



1E).

Magnifying glass

Can you use the magnifying glass to make a larger image of the writing on this sheet?
Can you get the larger image to appear on the card?

YOU WILL NEED:

- A magnifying glass
- A Fresnel magnifier
- A piece of white card

SAFETY:

The magnifying glass is made of glass which may break if dropped.
If the glass does break, do not touch the bits of glass as they will cut you.
Seek advice on clearing up the broken glass from a leader.

INSTRUCTIONS:

- 1) Hold the magnifying glass above this sheet of paper.
- 2) Look through the magnifying glass - what do you see?
- 3) How does moving the magnifying glass nearer or further from the sheet affect the image?
- 4). Estimate how many times larger the image appear to be.
- 5). Now try the same things with the Fresnel magnifier.
- 6). Look at the Fresnel magnifier with the magnifying glass - what do you see?
- 7) Experiment with trying to see if you can touch the magnified image or make it appear on the piece of card.

EXPLANATION.

The magnifying glass bends (refracts) the rays of light reflected from the sheet of paper in such a way as to make your eyes see a larger image of the writing.

As the distance from the writing increases, the image of the writing also increases and becomes more distorted until it no longer forms.

The Fresnel magnifier also bends the reflected light but by a process known as diffraction.

The magnified image does not really exist, it cannot be touched or formed onto a screen. The image is said to be virtual