

# Lumen negatives

Outdoors, Age 11 – 16, Cost per student in £– 1.00

Curriculum areas – Science, Art, Photography, Chemistry, ICT

A lumen print is an undeveloped paper negative made in a camera using light sensitive photographic paper without the use of chemicals. It is a project for a teacher to 'demonstrate' to a class. Although a bit advanced, it is a great way to make use of old bellows cameras, giving students an insight into chemistry of light and a chance to use historical and widely accessible cameras.



## What does it do?

It enables students to see a paper negative form in an old film based camera without the need for film which is expensive and requires a darkroom and chemistry, all of which may take too much time and money for normal lessons. It's also fun watching a class of 30 kids trying to keep completely still for the 5 minute exposure!

[Videos and further information here](#)



## How is the image made?

In subdued indoor lighting the photographic paper is cut down to fit into an old film camera. This picture is then taken outside, ideally in sunlight, for several minutes which allows the image to build up on the light sensitive paper in a similar way to it getting a sun tan. No chemistry needed.

## What cameras do I need?

Any camera with a 'b' or 't' setting will work although the 'b' setting will need to be held or taped down throughout the exposure. Many old Bellows and Box Brownie cameras have a 'T' setting which allows the shutter to be kept open for a long period of time. You can even make your own camera using a magnifying glass! Instructions above.

## How do I save the final image?

The best way is to return indoors and photograph the image immediately it comes out of the camera before it goes dark. The digital image of the negative can then be inverted and contrast added for the final positive print.



Homemade 'Lumen' camera made from a WW2 Aviation lens!