

# Doktor Kaboom and the Wheel of Science



**Science is a blast! And, nothing says scientific discovery quite like “*kaboom.*”**

**Are you ready to share a hilarious and funfilled hour of “scien-sational” entertainment with Doktor Kaboom? Perhaps you will be asked to volunteer during the show, so be ready to be an active audience member!**

**Doktor Kaboom will ask YOU, members of the audience, to help spread the fun of science and math by spinning the WHEEL OF SCIENCE to discover which physical science demonstration will be conducted on the Clowes Hall stage.**



# One Man, A Few Scientific Experiments, and a Stageful of Fun

In this performance of interactive experiment demonstrations, Doktor Kaboom MAY demonstrate some of the following spectacles:

## CHEMICAL REACTION!

Doktor Kaboom creates a fizzy liquid mixture in a gigantic plastic tube. He and an audience volunteer have to be careful to make sure the mixture turns out just right. And, perhaps the experiment will work just as planned.

As Doktor Kaboom says, “It’s science – what could possibly go wrong?”

Watch for...

- the order of the ingredients.
- the moment when the mixture fizzes.
- what happens after the fizzing.

## THE CATAPULT “SCHMATAPULT”

What does a scientist do when he wants to give a banana to someone across the room? He builds a catapult for bananas, of course! One lucky audience friend MAY have a chance to participate in this dynamic demonstration!

Watch for...

- the different parts of the catapult.
- the way Doktor Kaboom uses a lever to shoot the banana.
- how much force Doktor Kaboom needs to send the banana across the stage.

## THE AIR CANNON

Have you ever considered the power of air? You’ve probably blown bubbles using air, dish soap, and wands. Doktor Kaboom, on the other hand, blows fog machine rings with *cannons*. “Showing” air through cannons will be amazing coming from the Clowes Hall stage.

Watch how...

- Doktor Kaboom “shows” air in his demonstration.
- he sends one fog ring flying through another fog ring.

# **Doktor Kaboom – Not Just Another **Science** Guy**

**What's his name? Doktor Kaboom.  
What's Doktor Kaboom's real name?  
David Epley, who has been fortunate  
enough to discover two passions in  
his life. His first passion is science  
and math, which he studied at the  
North Carolina School of Science and  
Mathematics. His second passion is  
the performing arts, which became  
his career of 25 years as he has been  
writing, performing and directing  
original interactive comedy across the  
United States and Canada.**

**When Doktor Kaboom performs,  
he plays the role of a scientist from  
Germany. To show that you agree with  
Doktor Kaboom, remember to say  
“ja” (pronounced like “yah”), which is  
German for “yes.”**

**David Epley is performing  
improvisational comedy, which means  
he improvises or changes his jokes  
depending on what happens during the  
show. To add to the fun, the audience  
never knows what he may say next.**

# Practicing SAFE Science

As Doktor Kaboom says,  
“Science can hurt you, especially if I’m the one doing the science.”

He has to watch out for splashes of chemicals or very hot or cold liquids. Even an expert in experimenting can face unexpected dangers, so Doktor Kaboom suits up even if there’s only the tiniest chance that it will be necessary.

Let’s look at the gear that Doktor Kaboom wears to protect his body:



- **GOGGLES:** Much as they do for swimmers, goggles protect the scientist’s eyes.
- **LAB COAT:** Long sleeves cover Doktor Kaboom’s clothing and more importantly, his skin.
- **GLOVES:** As you can probably guess, gloves protect by covering Doktor Kaboom’s hands.

# Science Says: Know Your *Vocabulary*

To be a good scientist, you need to talk the talk.  
Listen to hear if Doktor Kaboom uses these words as he performs his experiments in this performance...

**Chemical:** a liquid, solid or gas that can undergo change

**Chemical Reaction:** when two different substances come together and at least one of them changes its composition

**Experiment:** a scientific test used to find out or prove something

**Force:** some thing – such as a push or a pull – that changes an object's speed or direction

**Fulcrum:** the point where a lever turns or is supported when it is moving or lifting something

**Hypothesis:** a theory that a scientist tests to see if it's true

**Lever:** a bar that rests on a support (fulcrum) and uses one end to lift or move loads

**Simple Machine:** a device that makes work easier by allowing us to push or pull over increased distances

**Theory:** one or more scientific ideas that we use to explain something without actual proof



# Discuss Amongst Yourselves: What is *Science*?

Think about the following phrases and discuss with friends, teachers and your parents their true meaning.

- What does “**safe science**” mean? If you are going to do a science experiment or demonstration, and you know you won't need safety glasses, why should you wear them?
- “There is no such thing as a **scientific fact.**” We call gravity a scientific fact, but is it really? We assume gravity will work as we expect simply because it always does...so far. Could there be a possibility in the future that gravity will behave differently? Sometimes what is called a scientific fact will become falsified by newer and better science.



- The idea of “**being right**” – When we have an idea in science, we call it a theory, and we test that theory with experiments. Does it matter in science whether we are right or wrong?

# Get to know Doktor Kaboom!

Websites to check out more:

<http://shawentertainment.com/doktor-kaboom/>

<http://www.doktorkaboom.com/video>



# **Now you've experienced Doktor Kaboom...what do you think?**

- **What was your favorite part in the performance? Why?**
- **How did Doktor Kaboom teach you science concepts in a fun way?**
- **Did he wear appropriate and safe clothing for performing science experiments?**
- **How was the set or backdrop arranged? What props or materials were used to perform the experiments?**
- **Were there special lights or sound effects used to make the performance more interesting?**
- **Did you learn more about scientific principles after experiencing the performance?**
- **What questions do you have now after seeing the performance?**



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