



**PRESENTS**

The graphic for "ARC ATTACK" features the words in a large, bold, yellow, sans-serif font. The letters are set against a dark purple background with glowing, abstract white and blue lines that resemble lightning or energy. The letter "A" in "ARC" has a long, thin tail extending downwards and to the left. The letter "K" in "ATTACK" has a long, thin tail extending upwards and to the right.

# ARC ATTACK

**2015-2016**  
**FIELD TRIP EDUCATOR GUIDE**

## DEAR EDUCATORS,

Welcome to ArtsBridge’s 2015-16 Field Trip Season! We are thrilled to present *ArcAttack* to you and your students. *ArcAttack* offers a comprehensive, curriculum based show that invites audiences to explore concepts such as electricity, voltage and current, magnetism, robotics, and lightning through a show that’s both entertaining and interactive while meeting National Science Education Standards. You’re sure to be on the edge of your seats the whole time!

Thank you for sharing this special experience with your students. We hope this field trip guide helps you connect the performance to your in-classroom curriculum in ways that you find valuable. In the following pages, you will see guidelines regarding your field trip, contextual information about the performance and related subjects, as well as a variety of pre- and post discussion questions and assessment activities. On page 13, you’ll find the Common Core and Georgia Performance Standards included in *ArcAttack*. Please “pick and choose” material and ideas from the guide to meet your class’ unique needs.

We look forward to inspiring and educating your students through the arts on November 19th at the world-class Cobb Energy Performing Arts Centre!

**See you at the theater,**

**The ArtsBridge Team**

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# ABOUT COBB ENERGY PERFORMING ARTS CENTRE



The landmark Cobb Energy Performing Arts Centre is a cultural, entertainment and special events venue of a national significance. Atlanta's first major performing arts facility in four decades, Cobb energy Centre boasts state-of-the arts systems, amenities and design featured that allow the expression of any artistic idea and captivate performers, patrons and event planners. The Centre's strong suit is versatility. It can accommodate events as diverse as Broadway, concerts, corporate functions, private parties and family entertainment.

The Centre's distinctive façade and three-story lobby – highlighted by a 65-foot, floor-to-ceiling glass curtain wall – offer visitors a grand welcome and stunning introduction to a venue of great warmth, elegance and possibilities. Nothing speaks “special occasion” like the majestic lobby – a gathering space and promenade with two grand staircases, specially designed, colored- glass chandeliers and walls of Venetian plaster.

The Centre's 2,750-seat John A. Williams Theatre captures the richness and intimacy of vintage theaters. Yet it incorporates modern touches and technology – including advanced sound, lighting and acoustical elements – that allow fine-tuning for each performance. With equal poise, the Theatre can host concerts, opera, drama, comedy, lectures, dance and spoken word.

For special occasions and events – from wedding receptions and themed parties to corporate banquets and black-tie galas- the Centre's flexible spaces include a 9,500- square foot Courtyard, 3,100-square-foot Terrace and 10,000-square-foot Ballroom – divisible into three independent spaces, each with autonomous sound and lighting controls. The Ballroom's pre-function area is ideally suited for pre-and post- event gatherings.

## DID YOU KNOW?

- More than 250,000 patrons visit the Cobb Energy Centre each year.
- The Cobb Energy Centre opened in 2007.
- The Cobb Energy Centre has two main spaces:
  - John A. Williams Theatre, 2750 seats
  - Kessel D. Stelling Ballroom, 10,000 square feet
- No seat is more than 160 feet from center stage in the John A. Williams Theatre.
- There are 1,000 parking spaces on site.
- The Centre is located one mile from the new Braves stadium and only 15 minutes from downtown Atlanta.
- ArtsBridge programs began in 2007 and reach 30,000 – 40,000 students each year.

# FIELD TRIP GUIDELINES

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*Below are some simple guidelines for your ArtsBridge Field Trip to the Cobb Energy Performing Arts Centre. Please read carefully and contact us at (770) 916-2805 if you have questions or require additional information.*

**Reservations:** All field trip admissions are to be made in advance. Please do not bring more than the number of seats reserved. Performances are expected to sell out and we will not be able to accommodate an increase in numbers at the last minute. All patrons, including teachers and chaperones, must have a reservation in order to attend these performances. Children under the age of three are not permitted to attend.

**Payment:** Payments must be made in full, 3 weeks prior to the day of show or we will not be able to accommodate your reservation. An invoice will be given to you at the time your reservation is made. Once you have paid in full, we will send a Confirmation, which will serve as your school's ticket into the performance. ArtsBridge reserves the right to cancel unpaid reservations after the payment due date.

**Transportation:** The Centre can accommodate school buses, vans and cars. Please be aware that vans and cars will incur a \$6 per vehicle parking fee. A third party contractor runs the Centre's garage and charges this fee. There is no charge for parking school buses. All buses, vans and cars must comply with directions provided by on-site staff.

**Arrival:** All vehicles should approach the Cobb energy Performing Arts Centre from AKERS MILL ROAD. (map enclosed) Upon entering the driveway, buses will be directed to the circular drive where they will temporarily pull up to the curb for unloading. A Cobb Energy Performing Arts Centre representative will board the bus and check-in your school. Classes will be immediately unloaded and buses will be directed to their designated parking areas.

**Seating:** Classes are seated as they arrive, starting with the floor level, first row. The exception to this is for programs with older and younger students in attendance at the same time. In this case, students in kindergarten and first-grade will be seated in the first few rows of the theatre. There are three levels of seating, with the back row of the top level no more than 160 feet from the stage.

**Restrooms:** Please seat your entire group, before taking restroom breaks so that you can be easily found. Students MUST be accompanied by adult chaperones when going to the rest room. We encourage that you take groups so that there are fewer trips.

**Chaperones:** Chaperones have a job to perform while at the Centre. Please make sure that your chaperones are interspersed among students, and that they are prepared for the day's responsibilities. Please discuss restroom visits, emergencies, behavior, etc. with your chaperones prior to arrival.

**Behavior:** Students and teachers are encouraged to enjoy performances, applaud and express enthusiasm in a manner that is appropriate for the performance, yet not disruptive for others. We request that all phones, tablets and any other electronic devices be completely turned off or on silent mode during the performance. We ask that chaperones on upper levels watch for students tossing or throwing items to lower levels and prevent students from climbing or leaning on railings. No student can leave the audience chamber without an accompanying chaperone. Students/classes that are disruptive may be asked to leave the performance with no refund. (See Theatre Etiquette on Page 7)

**Departure:** Performances last approximately one hour. Upon conclusion of the performance, classes will be dismissed to the designated parking area to board their buses and return to school.

**Lunch:** There is no facility for classes to eat lunch in the Cobb Energy Centre. We recommend classes eat lunch at the Galleria Specialty Mall, Cumberland Mall, at a park on the route to/from the venue or on their bus.



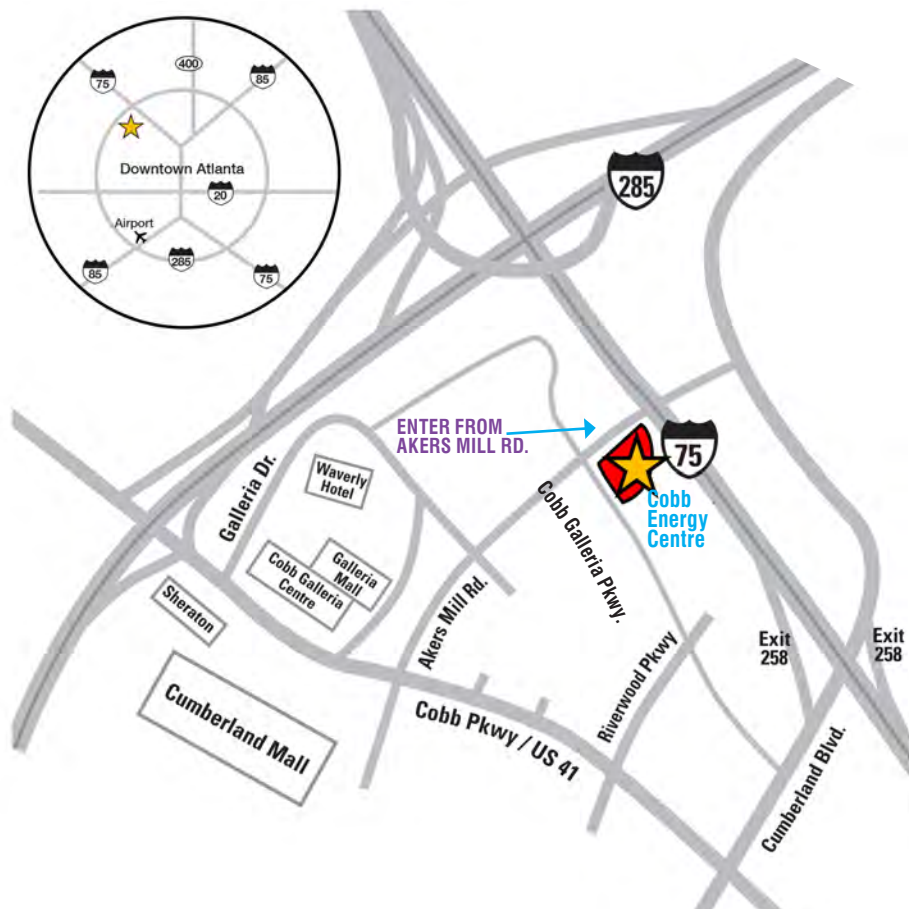
# TRANSPORTATION INFORMATION

**Buses:** All school buses must approach the building from AKERS MILL ROAD on the North side of the building. This will be crucial in assuring a fairly smooth flow of traffic. There will be Centre representatives guiding you. Buses will pull onto the site from behind the building and then drive to the front. PLEASE MAKE SURE YOUR DRIVERS USE THE MAP BELOW. There is no charge to park school buses on-site.

**Checking In:** When you arrive at the front of the building, a representative from the Centre will board your bus to check-in your school. You and your bus driver will be given a large number that will be taped to the bus windows. Please remember your number, as it will help you find your bus after the performance.

**After the Show:** After the performance, buses will be parked in the Centre's surface lot in numerical order and representatives will assist you in locating your bus(es). We encourage everyone to board their buses as quickly and safely as possible. For safety reasons, we are going to try and hold all buses until everyone has boarded, so please make your way directly to the surface parking lot following the performance. (see map below)

**Cars/Vans/SUVs:** You will still approach the building in the same manner, but will parking in our parking deck. Please note there is a \$6 per vehicle parking fee for cars/vans/SUVs. After you have parked, make your way to level 2 of the deck and to the west side (theater side) of the building. When you emerge from the parking deck, there will be a Centre representative to check you in and direct you to your seats.



# ADDITIONAL MAP FOR ALL VEHICLES ATTENDING



2800 Cobb Galleria Pkwy, Atlanta, GA 30339

# THEATER ETIQUETTE

*A live performance is a unique experience shared between performers and audience members. Unlike television or movies, audience distractions can disrupt the performers, production and audience. Before you arrive at the Cobb Energy Centre, please review the following information with your students and chaperones, and help ArtsBridge create a meaningful experience for all.*

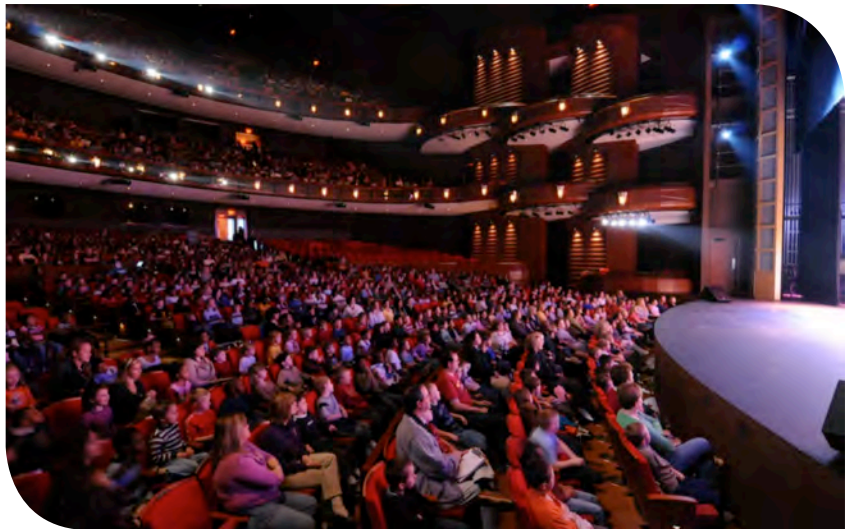
- Arrive early. Groups are seated on a first come, first serve basis. Seats are not assigned for ArtsBridge events.
- Food, drink, candy, gum, etc. is not permitted in the theater.
- Silence or turn off all electronic devices. We encourage you to share your ArtsBridge experience at the Cobb Energy Performing Arts Centre via social media, but please refrain from doing so or texting during performances; the glow from your device is distracting.
- Photography and video/audio recording of any kind is not allowed in the theater during the performance.
- Respect the theater. Remember to keep your feet off of the seats and avoid bouncing up and down.
- When the house lights dim, the performance is about to begin. Please stop talking at this time.
- Talk before and after the performance only. Remember, the theater is designed to amplify sound, so the other audience members and the performers on stage can hear your voice!
- Use the restroom before the performance or wait until the end.
- Appropriate responses such as laughing and applauding are appreciated. Pay attention to the artists on stage – they will let you know what is appropriate.
- If you need assistance during the show, please find your nearest volunteer usher.
- As you enter and exit the theater, remember to walk and stay with your group.
- Open your eyes, ears, mind and heart to the entire experience. Enjoy yourself!



# PRE-SHOW ACTIVITIES

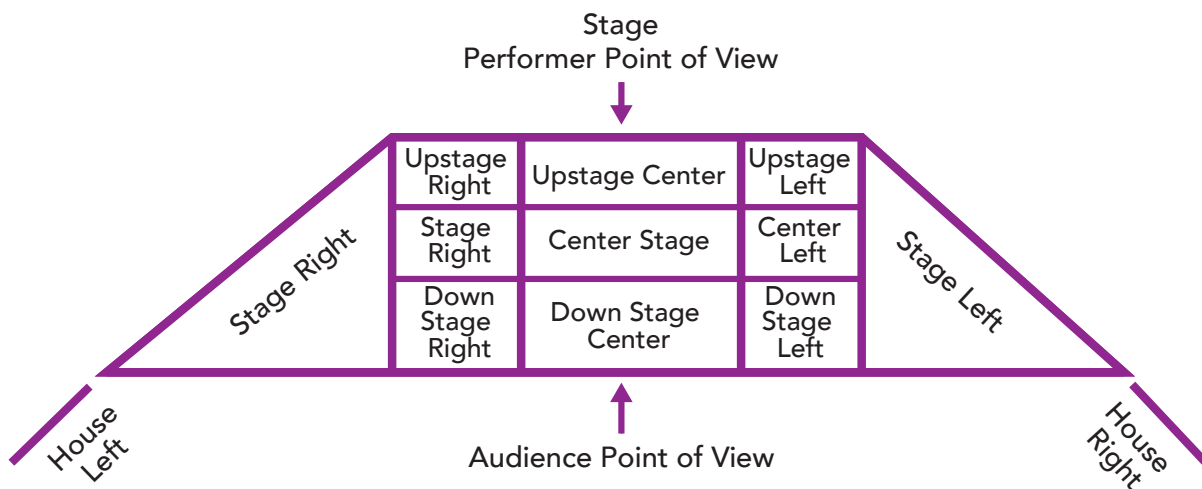
Before attending an ArtsBridge Field Trip, review the following questions and vocabulary with your students:

1. How many of you have experienced a live theater performance? What did you see?
2. What are some of the differences between going to the theater and watching television or going to a movie?
3. The BAD Audience Member! A fun way to review theater etiquette with your students is to have them point out bad audience behavior during a show. Here's one way to illustrate this concept:



- a. Have students present something to the class. The key is they are “actors” and the class is the audience.
- b. Once they are into the activity, you (the teacher) leave the room and then re-enter. Enter loudly, chew gum, step on people’s feet, talk to them, etc. Be the worst audience member. Find a seat and continue to talk to others, ask what’s going on in the performance, take pictures, talk on your cell phone etc.
- c. Ask the class to list all the bad behavior. Write these on the board.
- d. Ask the audience members how they felt when the bad audience member came into the theatre. Could they hear the actors? Were they distracted?
- e. Ask the actors how they felt. Could they concentrate on their performance?

4. Review the stage diagram below with the students. Draw the diagram on the whiteboard and have students come up and write in each part of the stage.





# PRE-SHOW ACTIVITIES

## STICKING A BALLOON TO A WALL

### MATERIALS:

- balloon
- a piece of wool, nylon or fur
- wall

### PROCESS:

1. Blow up the balloon and tie it.
2. Rub the balloon with your piece of wool, nylon or fur quickly.
3. Put the balloon against the wall and let go.
4. Watch what happens. It should stick to the wall.

### EXPLANATION:

Why does this happen? When you rub the balloon, you're covering it with little negative charges. The negative charges are attracted to the positive charges that are in the wall. That's why the balloon 'sticks' to the wall.



## WHAT IS LIGHTNING?

### MATERIALS:

- fluorescent light bulb
- rubber balloon

### PROCESS:

1. Turn all of the lights off in the room. (The darker the better!)
2. Rub the balloon on your hair for several seconds.
3. Then hold the statically charged balloon near the end of the light bulb. This will illuminate the bulb.
4. Repeat the demonstration as many times as desired.

### EXPLANATION:

When you rub the balloon on your hair, the balloon builds up an electrical charge (static electricity). Touching the charged balloon to the end of the fluorescent light bulb causes the electrical charge to jump from the balloon to the bulb. This is what illuminates the light bulb.



# PRE-SHOW QUESTIONS

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1. What is energy?
2. What is sound energy?
3. How is sound made?
4. What is volume?
5. In what direction does light normally travel?
6. What is electricity?
7. What is an electron and where would you find one?
8. What is static electricity?
9. What does magnetic mean?
10. What is an electromagnet?



# THEATRICAL VOCABULARY

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**Review the following theatrical terms with your students before attending the performance! This will help them better understand all of the elements of a production.**

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**Author** – the writer of a script also called the book

**Audition** – to perform to get a role for the production; usually includes singing, dancing and reading scenes from the show; usually takes place in front of the Director & Creative Team

**Ballad** – a slow song for actors to showcase vocal clarity

**Blocking** – the specific movement of actors on stage; usually given by the Director

**Box Office** – a booth inside the theater where tickets are sold

**“Calling the Show”** – the process of calling out the lighting, sound and scene-change cues during a performance; usually done by the stage manager

**Casting** – the process through which actors are chosen for roles in the production

**Casting Agent** – one who chooses actors for roles in the production

**Choreographer** – one who designs dance sequences and teaches them to the cast of the production

**Composer** – one who writes the music

**Conductor** – one who directs the orchestra

**Costumes** – a set of clothes in a style typical of a particular country or historical period

**Curtain Call** – the appearance of one or more performers on stage after a performance to acknowledge the audience’s applause

**Director** – one who supervises the creative aspects and guides the artistic vision of the production

**Dress Rehearsal** – rehearsal in which performers practice with costumes, props, lights and microphones

**Dresser** – one who assists performers with their costumes during dress rehearsals and shows

**Electrician** – one who works with the lighting designer to adjust and operate lighting instruments

**Ensemble / Chorus** – typically singers, dancers or actors who perform in group numbers

**Head Carpenter** – one who builds the sets for the production

**House Left** – the left side of the theater, when facing the stage (audience’s point of view)

**House Manager** – one who oversees all aspects of the audiences; responsible for ushers and audience safety

**House Right** – the right side of the theater, when facing the stage (audiences point of view)

**Lighting Designer** – one who decides where the lighting instruments should go, how they should be colored and which ones should be on at any particular time to affect mood, visibility and to showcase costumes and sets

**Lyricist** – one who writes the words to a song

**Makeup Artist** – one who applies cosmetics to a performer’s face and body

**Music Director** – one who teaches and rehearses the music with the orchestra

**Orchestra Pit** – the lowered area in front of a stage where the orchestra (musicians) sit and play during the performance

**Overture** – an orchestral piece at the beginning of an opera, suite, play, oratorio, or other extended composition

**Producer** – a person responsible for the financial and managerial aspects of staging a play, opera, musical, ballet, etc.

**Program** – a listing of the order of events, names of the cast and crew and other relevant information for the production

**Property (Props) Manager** – one who manages all items used on stage that cannot be classified as scenery, electrics or wardrobe

**Proscenium arch** – the arch opening between the stage and auditorium; the frame of the stage

**Read-through** – the cast reads through the script without movement or music; typically done at the first rehearsal

**Set Designer** – one who creates the scenery for the stage

**Sitzprobe** – the first rehearsal with both the performers and the orchestra, with no staging or dancing

**Sound Designer** – one who plans and executes the layout of all sound playbook and equipment for the show

**Sound Operator** – one who handles the sound playbook and mixing equipment for the show; work with Sound Designer

**Sound Board** – a desk comprising a number of input channels where each sound source is provided with its own control channel through which sound signals are routed into two or more outputs; controls all microphones and music

**Spotlights** – a lamp projecting a narrow, intense beam of light directly onto a place or person, especially a performer on stage

**Standby / Understudy** – one who studies a role and is prepared to substitute a performer when needed

**Stage Left** – the left side of the stage, when facing the audience (performer’s point of view)

**Stage Manager** – one who is responsible for the quality of the show’s production, assists the director and oversees the show at each performance

**Stage Right** – the right side of the stage, when facing the audience (performer’s point of view)

**Technical Rehearsal** – rehearsal incorporating the technical elements of a show such as the scene and property shirts, lighting, sound and special effects

**Uptempo Song** – a fast, upbeat song for actors to showcase dancing and acting ability

**Usher** – one who guides audience members to their seats

**Wig Master / Mistress** – one who obtains and customizes wigs for performers to wear

# ABOUT THE PERFORMANCE

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ArcAttack was founded in 2005 by Joe DiPrima. ArcAttack is a multimedia performance art group specializing in the production of music through homemade instruments. It is ArcAttack's mission to inspire interest in research and educate audiences about the technology featured in live performances.

## ARC ATTACK

ArcAttack offers a comprehensive, curriculum based 60 minute show that invites the audience to explore concepts such as electricity, voltage and current, magnetism, robotics, and lightning through a show that's both entertaining and interactive while meeting National Science Education Standards.

ArcAttack takes classrooms on an interactive journey of discovery where children will learn the science behind the amazing show they see on stage.

Two custom engineered hand built Tesla Coils throw out electrical arcs up to twelve feet long, each one acting as an instrument with a sound reminiscent of the early days of the synthesizer. A robotic drum set accompanies the spectacle, its high power LED's flashing bright colors with the stroke of each mechanically actuated stick. The audience is engaged from start to finish as the groups completely automated robot drummer King Beat introduces the audience to the show then invites members of the audience on stage to take part in a special faraday cage dance off.

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# CURRICULUM STANDARDS

## NATIONAL SCIENCE STANDARDS

### SCIENCE AS INQUIRY

- Abilities necessary to do scientific inquiry
- Understanding about scientific inquiry

### PHYSICAL SCIENCE

- Properties & changes of properties in matter
- Motions & Forces
- Transfer of Energy

### SCIENCE AND TECHNOLOGY

- Abilities to distinguish between natural objects and man-made objects
- Abilities of technological design
- Understanding about science and technology

### SCIENCE IN PERSONAL & SOCIAL PERSPECTIVES

- Personal Health
- Populations, resources, and environments
- Natural Hazards
- Science and technology in society

### HISTORY AND NATURE OF SCIENCE

- History of Science
- Science as a human endeavor

## SCIENCE

### Georgia Performance Standards

**Kindergarten** - SKP2, SKP3

**1st Grade** - S1P1, S1P2

**2nd Grade** - S2P1, S2P2, S2P3

**3th Grade** - S3P1, S3P2

**4th Grade** - S4P2

**5th Grade** - S5P3

**8th Grade** - S8P1- S8P5

## FINE ARTS

### Georgia Performance Standards

**Music** - M3GM.6-.8, M4GM.6-.8,  
M5GM.6-.8, M6GM.6-.8,  
M7GM.6-.8, M8GM.6-.8,

**Theater** - TAES3.1, TAES4.1, TAES5.1

**Dance** - D3FD.2, D4FD.3, D4FD.2,  
D5FD.2

# THE SCIENCE OF ARCATTACK



## TESLA COILS

A Singing Tesla coil is perhaps the most exciting component of the ArcAttack performance. It is a variety of solid state Tesla coil (meaning it has transistors) that is capable of modulating musical notes. What this means is that we turn on and off the Tesla coil very rapidly - 440 times per second to produce the musical note "A". Each time the Tesla Coil is turned on, an electric arc occurs. The ear interprets each series of popping arcs as sound.

## ROBOTIC DRUM SET

Our robotic drum set was constructed by Craig Newswanger of Resonance Studios in Austin, Texas. The robot is activated by a midi signal that is sent from a computer to the robot's brain. The brain then interprets this data and tells the robotic arm to strike the drum with a mallet. The arm is driven by a solenoid actuator, which strikes as firmly or as softly as the computer tells it to.



## COMPUTER CONTROL/ MIDI AND THE LIGHTNING-PROOF GUITAR

Musical Instrument Digital Interface, or MIDI, is a "digital message" that travels between the electronic instruments, like the synthesizer and the lightning-proof guitar. This communication between instruments ensures that they are synchronized. The signal is sent through fiber optic cables to the Tesla coils, telling the coil at which frequency it is to be turned on and off.

# KEY SCIENTIFIC PRINCIPLES

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**Static Electricity** - an imbalance of **electric** charges within or on the surface of a material. The charge remains until it is able to move away by means of an **electric** current or electrical discharge.

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**Charging by Friction** - the frictional charging process results in a transfer of electrons between the two objects that are rubbed together. Rubber has a much greater attraction for electrons than animal fur.

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**Charging by Induction** - a method used to charge an object without actually touching the object to any other charged object.

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**Electric Forces** - the attractive or repulsive interaction between any two charged objects is an **electric force**.

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**Electric Fields** - the electric force per unit charge. The direction of the **field** is taken to be the direction of the force it would exert on a positive test charge. The electric field is radially outward from a positive charge and radially inward toward a negative point charge.

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**Voltage** - an electromotive force or potential difference expressed in volts

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**Electric Current** - the flow of an electric charge

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**Electrical Circuit** - is a path in which electrons from a voltage or current source flow.

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**Protons** - particles with a positive charge

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**Electrons** - particles with a negative charge

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**Magnetism** - a physical phenomenon produced by the motion of electric charge, resulting in attractive and repulsive forces between objects.

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**Electromagnet** - an object that becomes a magnet when electricity passes through it

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**Energy** - the ability to cause motion or create charge

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**Kinetic Energy** - the energy of something moving

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**Potential Energy** - stored energy

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# SOUND

**Sound energy = sounds waves**

(vibrating air)

**Sound is produced** by vibrating objects

**Sound travels** through matter

**Pitch** - how high or low a sound is

**Volume** - how loud or soft a sound is

**Echo** - when sound waves bounce off a hard surface



# LIGHT

**Light travels in a straight line unless:**

- **it strikes** an object, or
- **it travels** from one medium to another

**3 things can happen when light strikes an object:**

- **refracts**
- **reflects**
- **absorbed**



# ELECTRICITY

Electricity is the movement of **electrons**.

Electricity can produce **light, heat and sound**.

**Insulators** do not allow electricity to flow. *Ex: rubber, plastic, wood, glass*

**Conductors** allow electricity to flow easily. *Ex: humans, water, copper*

# ENERGY

**Thermal Energy** - when energy transfers forms it gives off heat

**Heat** - causes matter to change states

**Heat Energy** is measured in thermometers.

**Mechanical Energy** - any energy that has the ability to do work

**Kinetic Energy** - something moving (rolling ball, light, sound)

**Potential Energy** - Stored energy (water held in a tank, ball sitting on a hill)





# HOW LIGHTNING WORKS

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## LIGHTNING STARTS WITH THE WATER CYCLE:

**EVAPORATION** - the process by which a liquid absorbs heat and changes to a vapor.

**CONDENSATION** - the process by which a vapor or gas loses heat and turns into a liquid.

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## WHAT CAUSES LIGHTNING?

Lightning is an electric current. Within a thundercloud way up in the sky, many small bits of ice (frozen raindrops) bump into each other as they move around in the air. All of those collisions create an electric charge. After a while, the whole cloud fills up with electrical charges. The positive charges or protons form at the top of the cloud and the negative charges or electrons form at the bottom of the cloud. Since opposites attract, that causes a positive charge to build up on the ground beneath the cloud. The ground's electrical charge concentrates around anything that sticks up, such as mountains, people, or single trees. The charge coming up from these points eventually connects with a charge reaching down from the clouds and - zap - lightning strikes!

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## WHAT CAUSES THUNDER?

Thunder is caused by lightning. When a lightning bolt travels from the cloud to the ground it actually opens up a little hole in the air, called a channel. Once then light is gone the air collapses back in and creates a sound wave that we hear as thunder. The reason we see lightning before we hear thunder is because light travels faster than sound!

# POST-SHOW QUESTIONS

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1. What is a Tesla Coil?
2. How were the Tesla Coils built?
3. What does the guitar tell the Tesla Coils to do?
4. What was your favorite part of the performance?
5. What did you learn about static electricity?
6. What are the names of the 2 ends of a magnet?
7. What are 2 types of energy?
8. What instrument on stage was a robot?
9. How is sound produced?
10. How does light travel?



# POST-SHOW ACTIVITIES

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## #1 WRITE A LETTER

**Goal:** To reflect on the performance experience and to practice writing skills.

**When:** After the performance.

**Explanation:** After the show, students will write letters to the *ArcAttack* performers or to ArtsBridge donors whose support keeps field trip tickets accessibly priced for school groups.

### Activity:

**1.** After attending the performance, discuss the experience with your students. Use the following discussing questions to guide the conversation:

- a. What was the show about?
- b. What parts of the show were most exciting?
- c. Which character did you enjoy the most? Why?
- d. What did the characters learn?

**2.** Next, invite students to write a letter to the performers or to ArtsBridge donors about their theater experience.

a. Letter Example #1

*Dear ArcAttack performers,  
My favorite part of the show was....  
While watching your show I felt... because...  
I have drawn a picture of the scene when....  
If I could be in your show, I would play the part of ... because...*

b. Letter Example #2

*Dear ArtsBridge donors,  
Thank you for helping my class go to the Cobb Energy Centre to see ArcAttack! My favorite part of the show was.... While I was watching the show I felt... because... I have drawn a picture of the scene when... This experience was special because...*

**3.** After writing the letter, students can illustrate a scene from the performance.

**4.** Last, mail the letters to use and we'll make sure they get to the right people.

ArtsBridge Foundation  
Attn: Education Department  
2800 Cobb Galleria Parkway  
Atlanta, GA 30339

### Follow-Up Discussion Questions:

- 1.** What did you choose to share in your letter? Why?
- 2.** How does receiving a letter make you feel?
- 3.** How do you think the recipient of your letter will feel when he or she receives your letter? Why?
- 4.** Why do you think the performers choose to make being a performer their career?
- 5.** Why do you think people give money to help students like you attend ArtsBridge performances at the Cobb Energy Performing Arts Centre?

# POST-SHOW ACTIVITIES

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## #2 WRITE A REVIEW

**Goal:** To write a review of the performance.

**Explanation:** In this activity, students will reflect on the performance by writing their own review.

**Activity:**

1. Ask students to imagine that they are a critic for the school newspaper. They are going to write a review of *ArcAttack* to inform others about what they experienced.
2. In the review, they should describe with details:
  - a. What they saw
  - b. What they heard
  - c. How the performance made them feel
  - d. What the performance reminded them of
  - e. What their favorite part was and why
3. Remind students that they must paint a picture of the experience with their words so that others who did not see the performance can imagine it as vividly as possible.

**Follow-Up Questions:**

1. What did you include in your review? Why did you want to share that particular idea?
  2. What things did writing the review make you think about that you hadn't thought of by just watching the show?
- 

## #3 WRITE AN ORIGINAL SONG

**Goal:** To write song lyrics inspired by an academic subject, such as in *ArcAttack*!

**Explanation:** In this activity, students will write the lyrics to an original short song inspired by an academic subject of their choice.

**Activity:**

1. Invite students to think about a subject area they would like to write a song about. It could be a favorite subject, or even a subject they struggle with.
2. In their song, they should include more than one verse and a chorus that repeats. The lyrics do not have to rhyme, but it should be something catchy and easy to remember.
3. The song should highlight a particular theme, such as spelling words, historical events, or a concept in math (just a few examples). It could be anything!
4. Provide students with time and resources to conduct any research before they begin writing.

**Follow-Up Questions:**

1. How are your song lyrics similar to ones in *ArcAttack*? How are they different?
2. What was challenging about this activity?
3. What other subject areas could you write short songs about to help you remember the subject matter? Do you think this is a tool you can use when studying?

# RESOURCES AND SOURCES

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## WEB RESOURCES

### ArcAttack Official Website

<http://www.arcattack.com/>

### Doctor Who Theme Song

<https://www.youtube.com/watch?v=PdrqdW4Miao>

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## STUDY GUIDE SOURCES

### Lightning

<http://www.weatherwizkids.com/weather-lightning.htm>

### Magnetism for Kids

<http://www.explainthatstuff.com/magnetism.html>

### Energy - What Every 5th Grader Should Know

<http://www.slideshare.net/GEMalone/energy-what-every-5th-grader-should-know>

