhole

Cut a square from the bottom of your tinfoil plate. Use a hole punch and make a hole in the middle – work carefully and make it as perfectly round as you can.

You can get hole punches and rivet punches in many sizes - a large hole will give you a very bright image and a small hole will give you a darker, but sharper image. A standard paper hole punch is a good size for a room and is easy to do if you make your square of tinfoil about 3 cm square.

You may want to smooth out your pinhole or even sandpaper it with a very fine sandpaper.

This will be the pinhole that you tape on the window.



Make a pinhole...

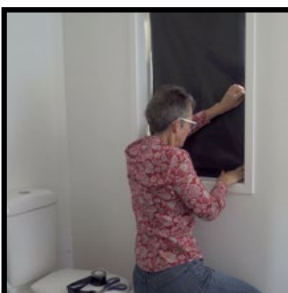
- punch a round hole in a piece of metal foil

Block out all light

Measure and cut the black plastic to fit the windows. Seal the edges using black tape so that no light comes into the room. Choose where you want the pinhole to be (facing the best view) and cut a hole in the plastic about 5 cm square. Tape the edges of this hole flat to the window glass. This is where you will tape your carefully made small pinhole.

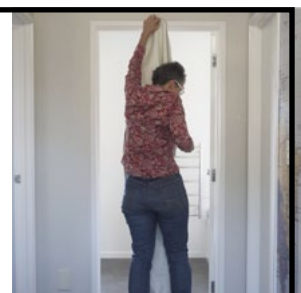
Staple a blanket or blackout curtain over the door on the outside of the room and another on the inside of the room. Staple across the top and down one side. Leave lots of material at each side and extra at the bottom to drape on the floor so no light can sneak in. This will create a double curtain seal which means you can still walk through, but it helps keep all the light out.

Turn off the lights and check that the only light is coming in through your 5cm hole in the plastic taped to the window...you may already see the start of an image forming on the walls



Black out the room...

- tape plastic to all the windows
- cut a hole in the plastic for your pinhole to be taped to
- make a double curtain over the door
- check for light leaks





Tape your pinhole...

- tape your pinhole to the window
- sit back and enjoy the camera obscura show!

Tape your pinhole to the space in your window

Use the black tape and tape your pinhole to the 5cm square space you have cut out of the black plastic that is covering your window.

Seal it around the edges to make sure the only light coming into the room is through the pinhole.

Turn off any lights you have on.

Try not to look at the bright pinhole, look at the walls and ceiling to let your eyes adjust to the darkness ...your moving image of outside should appear...upside down and back to front!!



Timatanga Hou project team (Diane Stoppard, Felicity Christian, Trish Clarke) inside the trial camera obscura room.



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This resource is free to download and use for educational purposes. It was researched and written in conjunction with the Photography Department, Bachelor of Applied Arts, NorthTec and with assistance from NorthTec Research Committee.