# Making a pinhole camera / Teachers notes

## Focus

This activity requires students to construct a pinhole camera and investigate how it works.

## Objectives

Students will:

- learn about how a pinhole camera works
- construct a pinhole camera.

## Outcomes

All students will:

- construct a simple pinhole camera and observe the image produced on the screen.

Most students will also:

- describe what they can see.

Some students will also:

- explain why the image is inverted.

## Equipment (per group)

- Empty crisp tube.
- Marker.
- Ruler.
- Craft knife.
- Drawing pin.
- Masking tape.
- Aluminium foil.
- Scissors.
- Optics filament bulb.
- Worksheet: *Making a pinhole camera* (1 copy per student).

## Running the activity

Tell the students that they are going to make a simple camera obscura or pinhole camera. Give the students a copy of the 'Making your own pinhole camera' worksheet. Introduce the equipment they are going to use and go through the procedure. Emphasise that when they are making the pin hole with the drawing pin that the hole should be in the centre of the metal. They should put the short cylinder with the open end on the table so that the they can push the drawing pin down with their thumb. Also if the plastic lid is clear they will need to put grease proof paper across the open end of the cylinder before putting lid over it. When taping the cylinders together and when putting on the covering of aluminium foil they will need to help each other, i.e. they will need two pairs of hands!

When the students have made their pinhole cameras you can use their observations to introduce the ideas of light travelling in straight lines and to explain how the image is formed on the screen or let the students develop their own explanations with reference to books as is instructed on the worksheet. Debrief the activity by asking groups to present their ideas, emphasise the key points and correct any misconceptions.