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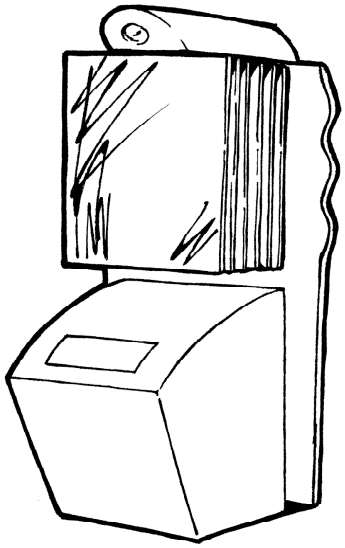


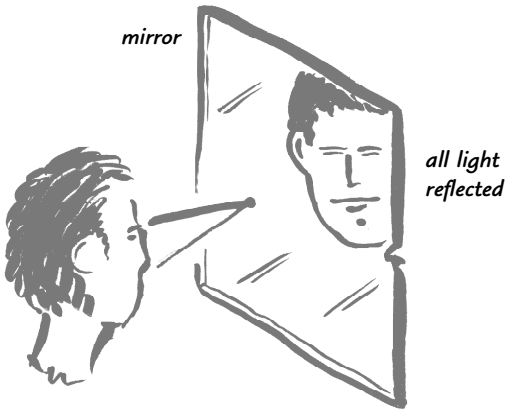
Ghosts

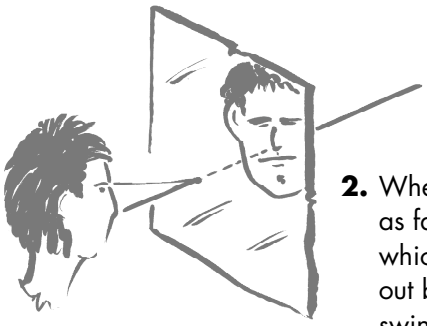
What to do: Stand in the spotlight and look through the plastic sheets.

What happens: You see several "ghostly" images of yourself.

HOW IT WORKS

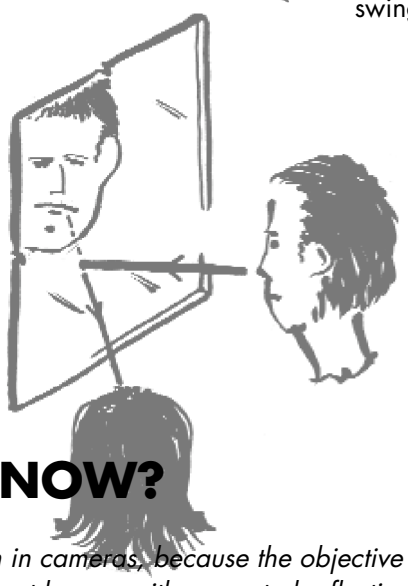
1. Ordinary mirrors have a smooth silvered back which reflects all the light falling on it. The plastic sheets have no silvering, so 95% of the light passes through. There is enough reflected light, however, to give a "ghost" reflection from each sheet.

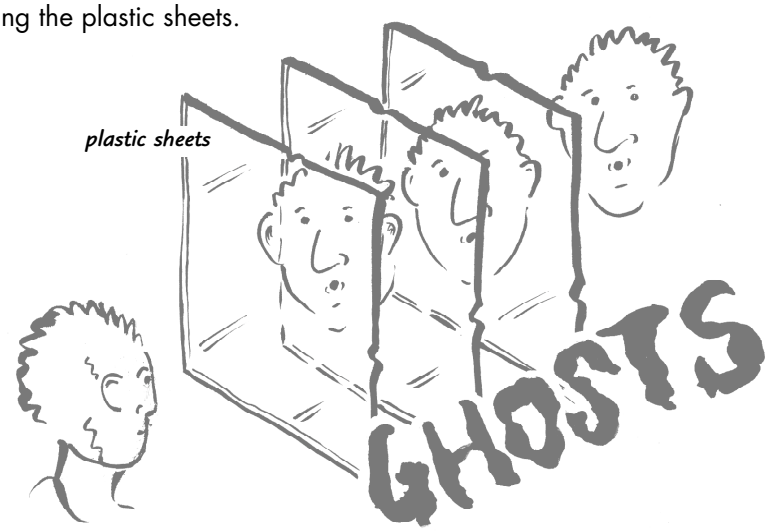




2. When you see yourself in a mirror, your image is behind the mirror, as far behind as you are in front. It is the same with the plastic sheets which are at different distances from you, so your images are spaced out behind the sheets. You can make the ghosts move about by swinging the plastic sheets.

3. When the light hits the sheets at an angle, more light is reflected. This means that you see much brighter ghosts when somebody else is in the spotlight and you are standing a bit to one side.





DID YOU KNOW?

- *Ghosts are a problem in cameras, because the objective lens is made up of several component lenses, with unwanted reflections at their surfaces. The surfaces have to be given anti-reflection coatings to prevent ghost images from spoiling the photographs.*
- *Double glazing can produce the effect of multiple images because there are two sheets of glass close together. Windows on trains are double glazed, so you see yourself reflected twice when it is dark outside.*

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