



DOKTOR  
**KABOOM!**



**LOOK OUT!**  
**SCIENCE IS COMING!**

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# About the Show



**The original Doktor Kaboom! show in which the good Doktor takes his audience on an educational tour of the modern scientific method, using humor and comedy while demonstrating spectacular applications of the physical sciences. Topics covered include: safety; pressure and force; simple machines; velocity; application of science to everyday life; the scientific method (hypothesis and experimentation); multiple experimentation; constant discovery of new information and data; definitions: chemical reactions, exothermic, external and chemical formula; mass; air pressure and demonstration vs. experimentation.**

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# About the Artist



**Doktor Kaboom** is the creation of actor/comedian, **David Epley**. Originally from Charlotte, NC, Epley first explored his passion for science in a lab he built in his parents' basement. He just had to clean the basement, first. (Clever parents!) This love of hands-on learning grew, and he eventually went on to study chemistry and physics in a specialized high school, the North Carolina School of Science and Mathematics. The first of its kind in the nation, NCSSM is a residential school with such luxuries at the time as PhD professors, its own electron microscope, and a Minivac mainframe with campus-wide internet, before the internet. From there, Epley continued his studies at the University level, exploring a degree in Chemical Engineering

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# Doktor Kaboom Vocabulary

## **Amplify:**

**to cause to become more marked or intense**

## **Chemical:**

**A substance with a distinct molecular composition that is produced by or used in a chemical process**

## **Exothermic:**

**chemical reactions that produce (or give off) heat.**

## **Force:**

**anything that acts on a body to change its rate of acceleration or alter its momentum**

## **Chemical Reaction:**

**occurs when two different elements or compounds come together and at least one of them changes its composition or identity**

## **Demonstration:**

**showing the existence or truth of something by giving proof or evidence**

## **Fulcrum:**

**the point on which a lever rests or is supported and on which it pivots**

## **Experiment:**

**a scientific procedure undertaken to make a discovery or to test a hypothesis**

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# Doktor Kaboom Vocabulary

## Theory:

a supposition or a system of ideas intended to explain something

## Simple Machine:

a device that has only one function and a minimum of moving parts

## Lever:

a rigid bar resting on a pivot, used to help move a heavy or firmly fixed load with one end when pressure is applied to the other



## Transmit:

to pass on from one place or person to another

**Vacuum:**  
a space where there is no matter

## Vortex:

a mass of whirling fluid or air, esp. a whirlpool or whirlwind

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# Grudge Match:

## Air vs. Water

### Experiment

In this simple, but really amazing, activity, your students pit air pressure against water weight. They will love astounding their families with this activity when they get home.

### What To Do:

Fill the glass about one third full of water. Completely cover the mouth of the glass with the index card. While holding the card over the mouth, quickly turn the glass upside down. Remove your hand from the card. You students will be thrilled to see that the card remains in place, holding the water in the glass. It is best to do this activity over a sink or tub, just in case.

The reason the activity works is that the weight of the water is less than the pressure of the air. The downward push of the water is about one pound upward-push of the air pressure. This is a good activity to illustrate that air pressure completely surrounds us.

### Materials:

- Small glass or cup
- Index card
- Water
- Sink or tub

Find more  
Teacher  
Resources on our  
website  
[www.tpac.org/  
InclusiveArts](http://www.tpac.org/InclusiveArts)

### Warning:

It doesn't take too long for the paper card to become saturated with water and lose its structural integrity. When that happens, look out – hence the sink or tub.

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