



Still Image:

Freezing the world

Making a pinhole camera

Materials

- Empty crisp tube
- Marker
- Ruler
- Craft knife
- Drawing pin
- Masking tape
- Aluminium foil
- Scissors
- Optics filament bulb

Instructions

- 1 Take the plastic lid off the crisp tube and wipe out the inside (save the lid!). Draw a line all the way around the tube, about 5 cm up from the bottom.
- 2 Cut carefully along that line so the tube is in two pieces.
- 3 The shorter bottom piece has a metal end. With the drawing pin, make a hole in the centre of the metal.
- 4 We're going to use the plastic lid as a screen. If your lid is clear, you may need to apply a piece of tracing or grease proof paper to the lid to act as a translucent screen. Put the plastic lid onto the shorter piece.





Make your own pinhole camera

Instructions continued

- 5 Put the longer piece back on top. Tape all the pieces together.
- 6 To keep light out of the tube, use a piece of aluminium foil that's about 30 cm long. Tape one end of the foil to the tube. Wrap the foil all the way around the tube twice, then tape the loose edge of the foil closed.
- 7 If you have extra foil at the top, just tuck it neatly inside the tube.



Using your camera

- 1 Point the tube at the optics lamp. Close one eye and hold the tube up to your other eye. You want the inside of the tube to be as dark as possible-so cup your hands around the opening of the tube. What can you see?
- 2 Hold your hand below the tube and move it very slowly upward, about 10 cm in front the pin hole. What can you see?

Moving your hand in front of the pinhole camera may have given you a surprise result. How can you explain why what you saw happened? You may want to refer to a textbook.

- 3 Draw a diagram to show what happens to the rays. Explain in your own words what is happening.
- 4 Now try changing the size of your pinhole. Carry out an investigation to find the best size hole for your pinhole camera. You will need to think carefully about what you mean by 'best'.