### **Ri** The Royal Institution Science Lives Here SCIENTIST CENTRE



# LYSC Retro Technologies Workshop: Taking a Photograph

Having built your pinhole camera, the obvious next step is to load it, and take a photograph! Photographic paper works because it is light sensitive, therefore you should take care during this process to avoid exposing the paper to unwanted light at every stage.

## Taking a Photograph – step by step

#### Loading the camera

1

Prepare your workspace. In order to load your camera, you need to take the photographic paper from the box, and insert it into the back of the camera. This is the first time you could unintentionally expose your paper.

You will need a thick towel or blanket to work under, or you could darken the room and use a red photographic safe light to work by (red bicycle lights are a good substitute, though you may want to check they do not slowly expose the paper).

Carefully remove a sheet of photographic paper from the box, you might need to cut the paper to the correct size (12.5cm x 9cm) if this has not been done for you. Try to hold the paper by the edge as you want to avoid leaving fingerprints on the light sensitive surface. Before you do this you may want to check which side of the paper is the light sensitive side! It is usually the glossier of the two and possibly practice the procedure with some normal paper in the light first.

Insert the paper into the camera, with the light sensitive side towards the pinhole (this may seem obvious, but is a very easy mistake to make!

Once the paper is within the camera, make sure the shutter is closed, and you can remove the camera from the towel (or turn the lights on).

### 2 Exposing the paper

Find a suitable subject for your photograph. For your first try, something that isn't going to move and has some obvious features is probably best – such as some distinctive architecture.

Once you have chosen your subject, you need a stable still surface for your camera. This will ensure you get a nice sharp image with no blurring. You may also want to place something on top of the camera to stop it shaking

Now, you will need to consider the amount of light available. The amount of time you expose the paper for will change depending on how much light there is and how large you made the pinhole (see the making the camera info sheet). The more light, the less time you need to expose your paper for. As a rough guide, bright sunlight will need an exposure of around 20-30 sec, whereas inside you will need to expose the paper for up to 5 minutes. However, there are no hard and fast rules for this. You may want to experiment with different exposure times to see what gives the best image.

Once you have decided on an exposure time, carefully slide open the shutter making sure you do not move the camera, and start timing. When you have exposed the paper for your desired amount of time, slide the shutter closed.

You are ready to develop your (hopefully excellent) photograph! Your paper should be stable inside the camera for a while as no light should be able to get inside – however, developing the picture sooner is usually better.

Remember to remove the paper in a dark room and if you want to take several shots before developing you will need a 'dark' bag to store them in.

If when you develop your paper the negative image is too light you will need to increase your exposure time, if too dark on the negative you should decrease the exposure time.