


# Mythbusters Questions And Answers

NAME: \_\_\_\_\_ CLASS: \_\_\_\_\_

EPISODE TITLE: \_\_\_\_\_

FOCUS SCIENCE SKILL: THE SCIENTIFIC METHOD

**MISSION:** The Mythbuster Team does an **AMAZING** job of working through the scientific method throughout each episode. In fact, they usually show the process two or three times as they test different myths. While you watch the video today, you will need to pick one myth to follow throughout the episode and answer the questions that coordinate with the steps in the scientific method. You only need to follow **ONE MYTH**...so choose wisely!



**PURPOSE:** Pick one myth to watch closely. State the myth as a **QUESTION** on the lines below.

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\_\_\_\_\_

**RESEARCH:** What facts helped the team design their experiment? List **THREE** or more.

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**HYPOTHESIS:** What is your prediction for the myth? Write your hypothesis **BEFORE** watching the rest of the episode and tell if you think the myth will be confirmed (proven) or busted (disproven) and why.

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**EXPERIMENT:** What are some steps the team did to test the myth? List **FIVE** or more steps in number order.

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Mythbusters questions and answers have captivated audiences for years, combining entertainment with scientific inquiry. The popular television show, "MythBusters," aired from 2003 to 2016 and became a cultural phenomenon. Hosted by Adam Savage and Jamie Hyneman, along with a rotating team of co-hosts, the show tackled various myths, urban legends, and common misconceptions using the scientific method. This article delves into some of the most intriguing questions posed on the show, outlining the answers and the methodologies behind them.

## The Essence of MythBusting

Before diving into specific myths, it's essential to understand the principles behind the MythBusters approach. The show focused on dissecting popular myths by:

- **Scientific Method:** Each episode typically involved forming a hypothesis based on a myth, conducting experiments, and analyzing results.
- **Engagement:** The hosts engaged viewers by selecting myths that were popular or culturally relevant, making science accessible and entertaining.
- **Creativity:** The experiments often featured creative solutions to complex problems, showcasing engineering ingenuity.

## Popular Myths Explored

Throughout its run, "MythBusters" examined a myriad of myths. Below are some of the most memorable questions and their corresponding answers.

## **1. Can you really "blow up" a car with a firecracker?**

Question: Is it possible to detonate a car using firecrackers?

Answer: MythBusters tested this by trying to blow up a car using various types of firecrackers and explosives. The conclusion was that while firecrackers can create a significant amount of noise and cause some damage, they are not powerful enough to actually blow up a car. The experiment demonstrated that the amount of explosive material needed to cause such a large-scale explosion far exceeds what firecrackers can provide.

Key Takeaways:

- Firecrackers create loud sounds but lack the explosive power to destroy a car.
- Larger explosives are necessary for such an effect, which often leads to misunderstandings in popular media.

## **2. Is it possible to create a jet engine from a lawnmower?**

Question: Can a jet engine be fashioned using components from a lawnmower?

Answer: In a daring experiment, the MythBusters team attempted to create a jet engine using a lawnmower engine. They found that while it was technically possible to create a functioning jet engine, the performance was extremely poor, and it wouldn't be viable for practical use. The engine they created could produce thrust, but it was far from the efficiency and power of a conventional jet engine.

Key Takeaways:

- While lawnmower engines can be repurposed for creative projects, they are not suitable for high-performance applications like aviation.
- The experiment highlighted the complexities involved in engine design and aerodynamics.

## **3. Can you survive a fall from any height if you land in water?**

Question: Is it possible to survive a fall into water from a great height?

Answer: This myth was put to the test by the MythBusters using a variety of heights and water conditions. The team concluded that while it is theoretically possible to survive a fall from significant heights into water, several critical factors determine the outcome, including the angle of entry and the height of the fall. The impact can be fatal, especially from heights over 30 feet, due to the water's surface tension.

Key Takeaways:

- Falling from great heights into water can be deadly, primarily due to the impact.
- Proper technique, such as entering the water feet first, can increase survival chances but is not a guarantee.

## **4. Does a penny dropped from the Empire State Building kill someone?**

Question: Can a penny dropped from a great height injure or kill a person on the ground?

Answer: MythBusters examined this myth by calculating the penny's terminal velocity and conducting tests. They found that while a penny could cause minor injury due to its speed, it would not be lethal. The penny's lightweight nature means it doesn't have enough mass to cause significant harm when it reaches the ground.

Key Takeaways:

- The terminal velocity of a penny is not sufficient to cause fatal injuries.
- Myths surrounding falling objects often exaggerate their potential danger.

## **5. Can you really use a car's airbag to survive a fall?**

Question: Will deploying a car airbag save you if you jump from a height?

Answer: In a fascinating experiment, the MythBusters team tested the effectiveness of car airbags for cushioning a jump. They found that while airbags are designed to absorb impact in car accidents, they are not suitable for falls from heights. The deployment mechanism and the nature of the fall would not provide adequate protection, leading to severe injuries.

Key Takeaways:

- Airbags are engineered for specific crash scenarios and do not function as safety devices for falls.
- The myth highlights a common misunderstanding about the purpose and effectiveness of safety equipment.

## **Addressing Common Misconceptions**

MythBusters not only entertained but also educated viewers about scientific principles and the importance of questioning widely held beliefs. Some common misconceptions addressed on the show include:

### **1. Can you "sweat out" toxins through your skin?**

Answer: The show investigated whether sweating significantly detoxifies the body. The findings indicated that while sweating does release some substances, the liver and kidneys primarily handle detoxification. Thus, the idea that sweating is a primary means of toxin removal is misleading.

### **2. Does eating turkey make you sleepy?**

Answer: While turkey does contain tryptophan, a precursor to sleep-inducing

serotonin, the amount found in turkey is not sufficient to cause sleepiness. The post-Thanksgiving nap is more likely due to overeating and the consumption of carbohydrates rather than turkey alone.

### 3. Can you really freeze a person in a block of ice to preserve them?

**Answer:** The team tested this idea and found that freezing human tissues can cause cell damage, making revival after thawing impossible. Cryonics, the practice of freezing individuals for future revival, is still theoretical and has not yet been proven feasible.

## Conclusion

The legacy of mythbusters questions and answers endures, serving as a reminder of the power of curiosity and scientific exploration. The show not only debunked myths but also fostered a culture of inquiry, encouraging viewers to question the world around them. Through engaging experiments and relatable hosts, "MythBusters" provided a unique blend of entertainment and education, making science accessible and exciting for audiences of all ages.

In a world filled with misinformation and urban legends, the lessons learned from "MythBusters" are more relevant than ever. Whether through debunking myths or promoting scientific literacy, the spirit of inquiry sparked by the show continues to inspire a new generation of thinkers and problem solvers.

## Frequently Asked Questions

What is the goal of the MythBusters show?

The goal of MythBusters is to test the validity of various myths, urban legends, and popular misconceptions using scientific methods and experiments.

How do the MythBusters choose which myths to test?

The MythBusters often choose myths based on viewer suggestions, popular culture, and scientific curiosity, prioritizing those that can be tested in a fun and engaging way.

What are some of the most famous myths debunked by MythBusters?

Some famous myths debunked include 'Shaving makes hair grow back thicker,' 'You can't hum while holding your nose,' and 'The myth of the exploding toilet.'

Are the results of MythBusters experiments scientifically valid?

While the experiments conducted on MythBusters are based on scientific principles, the show's entertainment format may not always adhere to rigorous scientific protocols, so results should be taken as illustrative rather than definitive.

What impact has MythBusters had on public interest in science?

MythBusters has significantly increased public interest in science and engineering by making scientific inquiry fun and accessible, encouraging viewers to think critically and question common assumptions.

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