

ALWAYS FREE

SCIENCE & HEALTHY LIVING

PROFESSOR PARSNIP'S LAB OF HEALTHY CHOICES

BRIGHT STAR CHILDREN'S THEATRE, LLC * BRIGHT STAR TOURING THEATRE

About our Production!

We wanted to create a show that merged two of our favorite things: helping young people understand what it means to make healthy choices and fun science experiments! Our result is a show that is packed with the exciting world of science and great lessons on eating healthy, exercising, anti-bullying techniques and so much more. Professor Parsnip and Doctor Davenport are two of the most fun characters we've ever teamed up together! We know this show will be a highlight of your young person's semester.

TOPICS TOUCHED ON BY SHOW

- * Anti-Bullying
- * Eating Healthy and Exercising
- * Environmental choices
- * Hand-washing
- * Anti-smoking
- * Kindness
- * Getting sleep



How did that happen???

Throughout this study guide we will attempt to offer teachers insight into how we did many of the experiments that you saw in the show. This is a changing and evolving production and we routinely add new experiments as new tours of it are launched. If you don't see everything outlined in this guide; have no fear! Just book

the show the next year :)... that or look up these experiments on-line where they should be readily accessible for your use. Building a science show with clean, efficient experiments with lots of pizzazz was quite an undertaking, but we know you can take these experiments and really rock out with them in a classroom setting!



WHO IS THIS COMPANY? Bright Star has traveled the world offering professional theatre at affordable prices. We routinely perform at the National Theatre in Washington DC and venues from Burbank, CA to Boston, MA. We tour year around and serve almost 1,000 audiences annually.



PROFESSIONAL ACTORS Our actors are professional performers who come to us from all across the country. Our talented actors have won Emmys, performed on Broadway, been in Academy Award winning movies and starred in countless productions, TV shows and more across the nation.



WHERE IS THIS SHOW GOING? Our actors typically travel around 1,000 miles each week delivering professional theatrical productions across the country. Each season we offer dozens of shows ranging from character education and Black History themed productions to musicals and science shows.

EXPERIMENTS EXPLAINED!



YE OLDE VINEGAR & BAKING SODA

So why does Vinegar and Baking Soda work? The acetic acid (the sour vinegar) reacts with sodium bicarbonate to form carbonic acid. Carbonic acid, in turn, immediately falls apart into carbon dioxide and water. Carbon dioxide causes the bubbles which pour out like water-- simply because they are heavier than air.

We used this combination in the film canister rocket experiment! All you need to do is find an old film canister; pour in some vinegar a scoop of baking soda and cap it. Place it upside down on a flat surface and wait for it to explode.

Did you know! The bubbling reaction you get from these two make for a perfect 'green' way to unclog your drain. You can find numerous uses for baking soda and vinegar has household replacements for all kinds of toxic cleaners.

Wanna make the Carbon Dioxide lava flow extra cool from your baking soda volcano? Try adding a squirt of dish detergent and a splash of food coloring. It makes things a little extra bubbly and can even flow the color of lava!

Baking Soda is OLD! The Ancient Egyptians used a natural deposit of Sodium carbonate as a soap! In the 1800's a compound was used to preserve fresh caught fish!

Vinegar Facts

It's the world's oldest ingredient; in use for the last 10,000 years.

Caesar's army used to drink vinegar as a beverage; while Helen of Troy bathed in it & WW I Soldiers had their wounds treated by it!

White vinegar can melt pearls!

Soak a chicken bone overnight in vinegar and it gives it a rubbery quality.

Around the world vinegar is made from beer, raisins, corn and cider!

Elephant Toothpaste!



A GREAT EXPERIMENT THAT REQUIRES ADULT HELP

What you need: * 1 clean 16 Oz soda bottle * liquid dish soap dash * 1/2 cup 20-volume hydrogen peroxide liquid (From a beauty supply shop) * Food Coloring * small cup * Safety Goggles * One Pack of dry yeast

NOTE: As you can see from the picture, foam will overflow from the bottle, so be sure to do this experiment on a washable surface, or place the bottle on a tray.

1. Hydrogen peroxide can irritate skin and eyes, so put on those safety goggles and ask an adult to carefully pour the hydrogen peroxide into the bottle.
2. Add 8 drops of your favorite food coloring into the bottle.
3. Add about 1 tablespoon of liquid dish soap into the bottle and swish the bottle around a bit to mix it.
4. In a separate small cup, combine the warm water and the yeast together and mix for about 30 seconds.
5. Now the adventure starts! Pour the yeast water mixture into the bottle (a funnel helps here) and watch the foaminess begin!

This experiment is all over the web; but we borrowed the instructions from

www.sciencebob.com

Anti-Bullying Help!

by Bright Star Theatre

One of the big healthy choices we talk about in the show is the importance of kindness and not being a bully. We think this is so important for young people and wanted to include some anti-bullying techniques here for your consideration:

One idea we really like is creating an anonymous reporting box someplace where students can drop in notes to let adults know what's happening and where. This is a nice safe way for by-standers to get involved without fearing their own repercussions.

- * It's super important to teach young people how dangerous it is to be a by-stander. They have an obligation to stop someone from bullying whenever they witness it.
- * Teach young people to tell adults and keep telling adults until someone listens to them and intervenes.
- * Keep a record of what's going on.

- * Walk away and whenever possible be with friends who can help you.
- * Teach that bullying comes with all kinds of emotions. It's important to handle and recognize these emotions.
- * Hold bullies accountable.

- * Reinforce rules and work with young people to create the rules that teach respect, etc.
- * Involve the community and parents in creating a fostering and nurturing environment. It takes a lot of guts for a victim to come to an adult, it's your obligation to see that they are helped!

PUNCTURE A BALLOON



The secret ingredient is using a wooden dowel that's been soaked in a little dish soap.

✱ It's possible to puncture a balloon with a sharp wooden skewer without it popping! Using the secret ingredient below, carefully, insert the skewer into a thick part of the latex.



CREATE A SOAP SNAKE!

1. Cut the bottom off of a small plastic water bottle.
2. Using a Rubber cover the cut open end with a piece of cloth.
3. Dip the cloth end of the water bottle into a dish of soapy water.
4. Put your mouth over the small end and blow slowly and steadily.
5. Add a few drops of food coloring to make it a colorful snake!



Steve Spangler is a scientist that has a great website packed with experiments like this!

What do ya need?

A knife with adult help to cut the bottle!

Plastic bottle

Rubber band

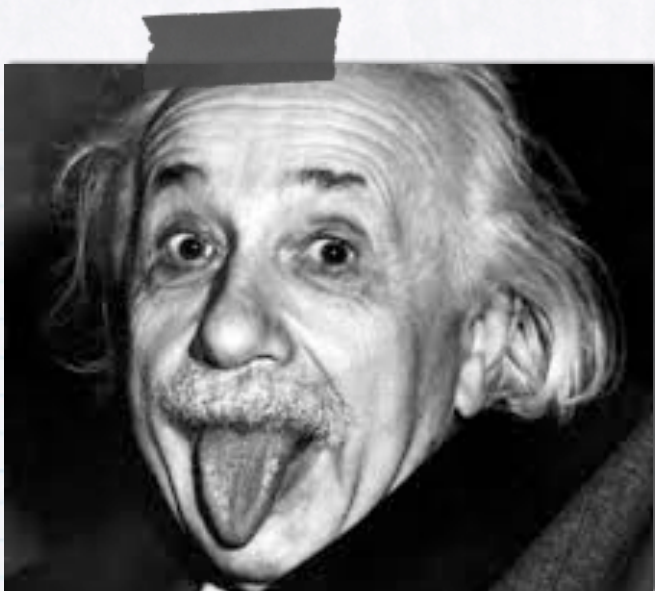
Piece of cloth

Soap

Water

Dish

Remember to blow and not inhale!



Making Science Fun!

Let's be honest the more fun that we can make science look then the more students we can inspire to take a look at the sciences as a career path. There are a number of great resources on-line that can help you bring science into all aspects of the classroom. We were limited by our need to provide efficient experiments that easily traveled. But there are some

amazing and inspiring experiments out there just waiting to be explored. America is in need of more scientists so inspiring this generation is a task that we all need to take part in. We hope in some small way our show has brought some sparks to your young audience and they'll consider a career in this exciting field.

Show Lessons

This show covers a lot of lessons in Healthy living. Here's some of the key points we want your young audience to leave with...

- * Always remember when washing your hands you should be scrubbing them for about 20 seconds--the time it takes to sing 'Happy Birthday' 2x's.
- * Make healthy choices in eating, by choosing a variety of colors on your plate, whenever possible.
- * Try to drink a lot of water! And replace soda with water whenever possible.
- * These days kids average a pound of sugar a week! What can be done in the school to help end that epidemic?
- * Exercise is a great way to stay healthy and live longer!
- * Try to get as much sleep as possible (8-12 hours!)-it'll help ya with school work and stay healthy!

BE HAPPY, KIND AND HEALTHY!



OH, HEY!

GOT A GREAT EXPERIMENT? Got an experiment you think we should know about! Contribute to the greater good and let us know! david@brightstartheatre.com We

love sharing things we learn along our journey with the world. We also love hearing feedback from your students and staff about our actors, performances, experiments, study guide and more. Please feel free to connect with us at anytime: **336-558-7360**

ADDITIONAL RESOURCES!

ONLINE! Of course the internet is packed with science videos, experiments, catalogs and resources. You should always practice these things in the comfort of an empty classroom so that you can be prepared if anything doesn't go quite as planned. There are some great science websites that features videos of experiments alongside breakdowns of they can be done, etc. Have fun, be safe and always wear your safety goggles!



CHECK US OUT! Our website at www.brightstartheatre.com is packed with study guides, materials, show clips and references on our work as a touring company. We also offer tours that celebrate Black Scientists, American Inventors and more! You can also follow us anytime on Facebook (facebook.com/brightstartouringtheatre) and Twitter (@Brightstartours) We look forward to seeing you and your audience again soon!