

# Myths About The Physics: The Most Of The People Believe.

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## **ABSTRACT**

*A scientific myth is a myth about science. For example, scientific discoveries are often presented in a mythological way with a theory being presented as a dramatic flash of insight by a heroic individual rather than as the result of sustained experiment and reasoning. For example, Newton's law of universal gravitation is commonly presented as the result of an apple falling upon his head. Newton's observation of an apple falling did indeed play a part in starting him thinking about the problem but it took him about twenty years to fully develop the theory and so the story of the apple has been described as a myth. This paper describes about the about the different myths that people believe about science. This paper focused on the list of common misconceptions. For each misconception, the corresponding facts have been discussed in this paper.*

*Keywords: Misconception, Space, Sun and moon, Earth and Light*

## **INTRODUCTION**

Science refers to the systematic analysis of knowledge through experiments and explanations. It deals with the nature and characteristics of the elements in nature. Mythology deals with myth that have taken place before the world took its present form. In short it deals with the primordial happenings. On the other hand, science is related to concrete truths and proofs. It is based on proofs and truths behind underlying principles. Myth can be argued as something that had never happened. On the other hand, science cannot be argued as something that is baseless. This is due to the fact that every scientific truth is based on experience. Myth is not based on experience. It is based on narration and explanation. Concrete proof cannot be shown for the existence of mythological characters.

There are a number of old wives' tales out there regarding some basic scientific principles. Though most of them were refuted years ago, these rumors just won't go away. There are some of the top myths floating around out there that just aren't true.

## OBJECTIVES

The main objectives of the paper are

1. To give brief idea about myths floating around.
2. To discuss about the misconception about Space, Sun and moon, and Earth.
3. To discuss about the common misconceptions regarding Physics, as well as clarifications of these misconceptions.

## METHODOLOGY

This paper is prepared only by using secondary data, which provide a detailed overview of the myth about physics and it done by collecting the sources being published material, books and brochures that were available at Internet.

## DISCUSSION AND EXPLANATION

This list of common misconceptions corrects erroneous beliefs that are currently widely held about notable topics. Each misconception and the corresponding facts have been.

### 1. MYTH: The Sun is yellow

The Sun's color is white, with a CIE color-space index near (0.3, 0.3), when viewed from space or when high in the sky; when low in the sky, atmospheric scattering renders the Sun's appearance yellow, red, orange, or magenta. Despite its typical whiteness, most people mentally picture the Sun as yellow; the reasons for this are the subject of debate.

If you wince and look at the afternoon sun, it might look yellow — but the light it gives off is actually white in color. The Earth's atmosphere between your eyes and the sun is what makes the star appear yellow.

### 2. MYTH: The Great Wall of China is the only man-made structure visible from space

The Great Wall of China isn't the only man-made structure visible from space. It all depends on where you believe space begins above Earth. From the International Space Station, 250 miles up, you can see the wall and many other man-made structures. From the space, you can't see any structures at all — only a dim glow of city lights.

The Great Wall of China is not, as is claimed, the only human-made object visible from the Moon or from space. None of the Apollo astronauts reported seeing any specific human-made object from the Moon, and even Earth-orbiting astronauts can barely see it. City lights, however, are easily visible on the night side of Earth from orbit.<sup>1</sup> Shuttle astronaut Jay Apt has been quoted as saying that "the Great Wall is almost invisible from only 180 miles (290 km) up. ISS commander Chris Hadfield attempted to find it from space, but said that it was "hard as its narrow and dun-colored.

### 3. MYTH: There is a dark side of the moon.

We are able to view about 59% of the moon's surface (though not all at the same time). The remaining 41% is completely hidden in freezing darkness, never to feel the Sun's warmth! Which means, makes it seem as if the moon isn't rotating. The moon actually is spinning quite slowly, completing a rotation in about the amount of time it takes it to make a revolution around Earth. While one side is forever shielded from Earth that has nothing to do with the amount of sunlight it receives.

Except in the case of a lunar eclipse, sunlight falls on half of the moon (exactly how half of Earth receives daylight at once) all of the time. While the Sun fully illuminates the side of the moon we can see, we appropriately call it the full moon.

### 4. MYTH: Lightning never strikes the same place twice.

“Lightning never strikes the same place twice” is a common idiom used say that something bad happened once, but it can't happen again. Unfortunately, it has nothing to do with actual lightning strikes.

Lightning is a huge electrostatic discharge searching for a way down, and it isn't particularly interested in whether or not it has been hit before. Taller objects, such as trees and skyscrapers, are usually choice targets because there is a shorter distance between that and the origin of the lightning. The tallest tree in a forest can get struck several times until the storm passes. In fact, lightning strikes the Empire State Building around 100 times per year.

NASA released a study in 2003 involving 386 cloud-to-ground strikes and found that over a third of the strikes branched and hit multiple locations at once. Not only does lightning strike twice, but it can also strike two places at the same time.

### 5. MYTH: Nothing can go faster than light

It's wrong on a few levels. Things can travel faster than light; and light doesn't always travel very fast.

The speed of light in a vacuum is a constant: 300,000km a second. However, light does not always travel through a vacuum. it slows down when it travels through different substances. For example, light moves 25% slower through water and 59% slower through diamond.

In water, for example, photons travel at around three-quarters that speed.

In nuclear reactors, some particles are forced up to very high speeds, often within a fraction of the speed of light. If they are passing through an insulating medium that slows light down, they can actually travel faster than the light around them.

#### 6. MYTH: Mount Everest is the tallest thing on Earth

The world's tallest mountain, if you want to get technical, is not Mount Everest.

Mount Everest is the tallest mountain above sea level, but if we're talking mountain base-to-summit height, then the tallest is the island of Hawaii that peaks as Mauna Kea.

Everest stands 29,035 feet above sea level. Mauna Kea only stands 13,796 feet above sea level, but the mountain extends about 19,700 feet below the Pacific Ocean. Over half of it is submerged. That puts the total height of Mauna Kea at about 33,500 feet — nearly a mile taller than Everest.

#### 7. MYTH: Going past the edge of space makes you weightless

Most scientists agree space begins 62 miles up, where the Earth's atmosphere is more or less a vacuum. Yet going past this line does not magically make you weightless. If you're in an accelerating rocket, you will feel many times Earth's gravity. It's only when you start falling that you feel weightless.

This is what it means to orbit something: to seemingly fall forever around that object. The moon around the Earth, the Earth around the sun, the solar system around the Milky Way Galaxy ... They're all falling into one another in a crazy cosmic dance.

If you're 250 miles above the Earth, you have to travel 17,500 mph around the planet to experience continuous freefall — precisely the speed of the International Space Station and its astronauts.

#### 8. MYTH: Diamonds come from coal

Most diamonds aren't formed from compressed coal.

Instead, they're carbon that is compressed and heated 90 miles below the surface of the Earth. Coal is found about 2 miles down.

Most diamonds are not formed from highly compressed coal. More than 99 percent of diamonds ever mined have formed in the conditions of extreme heat and pressure about 90 miles (140 km) below the Earth's surface. Coal is formed from prehistoric plants buried much closer to the surface, and is unlikely to migrate below 2 miles (3.2 km) through common geological processes. Most diamonds that have been dated are older than the first land plants, and are therefore older than coal. It is possible that diamonds can form from coal in subduction zones and in meteoroid impacts, but diamonds formed in this way are rare and the carbon source is more likely carbonate rocks and organic carbon in sediments, rather than coal.

9. MYTH: Summer is warm because the Earth is closer to the sun

The Earth is not closer to the sun when it is summer in the Northern Hemisphere — quite the opposite: The planet is actually at it's farthest point from the sun during the summer.

It is always warmer during the summer because Earth is tilted. During its orbit, our home planet's tilt allows the sun's energy to hit us more directly.

Seasons are not caused by the Earth being closer to the Sun in the summer than in the winter. In fact, the Earth is farthest from the Sun when it is summer in the Northern Hemisphere. Seasons are caused by Earth's 23.4-degree axial tilt. In July, the Northern Hemisphere is tilted towards the Sun resulting in longer days and more direct sunlight; in January, it is tilted away. The seasons are reversed in the Southern Hemisphere, which is tilted towards the Sun in January and away from the Sun in July

10. MYTH: Lightning causes thunder

A scientific and philosophical nitpick here, but lightning is just a stream of electrons zapping from cloud to cloud or ground to cloud. This in turn heats air into a tube of plasma that's three times hotter than the surface of our sun.

That tube violently expands and contracts nearby air, creating an unmistakable crack and rumble — not the flow of electrons itself.

11. MYTH: You can only balance an egg during the Spring Equinox.

Egg balancing is possible on every day of the year, not just the vernal equinox, and there is no relationship between astronomical phenomena and the ability to balance an egg. The tradition of balancing eggs on a particular date originates in China, when it was reported on by Life magazine in 1945. However, it was reported in 1987 that Frank Ghigo was able to balance some eggs on every day from February 27 to April 3, 1984. At the same time, he also found that "...some eggs would simply never balance, on the equinox or otherwise.

## CONCLUSION

Unfortunately, many people have persistent misconceptions about Physics. Some are simple misunderstandings ideas that develop. Other misconceptions may stem from purposeful attempts to misrepresent and undermine the public's understanding of the topics. The myths list is incomplete not intended to be exhaustive. Mythical accounts are misleading because they present the results as handed down by authority figures and understate the importance of error and its resolution by the scientific method

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