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IMAGES, IMAGES, IMAGES
Exploration

Purpose

This activity is designed to initiate your thinking about how reflected light travels to your eyes.

Materials

Two plane laboratory mirrors, supports for the mirrors and four nails.

Procedure A

Set one plane mirror upright on a sheet of paper as shown in illustration A. Place a nail in front of the mirror. Locate the image of the nail in the mirror. (See illustration A) Place a second nail behind the mirror where you think the image of the first appears to be. If you have located the image correctly, the image of the first nail and the second nail itself will remain “together” as you move your head from side to side. Draw the path you think the light takes from the first nail to your eye as you observe the image. Draw a dotted line to where the image appears to be located (behind the mirror) or seen by the observing eye.

Illustration A

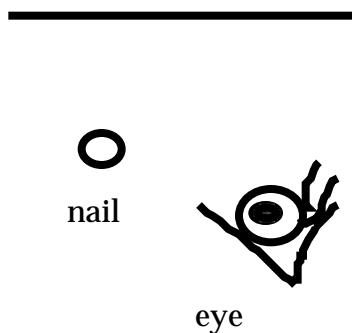
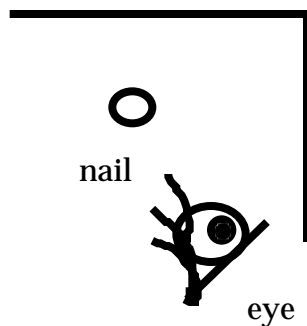


Illustration B



Procedure B

Set two mirrors on their edges at right angles to each other (Illustration B). Place a nail between the mirrors. How many images do you see? Show where the images are located. Now draw the paths you think light takes from the nail that enables you to see the images.

Summing up

1. In procedure A, how did the distance from the first nail to the mirror compare to the distance of the mirror to the image?
2. In procedure B, what happens to the number of images you can get if you decrease the angle between the two mirrors?

