

# Test Your Eyes!

## Negative Afterimage

### How do you test negative afterimage?

Stare at the dots located at the center of the woman's face on the back of this page between 30–60 seconds, then turn your eyes immediately to the center x of the white image on the right. Now, blink quickly, several times. You are experiencing what is known as a negative after-image.

### Why does this happen?

The photoreceptors—primarily the cone cells—in your eyes have become overstimulated and fatigued causing them to lose sensitivity. You normally don't notice this because tiny movements of your eyes keep the cone cells located at the back of your eyes from becoming overstimulated.

As you shift your eyes to the white side of the image, the overstimulated cells continue to send out a weak signal, so the affected colors remain muted. However, the surrounding photoreceptors are rested, sending out stronger signals, as if we were looking at the opposite colors. The brain interprets these signals as the opposite colors, essentially creating a full-color image from a negative photo.

We consistently experience negative afterimages. For example, when we view a bright flash of light, briefly look at the sun, or are blinded by the headlights of an approaching car at night, we see both positive and negative afterimages.

### Why does this matter?

Vision scientists study why photoreceptors get fatigued and how they recover. These studies help us to understand how people see, and demonstrate how prolonged exposure to screens or reading materials can affect the eyes.

### Find out more at [ARVO.org/ILLUSIONS](https://www.arvo.org/ILLUSIONS)

Text adapted from: <https://serendipstudio.org/bb/neuro/neuro06/web2/aschmid.html>  
Image from: <https://www.verywellmind.com/the-negative-photo-illusion-4111086>



ARVO is the largest and most respected eye and vision research organization in the world, with nearly 12,000 members from more than 80 countries. Our mission is to advance research worldwide into understanding the visual system and into preventing, treating and curing its disorders. This is done through meetings, education, partnerships, fellowships and programs that drive collaboration, innovation and the advancement of eye and vision science with a goal of saving sight. Learn more at [ARVO.org](https://www.arvo.org).



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