

ILLUSION CONFUSION

Presented by Arkansas Discovery Network

3-D Glasses

Key student learning

- Shadows are produced where the light is blocked.
- Colored shadows are produced where only one color of light is blocked.
- Glasses with colored filters can give the effect of recombining the light to produce a 3D image.

Materials needed

- 2 slide projectors or overhead projectors
- 1 red and 1 blue color gel
- Interesting objects (opaque, translucent and transparent)

Per student

- 3D glasses template
- 1 small square of red and 1 small square of blue color filter approx. 40 mm x 30 mm (the same filters as used with the projectors)
- Tape
- Scissors

Practicalities

Interactive whiteboard projectors, slide projectors and overhead projectors are good strong light sources for this activity; torches or lamps are not very effective. Remember that projector bulbs can get very hot and the color filters may melt if placed in front of them for too long.

Colored filters from educational catalogues produce the correct shade of red and blue light. These filters can also be cut up and used for the students' 3D glasses.

Make your room as dark as possible to get the full effect of the 3D shadows.

Discussion

- Does it matter which way round you wear the glasses? Why is that?
- What happens if you move the object closer to or further from the light source?
- The people in the picture of the 1940s cinema are watching a 3D film wearing glasses very like the ones you have made. The movie will have been made up of two films projected at the same time.
- What do you think it would have looked like without the glasses?
- Can you find any 3D pictures online or in books that might give you an idea of how the film would have looked?



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Extensions

- Try this with unusual objects such as a metal grill tray or something that itself produces light.
- Look at other 3D images on the web and in books. Which effect seems more real?

Links to everyday life

Stereo-daguerreotypes were the first form of 3D entertainment. They were slotted into a viewer, which looked a bit like a pair of binoculars and combined the images to make them appear 3D.

PS.7.8.6, PS.7.8.7, PS.7.8.8, PS.7.8.9, PS.7.8.10, PS.7.8.11, PS.7.8.12, PS.7.8.13, PS.7.8.14



This slide shows the 1851 Great Exhibition at the Crystal Palace, the world's first 'theme park'.

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