



The Moon Illusion

An Experiment for the Wolf Moon

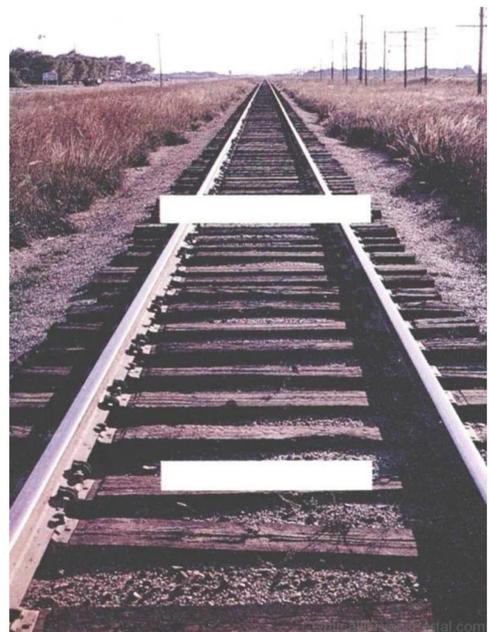
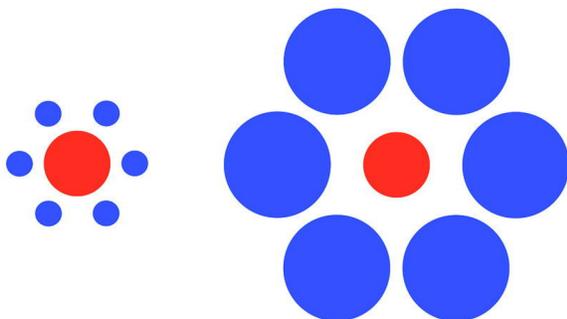


Can you trust what you see?

Mankind has been fascinated with optical illusions for thousands of years. We like to think that what we see is what is truly there, but optical illusions show us something different. They reveal how our minds interpret the things we see and how they can be fooled under the right circumstances. Before we discuss the moon illusion, take a moment to explore the images below.

The Train Tracks - At first glance, which line looks longer?

The Circles - At first glance, which circle looks bigger?



Now grab a ruler and measure. Do the results match what your eyes told you?

Did Your Eyes Deceive You?

Research studies show that susceptibility to these optical illusions is almost universal. Some people see a huge difference in line length. Some see a small difference. But almost everyone sees some difference. These images demonstrate how context and perspective influence what we think we see. Keep this in mind as we turn our attention upward to an illusion that plays out in the real night sky.

Moon Illusion Experiment

Each time a full moon rises just after sunset, we get a chance to witness something curious. Many people swear the moon looks bigger when it is low on the horizon. But here's the thing. It's not. This effect, called the Moon Illusion, is not caused by the atmosphere or the moon's distance from Earth. It is an optical illusion created by your brain, and scientists still debate why it happens. While we don't yet have the answer to that question, the following experiment will help you see the phenomenon in action.

Experiment Option 1: The Natural Object Test (Tech-Free)

Supplies: Small pebble, coin or natural object to eclipse the moon

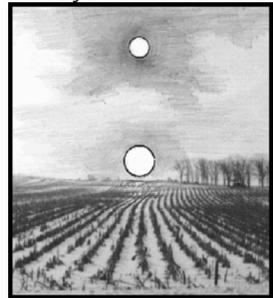
Tonight, January 3, around 9:00 p.m

- Go outside and find the moon when it is high in the sky.
- Hold out your pebble, coin, or chosen object at arm's length.
- With one eye closed, line it up so it just covers the moon.
- Remember that object and set it aside for tomorrow.

Tomorrow, January 4, just after moonrise

- Head outside just past 6:00 p.m.
- Using the same object, the same arm's length, and the same method, try to cover the moon again.

What you see



What is real

You will notice something strange. Even though the moon looks much bigger near the horizon, your object covers it just the same. Your eyes may be deceived but this experiment disproves the illusion.

Experiment Option 2: The Phone Camera Test

- Take a photo of the moon just after moonrise tomorrow evening.
- Later that night, take another photo when the moon is high overhead.
- Compare the two pictures.

The illusion does not appear in your photos because it only works in real-life, three-dimensional viewing. Your camera records the truth, but your brain interprets something different.