

2017-2018

DISCOVERY

Resource Guide

DOKTOR KABOOM!



LOOK OUT! SCIENCE IS COMING!

**Thurs., November 30, 2017
9:30 a.m. & 11:30 a.m.
& Fri., December 1, 2017 at 9:30 a.m.
Created and Produced by Doktor Kaboom**



VICTORIA THEATRE ASSOCIATION
VICTORIA - SCHUSTER - MAC/LOFT - ARTS ANNEX - ARTS GARAGE



Welcome to the 2017-2018 Discovery Series at Victoria Theatre Association. We are very excited to be your education partner in providing professional arts experiences to you and your students!

Having Doktor Kaboom return to the Victoria Theatre here in Dayton is always an event! There is strong evidence demonstrating that students benefit from turning STEM- (S)cience, (T)echnology, (E)ngineering, and (M)ath into STEAM! By adding (A)rt into this essential mix, students are empowered to break down many of the barriers they put up when it comes to science and math. (A)rt also helps develop creative thinking skills which informs STEM subjects at all levels. Doktor Kaboom is evidence that when Art and Science intersect, learning happens!

The information and activities in this resource guide have been carefully crafted to help you and your students explore the many ways a live theatre experience can open up learning opportunities. Grade level icons will help you determine which activities are good for students, too. And don't forget to take advantage of the local resources listed inside to extend the play-going experience and make even more curricular connections for you and your students. Thank you again and welcome!

Gary Minyard
Vice President -
Education & Engagement



Curriculum Connection

You will find these icons listed in the resource guide next to the activities that indicate curricular connections. Teachers and parents are encouraged to adapt all of the activities included in an appropriate way for your students' age and abilities. *DOKTOR KABOOM! LOOK OUT! SCIENCE IS COMING!* fulfills the following Ohio and National Education Standards and Benchmarks for Grades 2-8:



Ohio's New Learning Standards for Science

- Grades 2** – Physical Science (Changes in Motion)
- Grades 3** – Physical Science (Matter and Forms of Energy)
- Grades 4** – Physical Science (Electricity, Heat, and Matter)
- Grades 5** – Physical Science (Light, Sound, and Motion)
- Grades 6** – Physical Science (Matter and Motion)
- Grades 7** – Physical Science (Conservations of Mass and Energy)
- Grades 8** – Physical Science (Forces and Motion)

National Core Arts Theatre Standards:

- Grades 2** – TH:Re7.1.2, TH:Cn10.1.2, TH:Cn11.1.2, TH:Cn11.2.2
- Grades 3** – TH:Re7.1.3, TH:Cn10.1.3, TH:Cn11.1.3, TH:Cn11.2.3
- Grades 4** – TH:Re7.1.4, TH:Cn10.1.4, TH:Cn11.1.4, TH:Cn11.2.4
- Grades 5** – TH:Re7.1.5, TH:Cn10.1.5, TH:Cn11.1.5, TH:Cn11.2.5
- Grades 6** – TH:Re7.1.6, TH:Cn10.1.6, TH:Cn11.1.6, TH:Cn11.2.6
- Grades 7** – TH:Re7.1.7, TH:Cn10.1.7, TH:Cn11.1.7, TH:Cn11.2.7
- Grades 8** – TH:Re7.1.8, TH:Cn10.1.8, TH:Cn11.1.8, TH:Cn11.2.8

This resource guide was created by Amy Handra. All activities are available for distribution and use in the classroom or at home.

Table of Contents

Comprehension

About The Show and Ohio Spotlight.....	Page 2
Science Vocabulary to Know & Pre-Show Conversation Starters.....	Page 3
Know Your Scientists	Page 4
The Scientific Method.....	Page 5

Connection

The Science of Wi-Fi	Page 6
Practice Safe Science!.....	Page 7
Electric Flea Circus Experiment for Grades 2-3.....	Page 8
Air Pressure EGGS-periment for Grades 4-5	Page 9
Iodine Clock Reaction Experiment for Grades 6-8.....	Page 10

Creativity

Make Snow Ice Cream!	Page 11
Create Your Own Magnetic Slime	Page 12
Victoria Fuse's Local Resources	Page 13
Additional Resources for Students and Adults	Page 14

About the Show

LOOK OUT! SCIENCE IS COMING!

The good DOKTOR KABOOM takes his audience on an educational tour of the modern scientific method, using humor and comedy while demonstrating spectacular applications of the physical sciences. During this interactive performance, Doktor Kaboom will cover topics such as:

- Safety
- Pressure and Force
- Simple Machines
- Velocity
- Application of Science to Everyday Life
- The Scientific Method
- Chemical Reactions
- Exothermic, External, and Chemical Forms
- Mass
- Air Pressure
- Demonstration vs Experimentation



About Doktor Kaboom!

For almost 30 years, David Epley, aka Doktor Kaboom, has written, directed, and performed original comedy shows throughout the U.S. and around the world. When he performs, he plays the role of Doktor Kaboom, a chrome-goggled, motorcycle-boot-wearing German scientist. To show that you agree with Doktor Kaboom, remember to say "Ja!" ("yah"), which is German for "Yes!" David performs **improvisational comedy**, which means he improvises or changes his jokes depending on what's happening on stage.

Ohio Spotlight



Ohio has a rich history in science innovations. From early anthropological studies and surveying in the 18th century, to the early developments of the car and airplane, the Buckeye State has made indispensable contributions to the fields of science and technology. From science centers like COSI and Cincinnati Museum Center, to museums honoring Neil Armstrong and NASA, a fun day of learning is always nearby. **For a complete listing of Science opportunities in Ohio, please see page 13 of this resource guide.**



COMPREHENSION

Important Science Vocabulary to Know

ENGLISH/
LANGUAGE
ARTS

SCIENCE



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.

Chemical Reaction- Occurs when two different elements or compounds combine to form a new substance.

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.

Fulcrum- The point on which a lever rests or is supported and on which pivots.

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.

Simple Machine- A device that has only one function and a minimum of moving parts.

Theory- A supposition or system of ideas intended to explain something.

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, especially a whirlpool or whirlwind.

Pre-Show Conversation Starters

ENGLISH/
LANGUAGE
ARTS

SCIENCE

COMPREHENSION

Use the following conversation starters before you attend *Doktor Kaboom!* at the Victoria Theatre.

There is no such thing as scientific fact!

We call gravity a scientific fact, when in reality there is no such thing. We assume gravity will work as we expect it to, simply because it always has. Gravity has worked every day of our lives so far. There is the possibility that some time in the future, it might behave differently. We must remember to always keep an open mind. Sometimes a **scientific fact** is proven wrong by a newer and better discovery. Can you think of a time in your life when a "fact" was disproven? That's how science works!

Applying science to every day life:

We often forget to apply what we know about science to our every day lives. What other ways can you apply your knowledge of science to your life today?

Being right:

When a scientist has an idea, he calls it a **theory**. We test **theories** by conducting experiments. Does it matter in science if we are right or wrong?

Can you think of other scientific "facts" that we take for granted that could be disproven in the future?

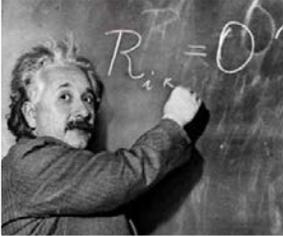
Think about your bedroom—where could you apply science to make your bedroom more efficient?

Have you ever been afraid to speak up because you were afraid you might be wrong?

Know Your Scientists



The following men and women are Doktor Kaboom's heroes! Keep reading to learn more about the scientists who have helped to shape the world as we know it.



Albert Einstein, *Physicist*

- 1879-1955. German born, and became a US citizen in 1940.
- Won the Nobel Prize for Physics in 1921.
- Most famous for developing his theory of relativity, a foundation of modern physics.
- Also famous for $E=mc^2$



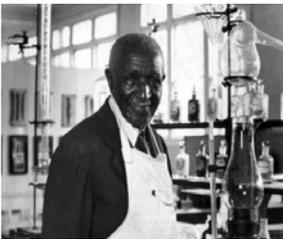
Daniel Bernoulli, *Physicist and Mathematician*

- 1700-1782. Swiss.
- Known for Bernoulli's principle which states that an increase in the velocity of a stream of fluid results in a decrease in pressure
- His research would greatly influence the Wright Brothers and their invention of the airplane wing.



Ada Lovelace, *Mathematician and Writer*

- 1815-1852. English.
- Worked on the earliest mechanical general-purpose computer, the Analytical Engine
- Her research notes include what is recognized as the first algorithm intended to be carried out by a machine.
- She is often regarded as the first computer programmer.



George Washington Carver, *Botanist, Chemist, and Inventor*

- 1864/1865-1943. Born into slavery in Missouri the exact date of his birth is unknown.
- The first black student to attend Iowa State University, Carver began to establish a reputation as a brilliant botanist.
- Conducted experiments focused on the development of new uses for crops such as peanuts, sweet potatoes, soybeans and pecans.
- The hundreds of products he invented as a chemist included plastics, paints, dyes and even a kind of gasoline.



Marie Curie, *Physicist and Chemist*

- 1876-1934. Polish.
- Won the Nobel Prize for Physics in 1903, and again for Chemistry in 1911.
- Best known for her studies for radioactivity.
- Discovered 2 elements on the periodic chart—Polonium and Radium.

Classroom Activity

Below are five additional scientists who have made important contributions to science. What can you find out about each of them? Have you discovered any similarities? Differences?

Stephen Hawking

Jane Goodall

Nikola Tesla

Alan Turing

Mae C. Jemison

COMPREHENSION

The Scientific Method

SCIENCE



The **scientific method** is a body of techniques for investigating phenomena, acquiring new knowledge, or correcting and integrating previous knowledge. To be termed **scientific**, a **method** of inquiry is commonly based on empirical or measurable evidence subject to specific principles of reasoning. **All scientists use the chart below to take their idea or invention from the conception stage all the way to completion.**

SCIENTIFIC METHOD

PURPOSE

State the problem.

RESEARCH

Find out about the topic.

HYPOTHESIS

Predict the outcome to the problem.

EXPERIMENT

Develop a procedure to test the hypothesis.

ANALYSIS

Record the results of the experiment.

CONCLUSION

Compare the hypothesis to the experiment's conclusion.

COMPREHENSION

The Science of Wi-Fi

SCIENCE



We interact with Wi-Fi all the time, but what is it really?



TM

If you have been in a coffee shop, hotel, airport, or school recently you have probably been in the middle of a wireless (Wi-Fi) network. **Wi-Fi is a local area wireless technology that allows an electronic device to share data or connect to the internet.** Many devices are designed to use Wi-Fi including personal computers, smartphones, video game consoles, tablets, e-readers and even digital cameras! A Wi-Fi network uses radio waves, just like cell phones, radios and televisions. In fact, communication across a wireless network is similar to two-way radio communication.

Here's what happens:

1. A computer's wireless adapter translates data into a radio signal and transmits it using an antenna.
2. A wireless router receives the signal and decodes it. The router sends the information to the Internet using a physical, wired Ethernet connection.

The process also works in reverse, with router receiving information from the Internet, translating it into a radio signal and sending it to the computer's wireless adapter.



A = WiFi Router C = WiFi Radio
B = WiFi Phone D = WiFi Laptop

Take-Home Activity

ENGLISH/
LANGUAGE
ARTS

SCIENCE

1. Take a look around your house, or walk around your neighborhood and make a list of all the things you see that benefit from Wi-Fi.
2. Make a list of devices you use daily that directly use or need Wi-Fi.
3. Interview a parent or a grandparent about how their lives or careers have changed since the invention of wireless internet. What types of jobs benefit the most from this instant relaying of information?

CONNECTION

Practice Safe Science!



On the next four pages you will find science experiments that are Doktor Kaboom approved to be informative and fun! Look for the grade icons in the right hand corner of each page to determine which experiments are best for your classroom. But before you get started, remember to keep it safe!

Practicing Safe Science

As Doktor Kaboom says, “Science can hurt you, especially if I’m the one doing the science.” In working with electricity, he has to watch out for sparks, burns, and fires. Even an expert experimenter can face unexpected dangers, so Doktor Kaboom suits up even if there’s only the tiniest chance that it’ll be necessary—and you should, too. And remember, you should only experiment with electricity with the help of a responsible adult.

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



Goggles protect his eyes.



Lab coat with long sleeves covers his clothing and skin.



Gloves—you guessed it—protect his hands.

Courtesy of <https://artsedge.kennedy-center.org/students/kc-connections/series/cuesheet/2014-2015/140930-tya-doktor-kaboom>.

Here are some additional safety tips to consider when completing these experiments at home or in class:

- **Always conduct experiments when an adult is present!**
- **Report all accidents, injuries, and breakage of equipment to an adult immediately.**
- **Keep long hair pulled back and out of the way.**
- **Leave your work station clean and in good order before leaving the laboratory.**
- **Follow all instructions given by your teacher or parent.**

CONNECTION

Electric Flea Circus

SCIENCE



You are probably familiar with some of the effects of static electricity. Static electricity makes the sparks when you comb your hair on a cold day, and it makes balloons stick to the wall at a birthday party. In this easy experiment, static electricity makes electric “fleas” jump up and down.

You will need:

A sheet of acrylic plastic or other clear plastic-
about 12 inches x 12 inches, and $\frac{1}{4}$ inch thick

A piece of wool fabric

4 supports about 1 to 2 inches tall- any small can will work (like tuna)

A large piece of white paper- 11 x 17 inches works best

Tiny bits of “stuff”- glitter, grains of rice, puffed rice cereal, spices
(dill weed, basil, ground cloves, or nutmeg), or bits of Styrofoam



To Assemble:

Put the piece of paper on the table. Place the supports on the paper beneath the four corners of the plastic, and scatter the tiny bits of Styrofoam, spices, glitter, or rice under the plastic. (You can set this assembly up on any tabletop.)

Procedure:

Charge the plastic by rubbing it vigorously with the piece of wool cloth or fur.

Watch the “fleas” dance! Try different types of material for charging the plastic, including your hand, and experiment with other materials for fleas. Also, try the plastic at different heights.



What is going on?

Both the plastic and the fleas start out electrically neutral. That is, they have an equal number of positive and negative charges. When you rub the plastic with the wool cloth, the cloth transfers negative charges to the plastic.

These negative charges polarize the fleas, attracting the positive charges to the tops of the fleas and pushing the negative charges to the bottoms of the fleas. The attraction between the negative plastic and the positive charge concentrated on the top of the fleas makes the fleas jump up to the underside of the plastic.

CONNECTION

Air Pressure *EGGS*-periment

SCIENCE

GRADES
4-5

You will need:

- Hard-boiled eggs
- Narrow necked bottle
- Matches
- Paper

Procedure:

1. Place a peeled, hard-boiled egg on top of the bottle. *Can you think of a way to get the egg into the bottle without causing it to break?*
2. Momentarily remove the egg from the top of the bottle.
3. Light a match and start burning a small piece of paper.
4. Drop the burning paper into the bottle and place the egg on top of the bottle, narrow side down.
5. Observe the flame go out shortly thereafter, the egg beginning to be “sucked” into the bottle.



What is going on?

The egg is not sucked into the bottle. In reality it is pushed. The flame has heated the air inside the bottle, causing the air to expand. It escapes the bottle, creating a pressure differential between the inside and the outside of the bottle, resulting in the air molecules outside the bottle hitting the egg with more force per area than the air molecules on the inside, resulting in the egg literally being pushed into the bottle.

Classroom Discussion:

ENGLISH/
LANGUAGE
ARTS

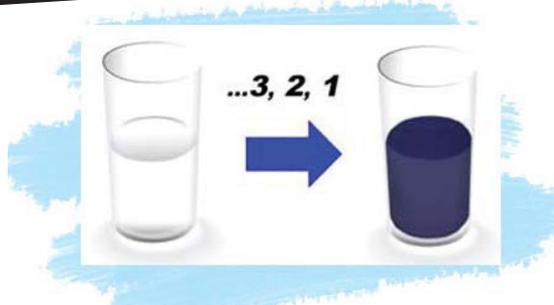
1. How are the burning piece of paper and the fact that the egg gets “sucked” into the bottle related?
2. Does the egg really get “sucked” into the bottle? Explain the procedure in a more scientific manner.
3. Propose a method of getting the egg out of the bottle, without causing damage to the egg.

CONNECTION

Iodine Clock Reaction

SCIENCE

This activity is meant to enhance you and your students' investigation of several scientific principles. As always, please use caution when using any of the materials listed. Also, use your own best judgment when allowing your students to have a hands-on experiment. Proper safety equipment should be used at all times.



The following experiment showcases a **chemical reaction**—two different elements or compounds come together and at least one of them changes its composition or identity. A **chemical** is the term for a substance with a distinct molecular composition that is produced by or used in a chemical process.

You will need:

3 clear plastic cups 4 ounces or larger

A 1000 mg Vitamin C tablet (or two 500 mg)

Tincture or Iodine (2%) (can be purchased at a pharmacy)

Hydrogen Peroxide (3%)

Liquid laundry starch (corn starch can be substituted, but the reaction will be cloudy and slower)

Safety goggles

Measuring spoons

Measuring spoons

Measuring cups

Rolling pins

Plastic Zipper-lock bag

**Safety note: Iodine stains just about anything it touches. Hydrogen peroxide can cause eye and skin irritation—safety goggles and gloves are needed throughout the experiment. Lab coats or other protective garments are recommended. You should always play it safe when experimenting with chemicals.*

Procedure:

1. Put on safety goggles and gloves. Mash the Vitamin C by placing it into a plastic bag and crushing it with a rolling pin or the back of a large spoon. Get it into as much of a fine powder as possible, and put all the powder into the first cup. Add 2 ounces (60ml) of warm water. Stir for 30 seconds. The water may be slightly cloudy. **THIS IS NOW "LIQUID A."**
2. Place 1 teaspoon (5 ml) of **LIQUID A** into a new cup and add 2 oz. (60 ml) of warm water and 1 teaspoon (5 ml) of the iodine. **THIS IS NOW "LIQUID B."**
3. In the last cup, mix 2 oz. of warm water, 1 Tablespoon (15 ml) of the hydrogen peroxide and ½ teaspoon (2.5 ml) of the liquid starch to make **"LIQUID C."**
4. Now it is time for the clock reaction. Pour all of **LIQUID B** into **LIQUID C**. Then pour them back and forth between the 2 cups a few times. Place the cups down and observe.

What is going on?

This is called a **clock reaction** because the changes between the chemicals occur over a period of time, which can be changed depending on the experiment. There is a battle of chemistry between the starch which is trying to turn the iodine blue, and the Vitamin C which is preventing it from turning blue. Eventually the Vitamin C loses, and, *voilà!* *Blue!*

Classroom Discussion:

ENGLISH/
LANGUAGE
ARTS

Make your own changes to turn this demo into a real experiment! How does the outcome change if the variables are switched out for other options? Try changing the water temperature, the amount of Vitamin C, or the amount of mixing time to see how the outcome is affected. An **exothermic reaction** is a chemical reaction that gives off heat—how might you make this an **exothermic reaction**?

GRADES
6-8

CONNECTION

Making Snow Ice Cream!



Here in Ohio it can snow a lot in the winter, and what's more fun than snow around the holidays? Try this next experiment at home on a snow day, or in the classroom.

Total materials needed:

- Snow! (about a gallon)
- 1 cup Milk (any kind is fine)
- 1 tsp of vanilla
- 1 cup of sugar
- Big bowl for mixing
- Wisk

Procedure:

1. Collect your snow. This can be done in advance by setting a large container outside. If you are collecting your snow right before the experiment (and you plan to eat your ice cream) make sure you use white, clean snow!
2. In a large bowl, mix the snow, milk, vanilla, and sugar and whisk it all together. Stir until well blended. Your snow ice cream will have the consistency of oatmeal.
3. Serve and eat your ice cream immediately!

Variations:

- Try using chocolate milk and leaving out the vanilla to create chocolate snow ice cream
- Mix in cinnamon, nutmeg, or other spices to create your own flavor



Ice Cream in Ohio

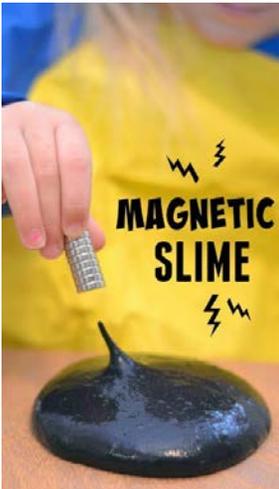
SOCIAL STUDIES

People from Ohio sure do love their ice cream. Did you know the **ice cream cone** was invented by two brothers from Canton, Ohio in 1904? The Menches Brothers were selling ice cream at the St. Louis World's Fair, but they ran out of bowls. A few concession stands down, a pastry chef was selling a flat, Syrian pastry. The Menches Brothers rolled the pastry into a cone shape, and the ice cream cone was born!

The **ice cream truck** got its start in Ohio, too! Harry Burt owned an ice cream parlor in Youngstown, Ohio. In 1919, he created a chocolate covered ice cream bar, but when his daughter complained it was too messy, he put it on a stick! They were instantly popular. In 1920, Burt outfitted 12 delivery trucks and even his son's bobsled with freezers and bells – creating the first fleet of ice cream trucks!

CREATIVITY

Create Your Own Magnetic Slime!



Doktor Kaboom is pretty sure that most junior scientists have probably played with ooey gooey slime before. But did you know you can make a science lesson out of it? This is a hands-on science activity you have to do to believe.

You will need:

- | | |
|------------------------------------|-----------------------------|
| 8 oz. bottle of school glue | Zipper-lock bag |
| Borax | Iron filings or iron powder |
| Large mixing bowl | Neodymium magnet |
| Plastic Measuring cup and utensils | Water |

Procedure:

1. Empty the entire bottle of school glue into the large mixing bowl. Add water to the empty glue bottle, tighten the lid, and shake it up. Pour the water and glue solution from the bottle into the bowl. Add some iron filings to the mixture of water and glue before stirring the entire mixture.
2. Measure $\frac{1}{2}$ cup of water and pour it into the plastic cup. Add 1 teaspoon of borax to the cup of water and stir the solution. Add the borax solution to the mixture in the bowl. Mix it up VERY well. Hover the neodymium magnet near the slime and witness some ooey, gooey, slime-based magnetism.

What is going on?

What makes this slime magnetic?

The iron filings are magnetic! Iron is one of three elements (cobalt, iron, and nickel) that are magnetic at room temperature. The mixture of school glue with borax and water produces a putty-like material called a polymer. In simplest terms, a polymer is a long chain of molecules.

You can use the example of cooking spaghetti to better understand why this **polymer** behaves in the way it does. When a pile of freshly cooked spaghetti comes out of the hot water and into the bowl, the strands flow like a liquid from the pan to the bowl. This is because the spaghetti strands are slippery and slide over one another. After awhile, the water drains off of the pasta and the strands start to stick together. The spaghetti takes on a rubbery texture. Wait a little while longer for all of the water to evaporate and the pile of spaghetti turns into a solid mass -- drop it on the floor and watch it bounce.

Polymers are made out of long strands of molecules like spaghetti. If the long molecules slide past each other easily, then the substance acts like a liquid because the molecules flow. If the molecules stick together at a few places along the strand, then the substance behaves like a rubbery solid called an elastomer. **Borax** is the compound that is responsible for hooking the glue's molecules together to form the putty-like material.

Now, what prevents the iron filings from flying out of the slime?

The slime is able to hold onto its iron filings by adhesion. **Adhesion** is the force that holds molecules of different substances together. In addition to adhesion, the slime is bonded together by **cohesion**, the force that holds molecules of the same substance together. The combination of **magnetism**, **adhesion**, and **cohesion** results in the weird, stretchy volcanoes that appear when you hover the neodymium magnet near the slime!

Victoria Fuse's Local Resource



Boonshoft
Museum of Discovery

Only a hop, skip, and a jump from the Victoria Theater, the Boonshoft Museum of Discovery is the premier regional provider of interactive science learning experiences which enrich the lives of children and adults, enhance the quality of life in our community, and promote a broad understanding of the world. The Boonshoft Museum preserves, protects, and enhances its anthropology, geology, paleontology, and biology collections, and even makes these collections available for exhibition, education, and research purposes.

For more information, please visit www.boonshoftmuseum.org.



**EXPLORE
science.
DISCOVER
FUN!**

Located in Columbus and named America's #1 science center for families by Parent Magazine in 2008, Center of Science and Industry (COSI) has engaged with over 33 million people from all 50 states and around the world, both on-site and through its award-winning outreach programs. COSI provides an exciting and informative atmosphere for those of all ages to discover more about our environment, our accomplishments,

our heritage, and ourselves. COSI strives to motivate a desire toward a better understanding of science, industry, health, and history through involvement in exhibits, demonstrations, and a variety of educational activities and experiences. For more information, please visit www.cosi.org.

For more science adventures, check out these museums across Ohio!

National Museum of the USAF in Dayton; <http://www.nationalmuseum.af.mil/>.

Cincinnati Museum Center in Cincinnati; <http://www.cincymuseum.org/>.

Cleveland Museum of Natural History in Cleveland; <https://www.cmnh.org/>.

Great Lakes Science Center in Cleveland; <http://www.greatscience.com/>.

Invent Now: National Inventors Hall of Fame in Akron; <http://invent.org/>.

Lake Erie Nature and Science Center in Bay Village; <http://www.lensc.org/>.



RECOMMENDED RESOURCES

Resources for Students & Teachers

Publications for Students:

Big Book of Science Experiments: A Step-by-Step Guide, Edited by Time for Kids. Published by Time Magazine: 2001.

The Everything Kids' Science Experiments Book, Written by Tom Robinson. Adams Media: 2001.

101 Science Experiments, Written by Neil Ardley. DK Children: 2014.

Bill Nye the Science Guy's Big Blast of Science. Written by Bill Nye. Perseus Books: 1993.

Publications for Teachers and Parents:

From STEM to STEAM: Using Brain-Compatible Strategies to Integrate the Arts, Written by David A. Sousa and Tom Pilecki. Corwin: 2013.

Ready, Set, Science!: Putting Research to Work in K-8 Classrooms. Written by Sarah Michaels, Andrew Shouse, and Heidi Scheingruber. National Academies Press: 2007.

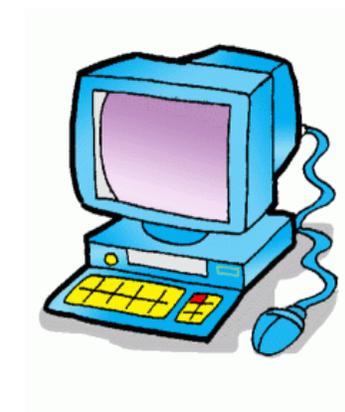
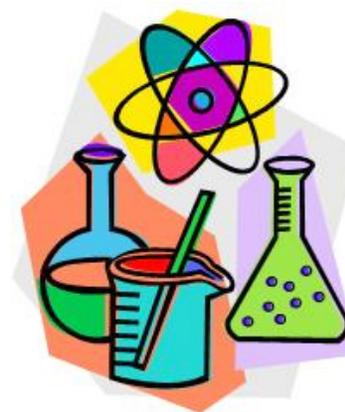
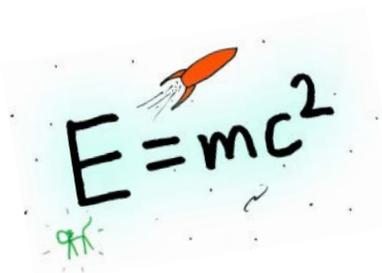
Unstoppable: Harnessing Science to Change the World. Written by Bill Nye. St. Martin's Press: 2015.

Websites for Teachers and Students:

<http://www.doktorkaboom.com/>; Follow along with all of Doktor Kaboom's adventures, watch videos, and more! For extra content be sure to "Like" Doktor Kaboom! On Facebook, too!

<http://gws.ala.org/category/sciences>; The American Library Association has compiled the best science websites for kids and made them easy for parents to access. This website links to thousands of websites where children can learn about space, the environment, energy, biology, bugs, and more!

<http://www.sciencekids.co.nz/>; You can conduct experiments at home just like Doktor Kaboom! With an adults permission and supervision, check out this website for kid-friendly science demonstrations!



Brought to you by



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138 North Main Street
Dayton, OH 45402



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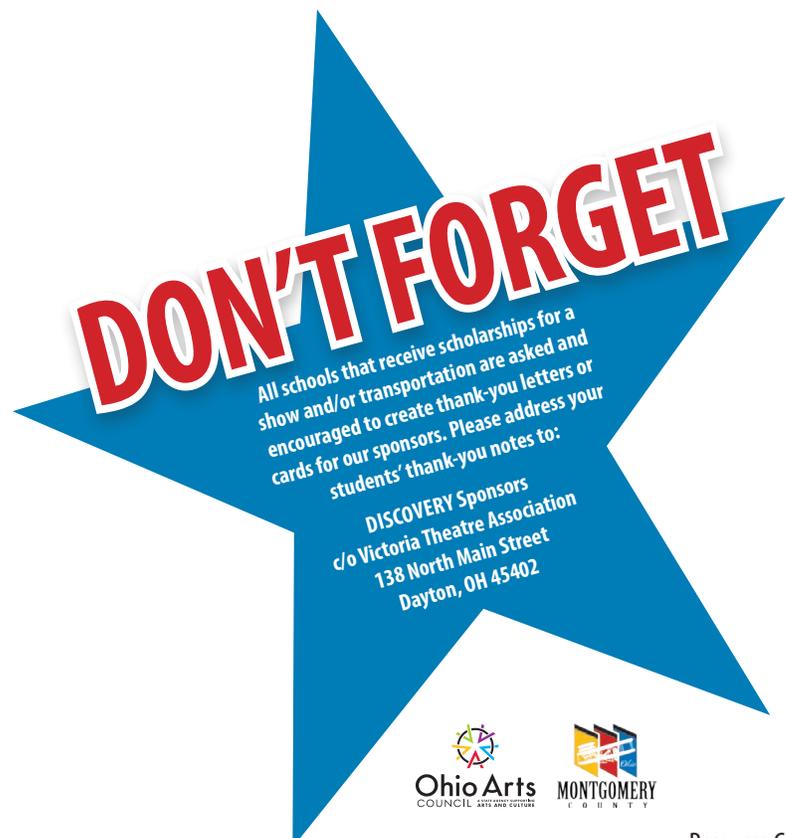
Doktor Kaboom strives to empower, excite, educate, and entertain the people of Earth.

Through interactive character-driven science comedy we improve society's understanding and retention of basic scientific principles, build upon those basics, demonstrate that all science is for everyone, and remove the cultural stigma that scientific awareness is something to fear.

Core Values:

- Science is for everyone, not just the guy in the lab coat, or the girl who wins the science fair every year.
- Science is not hard, but it does take effort. That's not hard, that's just work, and that's life.
- Every child is intelligent, creative, valuable, and should know that about themselves.

For more information, please visit: <http://www.doktorkaboom.com/>.



All schools that receive scholarships for a show and/or transportation are asked and encouraged to create thank-you letters or cards for our sponsors. Please address your students' thank-you notes to:

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