

C4.4 Where do the colors of the rainbow come from? – Tracking down technology

2.

Colors of felt-tipped pens	Mixed color
yellow + magenta	red
yellow + cyan	green
cyan + magenta	blue
yellow + magenta + cyan	gray/black

3.

Colors of felt-tipped pens	Mixed color
no felt-tipped pens (sheet remains white)	white*

* The technical umbrella term for white, black, and gray is “achromatic”; the colors differ only in their brightness. White and black are simply the two extremes on the brightness scale.

4. Resulting mixed colors from colored light

Colors of the flashlights	Color of the light spot on the wall
red + green	yellow
red + blue	magenta
blue + green	cyan
red + blue + green	white

5. You recognize individual points of colored light and not uniform coloring.

6. You recognize only the colors red, green, and blue.

7. Depending on the color and brightness, individual points are either switched on at various levels of brightness, or they are switched off.

8. Guess based on the mixing experiment (see 4.): White area: All points of color are on. Black area: All points of color are off. Colored area: Red, green, and blue points are switched on at various levels of brightness.