END RESULTS: WHAT HAPPENS NEXT?

Why do the images behind the paper become blurry?—the question

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Why do the images behind the paper become blurry?—the question

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Abstract

If a piece of paper is placed on a computer, television or cell phone screen, the images on the screen behind the paper can be easily seen. If the paper is moved away from the screen, these images start to become blurry. What is the reason for this phenomenon?

If a piece of paper (e.g. white office paper) is placed on a computer, television or cell phone screen, the text behind the paper can be easily seen. If the paper is moved away from the screen, the text starts to become blurry and becomes completely unreadable at a certain distance (see figure 1).

A similar situation is observed when looking at lines drawn in various colours on the screen. Figure 2 presents a screen covered with a piece of paper. Although the paper has been placed directly onto the screen, the images can be seen very clearly.

If the lower part of the paper is slowly moved away from the screen, the view of the lines change, as seen in figure 3.

Why can the images on the screen be seen clearly when the paper is close to the screen, but become blurry when the paper is moved away?

The answer

The full answer will be published in the next issue of *Physics Education*. Do you know or can you work out the answer?

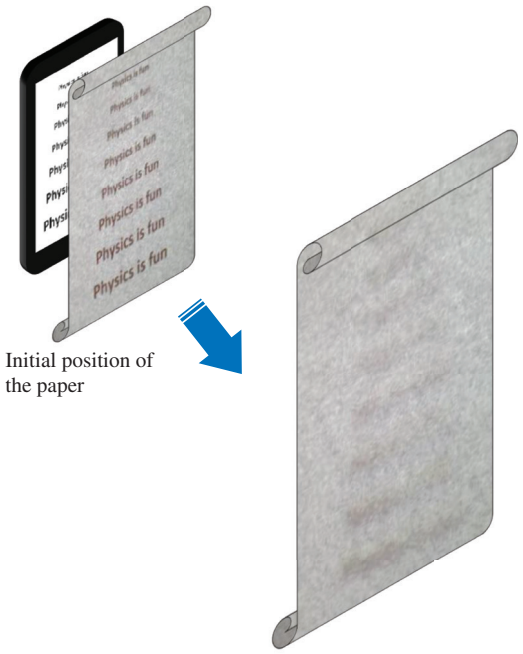


Figure 1. The view of the text on the screen behind the paper at different distances.

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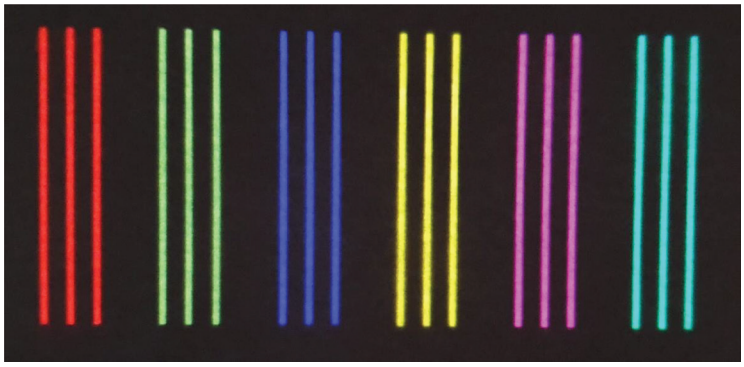


Figure 2. The view of coloured lines on a screen behind paper placed directly onto the screen.

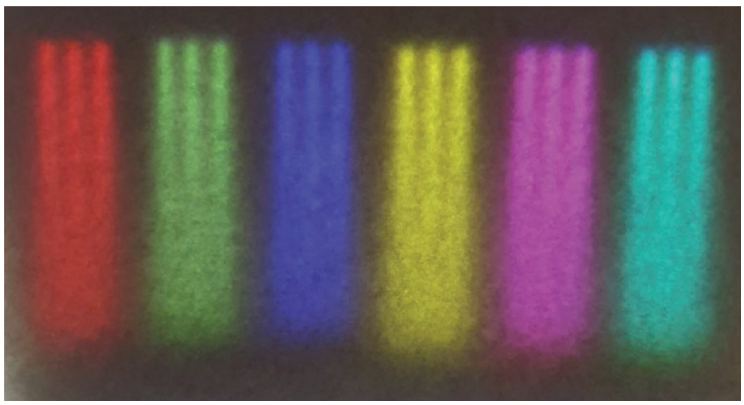


Figure 3. The view of the coloured lines when the lower part of the paper is moved away.

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