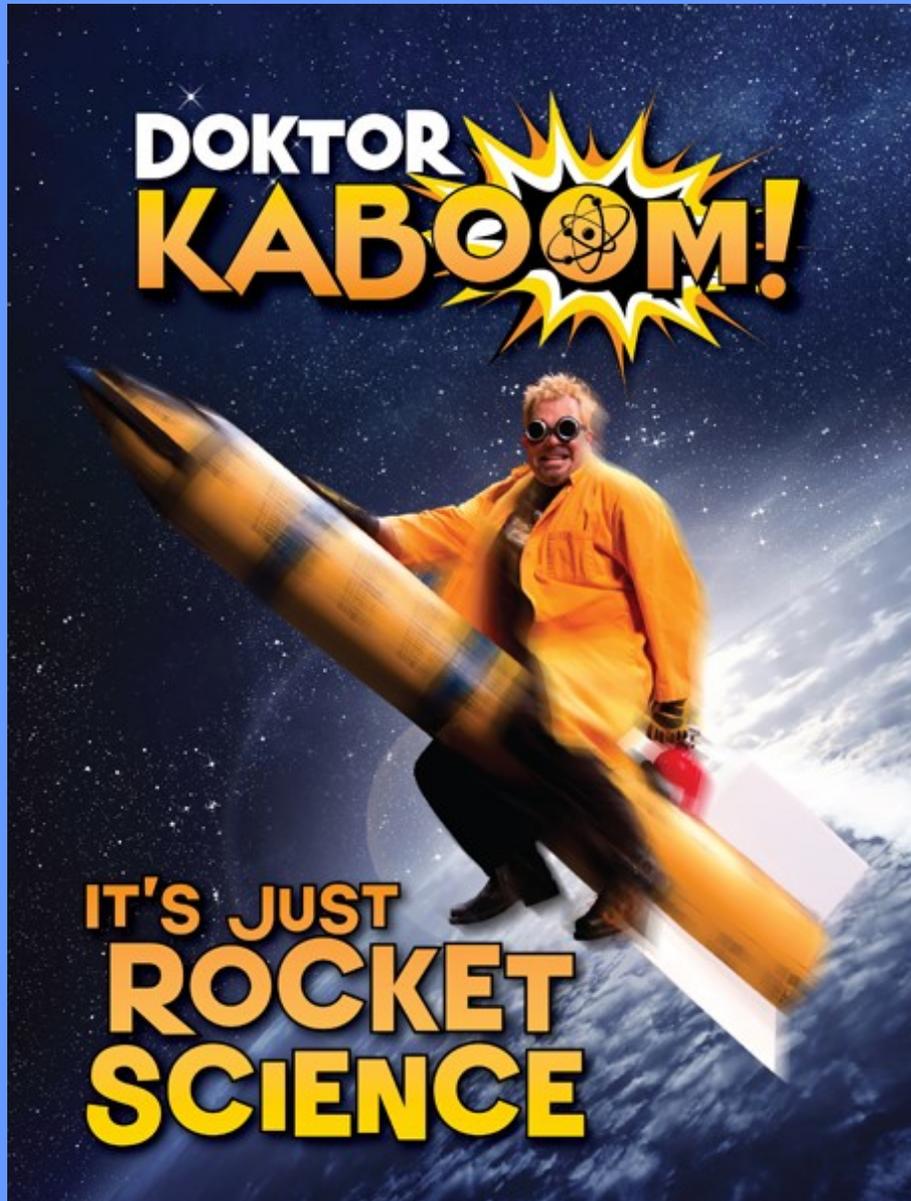


*Engage. Educate. Entertain.*

# DOKTOR KABOOM!

## IT'S JUST ROCKET SCIENCE

Curriculum aligned to the Florida Standards



TUESDAY, MAY 5, 2020

11:00 A.M.

DUKE ENERGY CENTER FOR THE ARTS  
MAHAFFEY THEATER

*April Minor* CURATOR OF ART AND EDUCATION

*Kim Dennison* CURRICULUM RESEARCH & DESIGN

## HOW TO REACH US

### *Class Acts at The Mahaffey Theater*

400 1st Street South  
St. Petersburg, FL 33701-4346

Pinellas County Schools Pony Route #3  
Attn: Class Acts/Perkins Elementary School

Class Acts Box Office  
(727)892-5800

An electronic version of this guide can be  
found at [stpetecllassacts.com](http://stpetecllassacts.com).



## DIRECTIONS TO THE MAHAFFEY THEATER

Take I-275 (south from Tampa, north from  
Bradenton/Sarasota) to exit 22 (I-175).

Follow Route I-175 (it will become  
5th Avenue South) to 1st Street South.

The Mahaffey Theater will be in  
front of you.  
*1st Street South and 2nd Street South are  
two-way streets.*

Follow the directions given by the  
parking attendants.

*Bill Edwards*

## FOUNDATION FOR THE ARTS

*Bill Edwards Foundation for the Arts* supports performing arts programming at the Duke Energy Center for the Arts – Mahaffey Theater. We provide arts education programs for youth, community outreach programs, and performances as well as concerts for the entire community. The Foundation and Theater staff work together to deliver unrivaled cultural arts experiences to our patrons.

We rely heavily on public support, through Memberships, Corporate Partnerships, Naming Rights and General Donations to achieve our mission. The Edwards Foundation and Mahaffey Theater work collaboratively with The City of St. Petersburg and all of our cultural neighbors in an effort to bring awareness to the importance of the arts and to position St. Petersburg on the world stage.

(727)308-5100

[billedwardsfoundationforthearts.org](http://billedwardsfoundationforthearts.org)

# ABOUT THE SHOW



*It's Just Rocket Science* utilizes the physics of space exploration to demonstrate clearly that science is for everyone, not just the people who are already good at it. Dr. Kaboom focuses on the message that science is not hard, it just takes effort. That's not hard, that's just work, and that's just life. Come along as he explores centripetal force, action/reaction, inertia, chemical reaction, and combustion as well as mathematics as patterns.

# ABOUT DOKTOR KABOOM!

## **The Man...**

Doktor Kaboom is the creation of actor/comedian David Epley.

David grew up expecting to be a research physicist. Then a biomedical engineer. Then a mathematician, an astrophysicist, a chemical engineer, a marine biologist. So, of course, he became an actor.

For almost 30 years David has written, directed, and performed original comedy shows throughout the US, and around the world. Outdoor festivals and street performance were his primary venues of choice, with an occasional stage show thrown in for good measure. In 2006 David decided to bring science, his first passion, back into his life. Blending science and theatre has been a dream come true, opened multiple doors, and led to the most fulfilling work of his life.

Teaching, inspiring, and empowering the minds of our youth, and reminding their parents to be an active part of the equation. How could someone's work be any more rewarding?

David is a veteran of the US Army, and a former Firefighter and EMT. He calls Seattle home, where he lives and loves with his wife and their two wonderful daughters.

## **The Myth...**

Doktor Kaboom is an over the top German physicist with a passion for science that knows no bounds. Sporting chrome goggles, an orange lab coat, motorcycle boots, and wicked cool hair, Doktor Kaboom travels the world, thrilling adults and children alike with an explosive comedic style that is guaranteed to please every crowd.

His improvisational skill promises no two shows will ever be the same, and his character driven comedy will entertain audiences of every age

Nothing says science like KABOOM!

## **The Mission...**

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 stigmata that scientific awareness is something to fear.

### **Core values:**

Science is for everyone, not just the guy in the labcoat, 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 just life.

Every child is intelligent, creative, valuable, and should know that about themselves.

Find more about Doktor Kaboom at <http://www.doktorkaboom.com/>.

# BEFORE THE SHOW

***Theater etiquette is an important part of attending a live stage production. So that all patrons have an enjoyable experience at the theater, please share these guidelines with your students prior to attending the performance. Remind students to be respectful of the performers and other audience members by engaging in responsible behavior.***

- You agree to be on time. Theater is great! It's live! It happens in the moment. You can't rewind it. You are an important part of the show and you need to be there from the very beginning. The actors are there, so you need to be there, too. Arriving 20 minutes before show time is the standard rule.
- You agree to use the restroom before the show starts to avoid getting up and disrupting the performance while it's happening. Once a class is seated, you may visit the restroom in small groups prior to show time. Young students must be escorted.
- You agree not to talk or whisper during the show. If you whisper to your friends during the show, you disrupt those around you, and quite possibly the actors. And, you might miss something!
- You agree to participate. This includes laughing at appropriate times, clapping in appreciation for the things and actors you like, and doing other things when invited by the actors to do so. It also means paying attention to what's going on by listening and watching closely.
- You agree to turn off all cell phones and other gadgets that may make noise during the show.
- You agree not to take pictures or use recording devices of any kind during the show . The material performed on stage is copyrighted material, and therefore protected under copyright law from reproduction of any kind without written permission. In addition, the Mahaffey Theater is a union house, and union rules prohibit the use of photography and recording devices without prior consent.
- Finally, you agree to give the actors a full curtain call . A curtain call is the actors' final bow at the end of the performance. It's your opportunity to show your appreciation for what they've shared with you. Please wait until all the actors have taken their final bow before exiting the theater. The ushers will assist you in finding the best route out of theater!

# BEFORE THE SHOW

## Vocabulary

*Introduce science vocabulary used by Dr. Kaboom.*

**Centripetal force** is the force that tends to cause a thing or parts of a thing to go inward toward a center of rotation.

**Action** is the working of one thing on another so as to produce a change.

**Reaction** is the force that opposes the action of a force applied to one body by another body.

**Inertia** is a property of matter by which it remains at rest or in unchanging motion unless acted on by some external force.

A **chemical reaction** is when one or more substances are converted to one or more different substances.

**Combustion** is an act or instance of burning.

### Science Vocabulary Activity:

1. Have students pair up and explain the science vocabulary to their partners with gestures and words.
2. Have partners create an illustration of the vocabulary word.
3. Now combine teams of two into teams of four.
4. Have partners share their gestures and drawings with each other.
5. Finally, have teams of four come to a consensus: what gesture and picture would you use to describe the word?
6. Have groups of four present their gestures and pictures to the whole group.



# BEFORE THE SHOW

## ELA Resources

*Build background knowledge about space exploration through ELA.*

**History of Space Travel** <https://kids.nationalgeographic.com/explore/space/history-of-space-travel/>

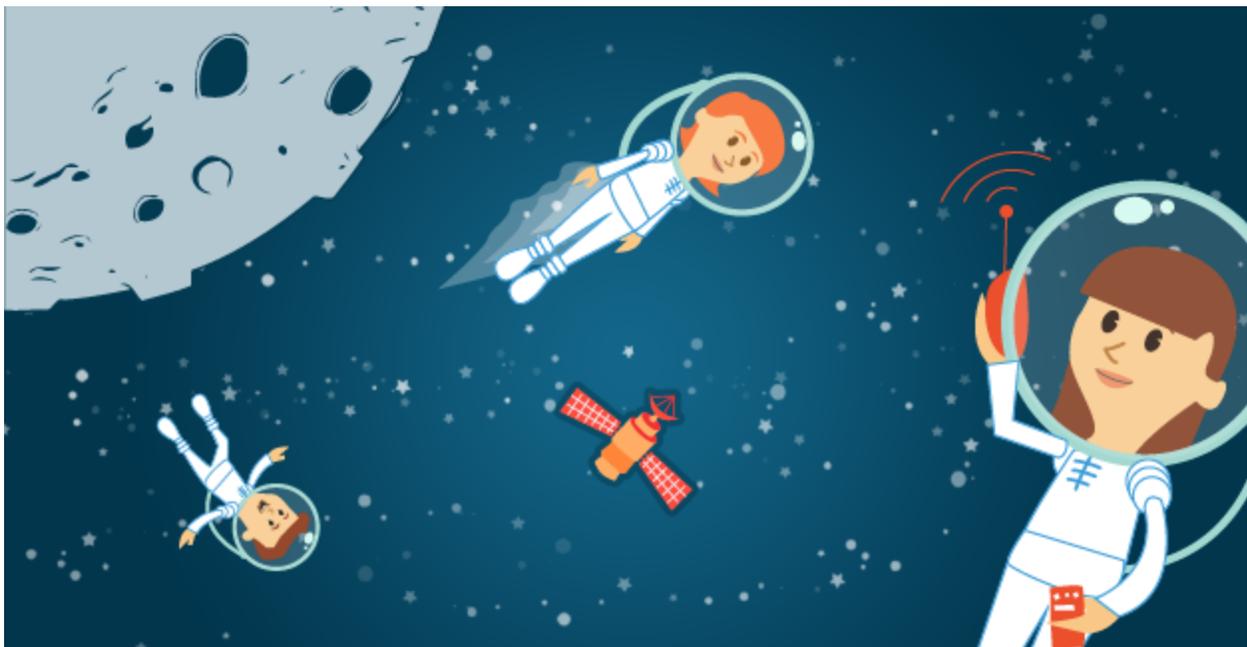
Use the informational text in this article to give background on space travel. Use the photographs to connect to the science vocabulary—which of the words describe what is happening in these pictures? How do you know?

**Why We Explore** [http://history.nasa.gov/Why\\_We\\_Why\\_We\\_Main.html](http://history.nasa.gov/Why_We_Why_We_Main.html)

After reading essays on why space exploration is thought to be beneficial, have students write their own opinion essays on why we should continue to explore space.

**How do scientists explore the solar system?** <http://wonderopolis.org/wonder/how-do-scientists-explore-the-solar-system/>

After interacting with the Wonderopolis article have students write other questions they have about what scientists do in space. Encourage them to research their questions and then create a presentation that shows their findings.



# AFTER THE SHOW



## CPALMS Science Resources

<http://www.cpalms.org/Public/>

*Reinforce concepts and increase interest and engagement with these activities from CPALMS.*

### **Technology resources about space:**

**NASA Spinoff** <http://spinoff.nasa.gov/index.html>

*NASA Spinoff contains information about space technology and innovations.*

**Astro Adventure** <http://www-g.eng.cam.ac.uk/mmg/teaching/peterstidwill/interact/resources/astroadventure/astroadventurelink.htm>

*Astro Adventure is a game students can play to learn more about the solar system and space exploration.*

### **Lessons on Force:**

**The Battle of the Forces** <http://www.cpalms.org/Public/PreviewResourceLesson/Preview/29603>

**Explore the Forces** <http://phet.colorado.edu/en/simulation/forces-and-motion-basics>

### **Lesson on Chemical Reactions:**

**Chemical Change Investigations** <http://www.cpalms.org/Public/PreviewResourceUrl/Preview/12700>

**Physical and Chemical Changes Observed in Pancakes** <http://www.cpalms.org/Public/PreviewResourceLesson/Preview/128839>

## **Reflecting on the Performance**

After watching the performance, reflect on how Dr. Kaboom presented the scientific ideas of science and space exploration.

- What questions would you ask Dr. Kaboom?
- What more do you want to investigate?
- How could you find answers to your questions?

# FLORIDA STANDARDS

SC.4.E.5.5 :Investigate and report the effects of space research and exploration on the economy and culture of Florida.

SC.5.E.5.3 :Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it.

SC.5.P.13.2 :Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object.

SC.6.P.13.3 :Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.

SC.7.P.11.1 Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.

SC.8.E.5.12 :Summarize the effects of space exploration on the economy and culture of Florida.

SC.8.P.9.2 :Differentiate between physical changes and chemical changes.

LAFS.K12.R.2.4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

LAFS.K12.R.3.7 Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

LAFS.K12.W.1.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

LAFS.K12.W.1.2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

TH.4.O.3.1 Explain how theatre and its conventions are used to communicate ideas.

TH.5.S.1.3 Evaluate a performance, using theatre terminology, and articulate emotional responses to the whole and parts of dramatic performances.

TH.68.H.1.5 Describe one's own personal responses to a theatrical work and show respect for the responses of others.