

The Hillbilly Silly Science Spectacular!



"Backyard BOOM!" Tour

An amazing journey of science, improvisational comedy, and life skills...

Featuring Dr. Cletus Beaker, MD

Comprehensive Study Guide for Schools and Faculty

A Special Message to Educators and Teachers...

Thank you for allowing Dr. Cletus Beaker, MD and the Hillbilly Silly Science Spectacular to become a part of your student's world of education! My skilled team of professionals and I have put in many hours of research, construction, rehearsal, travel, planning, (and trial & error) to bring this exciting and educational presentation to your community!

I am delighted in the fact that this show IS educational, but is ALSO designed with humor in mind. Children will delight in the laughter surrounding the doctor and his crazy antics, but all the while still learning about important scientific theories, terminology, and concepts that will help stimulate their minds and curiosity. The use of amazing on-stage science experiments, elaborately decorated sets, family-safe humor, and an abundance of audience participation make this a memorable journey into the world of physical science and physical comedy/improvisation.

I hope that the resources contained within this comprehensive study guide will help you and your students prepare for the show, as well as continue on the foundations built during the show through continued classroom discussion. Science is a BLAST, something that children should love, cherish, and implement in their everyday lives! Thank you for allowing me the opportunity to help you in this process of discovery!

- *Dr. Cletus Beaker, MD*



The Theatre & Assembly Experience



Attending assembly and theatre performances can be exciting for children, but can also be a new experience. Being aware of the surroundings and audience etiquette is important. Here are some good pointers for children at the show!

- Food, drinks, chewing gum, toys, and phones are not to be brought or used during performances and should be left behind!
- Remain seated during the performance, and keep feet on the floor and hands to yourself. Standing and/or running around the theatre/assembly can not only be distracting to others, but is unsafe!
- Clapping, applause, and laughter are always welcome during live performances—in fact that activity helps build energy into the show and lets the performer know he is doing a good job! If you are enjoying the show—clap and laugh!
- Talk before and after the show—talking, using a phone, or texting during the show can be very distracting to those sitting around you, and even to the performer on stage.
- If you need to leave the assembly/theatre during the course of the show, please do so with as little noise and distraction as possible. Bathroom use should be done before or after the presentation.
- **MOST IMPORTANTLY—Enjoy the show!!**

Terms/Vocabulary Used In The Show



- **Hypothesis**: An idea or explanation that you test through study and experimentation. An educated guess as to what may be the result of the experiment.
- **Polymers**: A large chain-like molecule made up of smaller molecules—plastic is a great example of this.
- **Chemical Reaction**: An interaction between two or more chemicals that produce one or more new chemicals or chemical variations.
- **Exothermic**: A chemical reaction that releases heat.
- **Catalyst**: A substance that causes a chemical reaction to occur, but is not itself used in the reaction.
- **Vortex**: A mass of whirling fluid or air.
- **Gas**: An air-like substance that expands to fill the space it is in.
- **Dry Ice**: The solid form of Carbon Dioxide which holds a temperature at about -109.26 degrees! Brrr—that's cold (and dangerous to touch)!

The Importance of Safety



Practicing good safety habits is not only important to do in science, but important in everyday life. Here are some important things to remember with regards to science safety:

- **Eye Protection**: Wearing glasses, goggles, or a face shield is always safe to protect your eyes during science experiments!
- **Gloves**: Heat, extreme cold, and certain chemicals can hurt your hands and skin. When using or handling these substances, it is always important to protect your hands with gloves.
- **Lab Coat**: Scientists wear lab coats to protect their arms, body, and clothing. Dr. Beaker wears a lab coat to protect both his skin and his overalls!

You can also practice good safety habits in your everyday non-science lives! Great ways to protect yourself include:

- Wearing seat belts in the car
- Not playing with fire
- Wearing a helmet when you ride a bike, scooter or skateboard
- Not eating or drinking unknown substances
- Looking both ways before crossing the street (or having an adult help you)

CLASSROOM DISCUSSION OF SAFETY TOPICS IS ALWAYS IMPORTANT!

Classroom Ideas & Topics For Discussion



- **Create a Hypothesis:** Have the students generate a hypothesis surrounding a specific reaction presented to them (what happens when a paper towel suspending a brick gets wet? — for example). Let them discover if their hypothesis was correct by executing the experiment.
 - Why is it important to generate a hypothesis before experimenting?
 - Can you create more than one hypothesis?
 - Was your hypothesis correct? Does it matter if you were wrong/right?
 - Do different brands/quality of paper make a difference in the result?
- **Make a Hillbilly Volcanee (Volcano):** We all know the famous “baking soda & vinegar” volcanoes. These will be indirectly covered in the Hillbilly Silly Science Spectacular show. Have the students bring in a 16-20 oz juice bottle (Snapple, lemonade, etc.). For even more creative fun, have them decorate the bottle to resemble a volcano using paint, markers, paper, etc. Once the bottles are decorated and dry, add about a half cup of vinegar into each bottle. Students (with help) can pour baking soda into the bottle until it “erupts.” Food coloring can be added to vinegar to make it more exciting! Be sure to place it in a tray, as it will make a mess!
 - Why did the volcano erupt? What happened?
 - What type of safety equipment should be used with this experiment?
 - How does learning about science help you in life?
 - What do you want to be when you grow up—how is science used in that job you dream about?

About the Performer



For over 10 years, performing artist Curt Strutz has been entertaining children, families, and adults from coast to coast across both the United States and Canada. His love and passion for entertaining has taken him to venues across the continent, and he has had the experience of performing for events such as the Illinois State Fair, Vancouver Boat Show, Wisconsin State Fair, New York National Boat Show, and various locations of Jellystone Campgrounds, Kindercare Child Care Centers, Bass Pro Shops, Great Wolf Lodge Resorts, and Cabela's.

The most recent show added to his roster, The Hillbilly Silly Science Spectacular, has quickly grown to become the most sought after show he has done to date. Now performing at Opera Houses, Theatres, Performing Art Centers, and Fair Grandstand Shows—this program has given him the opportunity to both educate and entertain children and their families/teachers at a whole new level!

Curt appreciates your attendance at the Hillbilly Silly Science Spectacular and hopes that you enjoy his "bigger than life" character, "Dr. Cletus Beaker, MD," as many folks already have! YEEEE HAAW!