

Light and plane mirrors

Task 1: Back to front (Level 4)

In the box below write a message of at least five words that will be the right way round when viewed in a plane (flat) mirror.

When you have written your message pass it to a friend to see if they can read it easily using a mirror while you try and read their message in the same way.

If your message was not easy to read in the mirror can you work out why not?

Task 2: Image – where are you? (Levels 4–5)

Have you ever thought when you have looked in a mirror about where the image is?

Try this simple test to find out, you will have to work with a partner as it requires three hands!

You will need:

- A sheet of plain paper
- Two long pins
- A small mirror
- A pencil and a ruler

Hold the mirror upright in the centre of the sheet of paper. Place the pin at the end of the paper nearest to you so that its image is reflected in the mirror. Take the second pin and place it behind the mirror so that it lines up exactly with the image of the first pin (bend down so that you are looking straight along the paper with the mirror at eye level). Mark with a pencil the positions of the mirror, the first pin, and where you place the second pin. Measure the distances from the image to each of the pins – what does this tell you?

Task 3: Make your own periscope (Levels 6–7)

You have two mirrors, two metre rules and some sticky tape. Can you make a periscope that will enable you to see over a high wall or other obstacle?

Think about your design and sketch it here before you try...

Did it work? What made it work, or not?

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