

PITTSBURGH BALLET THEATRE

Ballet Resource Guide for Teachers



Principal dancer Erin Halloran in Twyla Tharpe's *Junk Duet*, 2008
Photo: Rich Sofranko

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Ballet

can be a thrilling spectacle. The sheer beauty and physicality of the movement, the music, the sets and costumes combine to create an extraordinary experience in the theater.



Principal Dancer Julia Erickson in *The Sleeping Beauty*, 2009
Photo: Rich Sofranko

This guide includes general information about ballet as an art form and a discipline and is designed to prepare students to see a Pittsburgh Ballet Theatre Student Matinee performance. Performance-specific guides are also available. The guides provide curricular support with contextual information and activities that align with PDE Academic Standards to enhance and enliven your students' experience attending the ballet.

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History of Pittsburgh Ballet Theatre

Pittsburgh Ballet Theatre (PBT) was founded in 1969 as an affiliate of Point Park College under the direction of Artistic Director Nicolas Petrov and Board Chair Loti Falk. Charismatic and connected, Petrov created instant buzz by bringing star power to PBT with guest performances by New York City Ballet's Violette Verdy, Edward Villella, Natalia Makarova, and others; he also collaborated on works for PBT with renowned choreographers such as Ruth Page and Leonide Massine. In 1970/71, PBT presented its first subscription season at the Syria Mosque with one performance of *Swan Lake* and four of *The Nutcracker*.

Petrov invited famed Ballet Russes principal dancer Frederic Franklin to join PBT as Co-Artistic Director in 1974. Under their leadership, PBT added classics such as *Giselle*, *Coppelia* and *Cinderella* to its repertoire. In 1977 Petrov and Franklin stepped down, and PBT also gained its independence from Point Park College. The Company was led briefly by former London Festival Ballet principal dancer John Gilpin.

French dancer and choreographer Patrick Frantz was appointed Artistic Director in 1978. Frantz emphasized contemporary works in the Company's repertoire, adding Harald Lander's masterpiece, *Etudes* and Agnes De Milles' *Rodeo*. PBT made its New York debut with Frantz. His greatest legacy, perhaps, is the PBT School. With the support of board member and former Pittsburgh Steeler Lynn Swann, Frantz spearheaded the development of the school. Today PBT has an enrollment of 300 students, a summer intensive program that draws students from around the nation and world, and a renowned Graduate Program for pre-professional dancers.

By the early 1980s, PBT was one of the nation's largest ballet companies. In 1982 Patricia Wilde became Artistic Director. A celebrated former principal dancer of the New York City Ballet and one of the world's foremost classical ballerinas, Wilde was a protégé of the great choreographer, George Balanchine. With a focus on the clean, precise technique for which she was famous, Wilde took PBT to new levels of maturity. Under her direction, the Company added numerous Balanchine ballets and became known for their brilliant execution. She also commissioned dozens of world premieres, brought works by Alvin Ailey and Choo San Goh to PBT for the first time, and launched PBT's comprehensive arts education program.



2011 production of *Dracula*. Photo: Rich Sofranko

On Wilde's retirement, Terrence S. Orr, former principal dancer and Ballet Master at American Ballet Theatre, was named Artistic Director. He dedicated the company to the creation of new ballets and to building audiences through innovative programming and collaboration. Orr commissioned ballets inspired by 20th Century American music icons such as Sting, Bruce Springsteen and Frank Sinatra; he collaborated with Houston Ballet on the high-flying *Dracula*, and with Houston and Boston Ballet on a spectacular new, full-length

Cleopatra. And in a bold stroke, Orr reshaped a classic, setting *The Nutcracker* in turn-of-the-century Pittsburgh. Today, Mr. Orr and PBT continue to lead professional ballet and dance in Pittsburgh into the future.

What is Ballet?

Ballet is an art form created by the movement of the human body. It is theatrical—performed on a stage to an audience utilizing costumes, scenic design and lighting. It can tell a story or express a thought or emotion. Ballet can be magical, exciting, provoking or disturbing.



Light: The Holocaust and Humanity Project, by Stephen Mills, 2009
Photo: Rich Sofranko

Types of Ballet



Story ballets (not surprisingly!) tell a story. They contain narrative action, characters, and a beginning and end. *The Nutcracker* and *The Sleeping Beauty* are famous story ballets from the 19th century; classic stories and novels such as *The Great Gatsby* and *The Three Musketeers* have also been transformed into ballets.

The Three Musketeers, by Andre Prokovsky, 2010
Photo: Rich Sofranko

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Plotless ballets have no storyline: rather they utilize the movement of the body and theatrical elements to interpret music, create an image, or to express or provoke emotion. George Balanchine was a prolific creator of plotless ballets.



In the Upper Room, by Twyla Tharpe, 2010. Photo: Rich Sofranko

Styles of Ballet

Classical ballet is what people generally think of when we talk about “ballet.” Classical ballet reached its height in 19th century Russia through the work of choreographers like Marius Petipa and Lev Ivanov. It is characterized by:

- graceful, flowing movements
- classical form: turn-out of the legs and pointe work
- balance and symmetry
- ethereal quality
- emphasis on story ballets and narrative
- elaborate sets and costumes



Principal dancers Erin Halloran and Nurlan Abugaliev in Marius Petipa’s classical ballet, *Swan Lake*, 2010
Photo: Rich Sofranko

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Neo-classical ballet was introduced in the 20th century by choreographers like George Balanchine. It generally includes:

- increased speed, energy and attack
- manipulation of the classical form
- asymmetry; an off-balance feel
- non-narrative; often one-act ballets
- paired down aesthetic—simple sets and costumes



Principal dancers Christopher Budzinski and Alexandra Kochis in Jean-Christophe Maillot's *Romeo et Juliette*, 2009
Photo: Rich Sofranko

Contemporary ballet is influenced by modern dance styles. Renowned contemporary ballet choreographers include Twyla Tharp, Paul Taylor and Dwight Rhoden. In contemporary ballet you may see:

- floor work
- turn-IN of the legs
- greater range of movement and body line
- pointe shoes but also bare feet

Company Dancer Alejandro Diaz with the corps de ballet in Paul Taylor's *Company B*, 2010
Photo: Rich Sofranko



A Brief History of Ballet

Ballet originated in the Italian Renaissance courts of the 15th century. Noblemen and women were treated to lavish events, especially wedding celebrations, where dancing and music created an elaborate spectacle. Dancing masters taught the steps to the nobility and the court participated in the performances. In the 16th century, Catherine de Medici, an Italian noblewoman, wife of King Henry II of France, and a great patron of the arts, began to fund ballet in the French court. Her elaborate festivals encouraged the growth of *ballet de cour*, a program that included dance, decor, costume, song, music, and poetry. A century later, King Louis XIV helped to popularize and standardize the art form. A passionate dancer, he danced many roles himself, including that of the Sun King in *Ballet de la nuit*. His love of ballet fostered its elevation from a past time for amateurs to an endeavor requiring professional training.

By 1661 a dance academy had opened in Paris and in 1681 ballet moved from the courts to the stage. The French opera *Le Triomphe de l'Amour* incorporated ballet elements in its performance, creating a long-standing opera-ballet tradition in France. By the mid-1700s French ballet master Jean Georges Noverre rebelled against the artifice of opera-ballet, believing that ballet could stand on its own as an art form. His notions—that ballet should contain expressive, dramatic movement, and that movement should reveal the relationships between characters—introduced the *ballet d'action*, a dramatic style of ballet that conveys a narrative. Noverre's work is considered the precursor to the narrative ballets of the 19th century.



King Louis XIV in *Ballet de la nuit*, 1653
PD-US

The 19th Century



Early classical ballets such as *Giselle* and *La Sylphide* were created during the Romantic Movement in the first half of the 19th century. This movement influenced art, music and ballet. It was concerned with the supernatural world of spirits and magic and often showed women as passive and fragile. These themes are reflected in the ballets of the time and are called *romantic ballets*. This is also the period of time when dancing on the tips of the toes, known as *pointe work*, became the norm for the ballerina. The romantic tutu, a calf-length, full skirt made of tulle, was introduced.

Carlotta Grisi, wearing a romantic tutu, as *Giselle*, 1841
PD-US

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The popularity of ballet soared in Russia and during the latter half of the 19th century as Russian choreographers and composers took it to new heights. Marius Petipa's *The Nutcracker*, *The Sleeping Beauty* and *Swan Lake*, by Petipa and Lev Ivanov, represent classical ballet in its grandest form. The main purpose was to display classical technique—pointe work, high



extensions, precision of movement, and turn-out (the outward rotation of the thighs from the hips)—to the fullest. Complicated sequences that show off demanding steps, leaps and turns were choreographed into the story. The classical tutu, much shorter and stiffer than the romantic tutu, was introduced at this time to reveal a ballerina's legs and the difficulty of her movements and footwork.

Soloist Christine Schwaner as the Bluebird in Marius Petipa's *The Sleeping Beauty*, 2009

Photo: Rich Sofranko

In the early part of the 20th century, Russian choreographers Sergei Diaghilev and Michel Fokine began to experiment with movement and costume, moving beyond the confines of classical ballet form and story. Diaghilev collaborated with composer Igor Stravinsky on the ballet *The Rite of Spring*, a work so different—with dissonant music, a story of human sacrifice, and unfamiliar movements—that it caused the audience to riot.

Choreographer and New York City Ballet founder George Balanchine, a Russian who emigrated to America, would change ballet even further. He introduced what is now known as neo-classical ballet, a form that expands the classical form. He also is considered by many to be the greatest innovator of the contemporary "plotless" ballet. With no definite story line, its purpose is to use movement to express the music and to illuminate human emotion and endeavor. Today, ballet is multi-faceted. Classical forms, traditional stories, and contemporary choreographic innovations intertwine to produce the character of modern ballet.



Principal dancer Christopher Budzinski as the Jester in Ben Stevenson's modern take on the traditional story, *Cinderella*. 2009

Photo: Rich Sofranko

What's Next?

As choreographers continue to create diverse styles of ballets, ballet companies are giving dance audiences a wide range of experiences in the theater. What do you think will be the next phase for ballet?

Learn More!

Listen to an interview with author Jennifer Homans about *Apollo's Angels: A History of Ballet*, a book published in 2010: <http://www.npr.org/2010/12/13/132023182/the-tutu-s-tale-a-cultural-history-of-ballet-s-angels>

Or check out the following at your local library, bookstore, or at Amazon.com:

- *Apollo's Angels: A History of Ballet*, by Jennifer Homans, 2010
- *Ballet: An Illustrated History*, by Clement Crist and Mary Clark, 1992
- *Ballet and Modern Dance: A Concise History*, by Jack Anderson, 1993
- *Ballet in Western Culture: A History of its Origins and Evolution*, by Carol Lee, 1992

The Point of Pointe Shoes!

What are pointe shoes?

Pointe shoes are specially made shoes worn by ballerinas to allow them to dance on the tips of their toes.



Photo: Ric Evans

What are pointe shoes made of?

Pointe shoes look dainty but they really aren't. The tip of the shoe is a rigid box made of densely packed layers of fabric, cardboard, and/or paper hardened by glue. The dancer depends on it to be extremely sturdy: the entire weight of her body is balanced on a small platform in that box! The rest of the shoe is made of leather, cotton and satin. Each shoe is custom hand-made to fit each dancer's specifications. No two pairs of pointe shoes are identical!

Why do ballet dancers wear pointe shoes?



Pointe shoes make ballet dancing look magical and even daring. They create an illusion of lightness and give a sense that the ballerina is floating on air.

Former PBT principal dancer Kumiko Tsuji in Twyla Tharpe's *In the Upper Room*, 2010

Photo: Rich Sofranko

Do male dancers wear pointe shoes?

Not normally. Sometimes men wear pointe shoes for comedic effect, such as for the Stepsister characters in *Cinderella* (men are often cast as the sisters). Male ballet dancers usually wear a leather or canvas slipper with a soft sole, which allows the foot flexibility when jumping.

Can a dancer just put on a pair of pointe shoes and start dancing?

No! Each time a dancer gets a new pair of pointe shoes she has to break them in. Some methods include:

- darning the platform of the box to provide traction and to prevent the satin from fraying
- pounding the box of the shoe with a hammer to soften it
- opening and closing a door on the box
- cutting the satin off the box and using a carpenter's file to rough up the sole
- lining the inside of the box with floor wax or shellac to mold the shoes and prolong wear

All dancers sew on their own ribbons and elastic to hold their shoes in place.

How long do pointe shoes last?

Not long—sometimes for just one performance (or part of a performance!), depending on the difficulty of the ballet. A professional ballerina can go through 100-120 pairs of pointe shoes in one season. At a cost of about \$80 each, PBT spends close to \$100,000 on pointe shoes per year.

When can a ballerina start dancing on pointe?

In most cases, somewhere between age 11 and 13. A young dancer must have several years of good dance and strength training to ensure that her feet, ankles and legs are strong enough to handle the stress of dancing on her toes.

When did ballerinas begin dancing with pointe shoes?

Italian ballerina Maria Taglioni was the first ballerina that we know of to dance on pointe in the early 1830s, but the method probably began earlier. Taglioni and her contemporaries stuffed the toes of their soft shoes with starch and other materials, but soon Italian cobblers made harder shoes for them using paper, burlap and satin. This prototype evolved into the modern pointe shoe.

[Learn More!](#)

Check out these links for more information on pointe shoes:

- The Physics of Pointe Shoes: a Science Project: <http://pointeshoephysics.blogspot.com/>
- The Anatomy of a Pointe Shoe: http://www.capeziodance.com/howto/articles/HowTo_Articles_AnatomyofaPointeShoe.php

About Ballet Dancers

Dancing as a profession is a lifelong pursuit, beginning early—sometimes as young as age two. Ballet movements are specific, precise and require years of difficult training to master. Students (and professional dancers as well) begin every day with class, in which they practice basic ballet positions and movement, balance, precise placement and the artistry of dance. Additional classes in technique or dance styles follow, along with rehearsals for productions. The schedule sometimes makes for a grueling work day. Student dancers take classes six days per week.

Most students typically begin auditioning for companies in their late teens. If a dancer is talented enough to become part of a professional ballet company, he or she will usually begin dancing as a member of the corps de ballet (the ensemble). This is where many dancers will stay for their entire career. Those with a high degree of musicality and technical proficiency, and who demonstrate an exquisite artistry and audience connection, will achieve the rank of soloist. The highest rank in a company, principal dancer, is attained only by the most gifted dancers.

Because of the tremendous physical stamina required, as well as the rigorous and demanding schedule, most dancers' careers are short. The average age for retirement of classical ballet dancers is in their early thirties, although many performers have gone on to dance for many years beyond this.



Soloist Robert Moore and Principal Dancer Julia Erickson in George Balanchine's *Agon*, 2011
Photo: Rich Sofranko

Seeing a Performance at the Benedum

Pittsburgh Ballet Theatre performs student matinees at the Benedum Center for the Performing Arts, one of Pittsburgh's grand downtown theaters. It is also home to the Pittsburgh Opera and the Civic Light Opera.

Please see page 30 for a reminder about audience expectations at the theater. Please review these with your class (and explore the related activity!) before attending the performance.

Click here for more information about the Benedum:
<http://www.pgharts.org/venues/benedum.aspx>



Photo: Benedum Center for the Performing Arts

Don't Miss This! Interesting Things to Look for at the Historic Benedum Center

1. The Marquees - When you arrive at the theater note the marquees on the front and Penn Avenue sides of the theater. They were designed in 1928 to showcase the "new" electric lights. By the terms of the Historic Landmark agreement there is only limited reference to the new name of the theater: The Benedum Center for the Performing Arts. You will also see references to the original name, The Stanley Theater.

2. Grand Lobby - All but one of the original murals on the ceiling of the Grand Lobby were destroyed over the years. Celeste Parendo, the painter who re-created them, worked from photographs of the designs and from one well-preserved mural for the colors. Much of her work was done with Q-tips. She tried to lie on her back and paint as Michelangelo did when he painted the Sistine Chapel, however, in that position her hand went numb due to lack of circulation. She quickly found ways to kneel or stand on the scaffolding in order to finish her painting.

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3. Orchestra Pit - The pit is where the orchestra sits to play the music for ballet or other performances. It is divided into two sections, each of which can be raised or lowered by a built-in hydraulic lift. With a smaller orchestra, half of the pit is raised and additional seating is installed. If an orchestra is not required, the entire pit is raised for seating.

4. Proscenium Arch - The opening around the stage is the proscenium. In accordance with the guidelines of the Historic Landmark restoration, the original elaborately painted plaster arch has been restored. (You can see the top of the arch from the balcony.) An exception to the restoration guidelines was made for the wooden acoustical arch. The panels in the arch can be adjusted to change the acoustics of the theater or they can be opened to accommodate vocalists, actors or musicians.



5. Chandelier - Believe it or not, this beautiful centerpiece to the theater's elaborate dome weighs 2 tons and contains over 50,000 pieces of crystal. When it is cleaned the chandelier is lowered to a certain point and then scaffolding is built around it. Each crystal is washed in soapy water and replaced. The chandelier is cleaned about once a year: it takes a crew of twelve people two full working days.

Photo: Benedum Center for the Performing Arts

6. The Stage - This is the third largest stage in the country. (The largest is the Metropolitan Opera in New York City and second is the Indiana University School of Music in Bloomington.) The full stage measures 144 feet wide by 78 feet deep. The performance space that you will see is 56 feet by 56 feet. The wooden floor is covered with marley, a black rubber-like, non-skid surface that is made for dancing.

Ballet Vocabulary

Though ballet actually began in Italy, it was formalized in France in the 17th century. Ballet terminology has remained largely in the French language. Ballet dancers across the world learn and can communicate with this universal ballet vocabulary.

ballerina (bah-luh-ree'nah) A leading female dancer of a ballet company. A dancer earns the title ballerina through years of hard work and great dancing.

ballet (bah-lay') From the Italian *ballare*, to dance.

chainé (sheh-nay') A series of turns on pointe (on tips of toes) or demi-pointe (on balls of feet) executed in a line or in a circle, in which the feet remain close to the floor and the weight is transferred rapidly and almost imperceptibly from one foot to the other as the body revolves.

choreographer (cor-ee-og'ra-fer) Someone who makes dances. Originally the word meant someone who records dances, but has come to mean the person responsible for the design of movement in ballet.

classic (klas'ik) In ballet, classic applies to a rigorous basic vocabulary of steps and movements capable of infinite variations and a system of instruction that makes such variation possible for individual dancers.

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corps de ballet (core, di, bah-lay') Dancers who appear only in large groups. The corps de ballet is the backbone of every ballet company.

divertissement (di-ver-tis-mah') From the French: entertainment or enjoyment. A short dance inserted between the acts of a classic or story ballet designed to show off the technical ability of the featured dancer(s).

entrechat (an-tray-sha') Probably from the Italian *intrecciare*, to weave, to braid. A beating step of elevation in which the dancer jumps straight in the air from a plié and crosses his feet a number of times, making a weaving motion in the air.

jeté (zhe-tay') From the French *jeter*, to throw. This is a jump in which the weight of the body is thrown from one foot to the other.

pas (pah) From French, meaning “step.” A simple step or compound movement which involves a transfer of weight. “Pas” can also be used to describe a dance by a soloist.

pas de deux (pah-duh-duh') A dance for two people.

passé (pah-sey') From the French *passer*, to pass. A movement in which the pointed foot of the “working” leg passes (but does not touch or rest on) the knee of the supporting leg.

piqué (pee-kay') Executed by stepping directly on the point (tip of the toes) or demi-pointe (ball of the foot) of the working foot in any desired direction or position with the other foot raised in the air.

pirouette (peer-oo-wet') A complete turn of the body on one foot.

plié (plee-ay') From the French *plier*, to bend. In the classic dance, this is a bending of the knees, with the knees wide open and the feet turned outward. The function of the plié in the dancer's body is like the function of the springs in an automobile, and is necessary for the development of flexibility.

port de bras (port, duh, brah') In ballet, the movement or carriage of the arms.

relevé (ruhl-VAY) From the French *relever*, to raise. To raise the body on one or two feet, either on pointe (on the tips of her toes) or demi-pointe (on the ball of the foot). There are two styles of relevé : a dancer rises with a smooth articulation of the foot, or the dancer can a little jump or spring to get on pointe or demi-pointe.

sauté (soh-tay') Jumped or jumping.

tutu (tew' tew) A skirt used in classical ballet made of many layers of tulle or netting. The classical tutu rests high on the leg so that the movements made by the ballerina's legs are clearly visible. A romantic tutu is longer, falling at mid-calf.

[Learn More!](#)

Check out this link to American Ballet Theatre's Ballet Dictionary for more definitions and video examples of ballet terms: <http://www.abt.org/education/dictionary/index.html>

Educator Activities—Preparation is Key!

Movement and Choreography Activities

Activity 1: Basic Ballet Positions

Grades: K-12

Time needed: partial class period

PDE Academic Standards: 9.1

Positions of the Feet: In ballet there are five basic positions of the feet, numbered one through five. Refer to the pictures below and match your feet to each of them.



First Position



Second Position



Third Position



Fourth Position

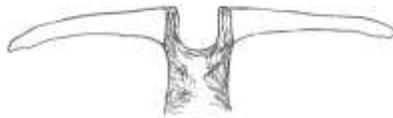


Fifth Position

Positions of the Arms: There are also various positions of the arms. Match your arms to the pictures shown below.



First Position



Second Position



Third Position



Fourth Position



Fifth Position

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Movements in Dance: There are multiple steps referred to as the "movements in dance." There are three movements that ballet/dance beginners are taught. First learn to pronounce the terminology given below, learn the definition, and then attempt to do the movement described.

1. **plié (plee-ay):** to bend. Keeping both feet flat on the floor at all times, bend your knees. Remember to send your knees directly out over your toes!
2. **relevé (ruh-leh-vay):** to rise. This can be done on one foot or both feet together. Start with the feet together, keep the knees straight, and lift the heels high enough so all of your body weight is on the balls of the feet – NOT the tips of your toes. Repeat this on one foot.
3. **sauté (soh-tay):** to jump. This sort of jump is performed "two feet to two feet." This means that you leave the ground by jumping off of both feet at the same time, and you land on both feet at the same time. Begin in a plié (as described above). Using your feet the same way you did to perform relevé, propel yourself into the air. Be sure to straighten and extend your legs in the air, but land in plié to cushion your knees.

Next Steps

Now, combine what you have learned. Choose one position of the feet to stand in and one position of the arms to hold at the same time. Next, perform each of the movements of dance listed above while continuing to hold the positions of the feet and arms you chose. Now you're dancing!

Activity 2: Choreograph a Ballet

Grades: K-12

Time needed: one or two 45-minute class period (depending upon explorations)

Materials needed: cd player, ambient music

PA Academic Standards: 1.6, 2.4, 9.1, 9.3, 9.4, 10.5

By the end of this activity, students should be able to:

- correctly demonstrate relational terminology through bodily movement
- create a short movement piece using relational terminology around a topic chosen by the teacher and/or students
- compare and contrast movement choices made
- evaluate the effectiveness and applicability of movement choices with respect to the topic

Introduction

Choreography, like many other art forms, is concerned with how content, form, technique, and projection come together to create a meaningful dance.

In dance,
content = the central concern of the work;
form = the structure of the piece from beginning to end;
technique = the technical ability of the dancer; and
projection = the interaction between the audience and the performer.

Choreographers will experiment extensively with movement in order to create a new work. The

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following movement exploration focuses on relational math terms in preparation for creating your own dance piece!

Part One--Movement Explorations

Educator's role:

- Facilitate and guide students through explorations using oral instructions and side-coaching
- Model concepts if necessary
- Make mental observations about students' movements for reflection and assessment
- turn on ambient music to help focus students
- facilitate reflection discussion

Students pick an inanimate object from the classroom. They do not need to vocalize what the object is and it's okay if multiple students pick the same object. Have students react to the object in the following ways, moving:

Toward
Under
Through
Over
From bottom to top
Around
Away
As if it were not there

Then have students partner up with someone whom they can maintain focus and concentration with for this next exploration, "Body Question and Answer." One student is Partner A, one student is Partner B. Partner A initiates a movement, Partner B responds using the following (and don't forget to switch leaders throughout the exercise!):

Mirroring Contrasting Extending Reversing

Sidecoaching Suggestions:

- Think about relating to the objects with different parts of your body (i.e. How does your head go toward the object? How does your knee go away from the object? How does the torso go under the object?)
- Think about using different levels--high, middle, and low (to the ground if you need to!)
- Think about the speed with which you are moving. On a scale of 1-10, 1 being the slowest, 10 being the fastest, move at a _____. How does this change the movement and your interaction with the object?
- Try repeating your movement again and again and again (at different speeds, at different levels, etc.) How did the quality of the movement change?

Reflection Questions for Part One--Movement Explorations

- What was exciting about that activity? What was challenging about that activity?
- How did it feel differently to be relating to an inanimate object versus another person?
- Describe the process of moving with another person. How did you have to change and adapt?

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- (for middle and high school students) What scientific forces were at work while you were moving? (gravity, levers, balance, etc.) How did you adapt to these various forces while you were moving?

Part Two--Create your own dance!

Educator's role:

- Facilitate and guide students through the creation of their dance pieces using oral instructions and side-coaching
- Model concepts if necessary
- Make mental observations about students' movements for reflection and assessment
- turn on ambient music to help focus students
- facilitate reflection discussion

Give students a topic that they will create a 5-8 movement dance sequence about or brainstorm topics with students. Topics can be taken directly from your curriculum. Here are some ideas if you're stuck:

- Language arts--fairy tales or another genre
- Math--geometric shapes, patterns
- Science--seasons, weather, life cycles, physical forces
- Social Studies--historical events, famous people
- Social and Behavior Education--friendship, bullying, teamwork

Break students into groups of 3 to create their own dance sequence around the chosen topics. Give students an appropriate amount of time to create their dance based upon their age, the length of the sequence, and their enthusiasm. Things for them to consider:

- Do you all do the same movement all the time in the same direction? What happens if you choose not to?
- How long do you do each movement for?
- Do you do a movement more than once or repeat it later?
- How do you create a beginning, middle, and end to your dance? (starting and ending poses are a great place to start!)
- How do you transition from movement to movement?

Sidecoaching Suggestions:

- Use previous suggestions.
- Explore your movement options. Figure out the best way to tell your topic without words!

After students have created their dance and rehearsed it a few times, have students share their dances for each other. While observing the dances, have students pay special attention to the similarities and differences in the dances and be prepared to discuss.

Reflection Questions for Part Two--Create your own dance!

- What was exciting about that activity? What was challenging about that activity?
- Compare and contrast the different dances. What was similar and you saw in many pieces? What was different or unique to just one dance?
- How did the dancers relationship to one another (far away, close together, under/over, etc.) in each piece support or not support the topic?
- What movements did you think really fit the topic? What movements did you think did not fit the topic? How could they be adapted to better fit the topic?

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- How was the topic accurately displayed through movement?

Assessment options:

- Observation by educator during exercises
- Self-reflection by students (journal writing, oral discussion, etc.)
- Video tape the movement pieces and have students assess themselves based on rubric

Activity 3: Mime in Ballet

Grades: 3-12

Time needed: one 45-minute class period

Materials needed: cd player, ambient music, "mime" cards, Classical Mime Worksheet

PA Academic Standards: 9.1, 9.2, 9.3, 9.4, 10.5

By the end of this activity, students should be able to:

- correctly demonstrate mime terminology through bodily movement
- compose a short movement story using mime terminology that has a clear beginning, middle, and end
- interpret movement pieces that were composed by their peers

Introduction

In ballet there is no dialogue. A story ballet relies primarily on pantomime for exposition. Pantomime helps convey character, and every gesture is important in the telling of the story.

In ballet, there is a standard mime vocabulary used by every ballet company. For example, a dancer from Pittsburgh Ballet Theatre and a dancer from New York City Ballet would mime the word "love" in exactly the same way. The Classical Mime Worksheet explains some basic mime gestures.

Part One--Exploring Mime Charades

Educator's role:

- Divide students into groups (3-5 students in each)
- Facilitate and guide students through exploring mime movements
- Model concepts if necessary
- Make mental observations about students' movements for reflection and assessment
- turn on ambient music to help focus students
- facilitate reflection discussion

Divide students into small groups. Hand out the Classical Mime Worksheet to every student and have them silently read over. While they are doing this, have each group pick 4-5 of the "mime" cards. Each group will be responsible for figuring out what the movement looks like, based on the description and pictures, and for teaching those movements to the class. Give groups 5 minutes to come up with their mime gestures.

Charades: Have each group share gestures with the class WITHOUT using words. Have students in the audience guess which gesture they are making based on their sheet. After they have correctly guessed, all students should repeat the gesture they have just seen at least 3 times so they will remember it.

Sidecoaching Suggestions:

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- Encourage students to analyze their movements and explore all possibilities. Show all the different ways we “point” to ourselves (for “I”) or that we could “hold up two fingers high” (for “true/faithful”). What seems to represent the idea the clearest?
- Rehearse how you are going to teach the movement to the class as a group without talking. What will you teach first, second, third, and fourth?
- What could the rest of your body be doing during these mimes--legs, arms, face? Show us what the idea is with these other body parts (especially the face!).

Reflection Questions for Part One--Exploring Mime Charades

- What were all the different ways you communicated with your group during this activity? How did you have to change your communication when you weren't allowed to talk?
- Quick check: Without looking at the worksheet, recall 3 of the most interesting mime gestures you saw or did and explain why they were interesting.

Part Two--Create your own mime story!

Educator's role:

- Divide students into groups (3-5 students in each)
- Facilitate and guide students through creating their own mime stories
- Model concepts if necessary
- Make mental observations about students' movements for reflection and assessment
- turn on ambient music to help focus students
- facilitate reflection discussion

In small groups, students will create a story using just mime movements using one of the variations below. Allow students 5-10 minutes to create a story using the 6 movements. The 6 movements should be connected by other movement of “characters” going on or off stage, made up mime gestures, transitions, etc. The story should have a clear beginning, middle and end. After the students have completed their short movement stories, share with the class.

Variation 1: Each group should choose 6 movements from the Classical Mime Worksheet to create a story.

Variation 2: Students draw 6 “mime cards” (will need an extra set) and create a mime story using these.

Sidecoaching Suggestions:

- Have a strong beginning, middle, and end. How could you start and end the piece?
- If you are stuck, draft out your story on paper first to understand how to connect all the gestures.
- Rehearse, rehearse, rehearse!
- What could the rest of your body be doing during these mimes--legs, arms, face? Show us what the idea is with these other body parts (especially the face!).

Reflection Questions for Part Two—Create your own mime story!

- What was your interpretation of this group's story? Does anyone have a different interpretation?
- How did different groups effectively communicate their story? What did they do with their bodies?
- Why is it important to speak with our bodies as well as our words?

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Assessment

- Observation of participation and engagement during movement activities.
- Participation and insights during reflection.
- Interpretation of Pittsburgh Ballet Theatre performance—did the concepts transfer?

Classical Mime Worksheet

Here are common ideas in mime and the physical movement used to express these ideas.

<u>Ideas</u>	<u>Movement</u>
I	point to yourself
King	hand gestures on sides of head in form of crown
Devil	two gestures on top of head/fingers in shape of horns
Love	two hands on heart
Knocking	tap fist in hand three times
Sewing	pull needle through fabric
You/He/She	gesture to other person palm up
Think	touch your temple
See	point to each eye
Beautiful/Handsome	circle your face/draw hand down face
Crazy	circle around your ear
Marry	point to your ring finger
True/Faithful	hold two fingers high
Dress	gesture along sides of clothing
Hear	cup your ear with your hand
Someone	hold your first finger up
Enter	sweeping gesture with both arms across your body
Cry	gesture with all fingers from eyes
Mice/Rats	moving fingers as whiskers
Dance	circling hands overhead
Die/dead	cross arms-hands in fist
Yes	nod head
No	turn head or gesture with arms

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Mime Cards

I	King
Devil	Love
Knocking	Sewing
You/He/She	Think
See	Beautiful/Handsome
Crazy	Marry
True/Faithful	Dress
Hear	Someone
Enter	Cry
Mice/Rats	Dance

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Die/Dead	Yes
No	

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Audience Expectations at the Benedum Center

Grades: 3-12

Time needed: one-two 45-minute class periods

Materials needed: "House Rules" worksheet, writing utensils, handouts of Audience Expectations

PDE Academic Standards: 1.7, 1.8, 9.1, SIS2

By the end of this activity, students will be able to:

- Explain and analyze different rules and behaviors for different environments (including performing arts experiences) and settings
- Dramatize formal and informal language choices in different situations

Introduction:

It is a special privilege to attend a live performance at the Benedum Center for the Performing Arts. Courteous behavior allows everyone, including the dancers, to fully enjoy and concentrate on the performance.

Part One--House Rules

Educator's Role:

- Copy "House Rules" worksheet (1 per group)
- Break students into small groups
- Facilitate follow-up discussion

Divide students into small groups of 4-5. Ask students to complete the following "House Rules" worksheet. After groups have completed it, have groups share responses. A student or two could serve as "recorders" and write down responses on a white board or large post-its. Reflect on and discuss the most appropriate rules for each circumstance.

Reflection Questions

- What common rules are there for each environment?
- What considerations do you have to make for a live performance of...a rock concert? A play? A ballet?

Part Two--Setting the "Barre" High

Educator's Role

- Copy "Audience Expectations" worksheet and cut rules into groups of two.
- Break students into small groups
- Facilitate follow-up discussion

The Pittsburgh Ballet Theatre and the Benedum Center has set the "barre" high for students while attending a student matinee. Divide students into 5 groups. Give each group 2 rules from the "Audience Expectations" worksheet. Ask them to discuss what the purpose of the rule is and why it is in place. Have each group share the rules

Reflection Questions

- What will happen if you do not follow audience expectations? Think about not only school policies but the Benedum Center Policies.
- What rules do you think are missing from this list and why would they be important?
- What rules on the list do you think are not important and why?

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Part Three--Say it with Grace!

Educator's Role

- Model concept of “rude” versus “polite” language and behavior for students
- Break students into partners, if necessary
- Facilitate follow-up discussion.

While you are most definitely responsible for your own behavior while at the Benedum Center, you can also help your peers remember the audience expectations, too. Sometimes figuring out how to address your peers in these situations can be difficult. Just remember--say it with grace!

Discuss the differences between “polite and tactful” words and behavior and “rude and impertinent” words and phrases. Brainstorm “polite” and “rude” words with students. For an extra challenge, brainstorm body postures and gestures associated with “polite” and “rude” behavior.

Model for students the concept using a rule from your classroom (i.e., speaking out of turn). Ask for a student volunteer to pretend to “break” the rule. Then, model a “rude” way of addressing the problem (i.e., “Shut up! You know you’re not supposed to be talking right now!) Ask the student volunteer how it made them feel to be addressed that way. Next, ask students to generate some more “polite and tactful” ways of addressing the problem.

Break students into pairs. Give each pair one of the audience expectations to dramatize the “wrong” and “right” way to address behavioral problems.

Assessment

- Discussion
- Student behavior while at the PBT student matinee, both of themselves and managing each other's behavior

House Rules

Every environment that you are in has different rules and expectations for how you should behave in it. Think about the rules you have encountered in each of the following environments. As a group, discuss and record what you think are the 5 most important rules for each environment.



Rules at your home	Rules in your classroom
Rules at a movie theatre	Rules at a swimming pool
Rules at a funeral	Rules at the ballet

Group members' names: _____

Audience Expectations at the Benedum Center

1. Once inside the Benedum Center you will not be permitted to leave and re-enter the building.
2. Be sure to sit in the section assigned to your school. An usher will be happy to help you find where your school's seats are located.
3. Talking to your neighbor in a normal speaking voice is fine prior to the performance and during intermissions. Remember, the performance begins with the orchestral Overture and during the performance; even the softest whisper can be distracting to those nearby. **PLEASE DO NOT TALK DURING THE PERFORMANCE.**
4. There may be one or two intermissions during the performance. This allows the dancers time to rest or make elaborate costume changes, the production staff time to make major set changes and students time to stretch their legs and use the rest rooms.
5. The taking of pictures is prohibited during a performance, so it is best to leave your cameras at home.
6. Applause is the best way to communicate with the dancers. It tells them that you are enjoying the performance. However, excessive applauding and cheering can be equally as distracting to your fellow audience members. Bottom line: if you see something you really like, feel free to applaud!
7. Remain with your class. The Benedum Center is very large and it is easy to get lost.
8. Chewing gum, food and drink are not acceptable in the theater.
9. Cell phones should be turned completely off during the performance. No text messaging is allowed during the performance.
10. **Educators and Chaperones:** You are expected to remain with your group at all times and address any behavioral issues as they arise. If you notice behavioral issues with another group at the theatre, please do not hesitate to contact an usher who will handle the problem as quickly and efficiently as possible.

Students and educators who choose not to adhere to audience expectations may be asked to do the following by ushers or PBT staff:

- turn off cell phones
- move to a single seat away from distractions of nearby audience members
- exit the theatre and remain in the lobby during the duration of the performance

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What to Wear: Fashion Advice for All Occasions

Adapted from an activity created by the Pittsburgh Opera Education Department

Grades: 5-12

Time needed: two 45-minute class periods

Materials needed: "Fashion" Worksheet, poster board, old magazines and newspapers, paper, colored pencils, markers

PDE Academic Standards: 1.4, 1.6, 9.1, 9.2, 9.3, 9.4, 11.2

By the end of this activity, students will be able to:

- **Determine clothing characteristics that are appropriate for different social situations.**
- **Convey information about what to wear to a student matinee by creating a group radio PSA using convincing persuasive rhetoric.**

Introduction:

On any normal school day, what do you wear? Would you ever wear a ballgown and tiara to school? Would you ever likely wear a swimsuit to a hockey game? Or bright, cheery colors to a funeral? Or holey jeans to a corporate job interview? Every social occasion in our lives often has implied rules for dress. Sometimes, it can be hard to figure out what to wear if you've never been in those situations before. Determining what is and is not appropriate can make the difference between self-confidence and total embarrassment.

Part One—Event Categories

Educator's role:

- Copy off "Fashion" worksheet
- Divide students into small groups (3-4 students in each)
- Facilitate the reflection discussion.

Divide students into small groups. First, have students complete the "Fashion" worksheet. Then, have them find appropriate examples from magazines or draw examples each category to create a picture collage for each category. The photos/drawings they find should best illustrate the characteristics of each category.

Reflection Discussion

- What do all the clothes in each category have in common?
- What were the clothing characteristics you thought were most important for each of the categories?

Part Two—Student Matinee Fashion PSA

Educator's role:

- Discuss with students what a PSA is and why they are used.
- Show an example PSA from YouTube or the Ad Council
- Brainstorm, discuss, and/or model persuasive rhetoric
- Divide students into small groups (3-4 students in each)
- Sidecoach while the students are scripting and rehearsing their Student Matinee Fashion PSA
- Recording the PSAs, if possible.
- Facilitate the reflection discussion.

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Discuss with students what a PSA (Public Service Announcement) is and ask if they have ever seen any PSAs on television (common campaigns: Drug prevention, Smokey the Bear, etc.).

The main features of a Public Service Announcement are:

- Raising public awareness about a topic
- Stimulating the public to action
- Short 30-60 second pieces aired on radio or television

If possible, show some sample PSA's from the Ad Council website (www.adcouncil.org) and discuss the idea of "persuasive rhetoric" (convincing words and phrases).

In small groups, students are to script and rehearse their own PSA about "Student Matinee Fashion." Parameters of the project are:

- Every student must be involved in the writing and performing of the PSA.
- The PSA will be for the radio. All students have to focus on is reading and "performing" their lines convincingly.
- The PSA should last approximately 30 seconds.
- Each PSA should have an engaging and catchy "tag line."

Groups should be given 20-25 minutes to write and rehearse their PSA. At the end of this time, share PSAs with each other. If possible, videotape the PSAs for documentation and reflection purposes.

Sidecoaching

- Find a compelling beginning and a strong ending.
- Think about you might use pauses and/or sounds to help convey your message.
- Make sure everyone is involved!
- Think about creating "visual imagery" for your listeners. What do you want them to see in their minds while listening to your PSA?

Reflection Questions

- What PSA was the most compelling to you and why?
- What were some common themes/phrases/ideas between the PSAs?
- What was difficult or challenging about creating your PSA? How do you overcome this challenge?
- After seeing the other PSAs, what is one thing you would change about your PSA and why?

Assessment

- Worksheet
- Participation during discussion
- Recordings of PSAs (if possible)

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What to Wear Fashion Worksheet

Every social occasion in our lives often has implied rules for dress. Sometimes, it can be hard to figure out what to wear—and what NOT to wear—if you've never been in those situations before. Determining what is and is not appropriate can make the difference between self-confidence and total embarrassment.

First, brainstorm with your group different events you attend or might attend in the future. Then decide under what category below each event falls into and write it in the appropriate column. Under which heading do you think a ballet student matinee would fall? In which category would opening night for a Pittsburgh Ballet Theatre production be listed?

Casual/Recreational	Informal/Professional	Formal/Special Event

(turn over)

Next, in your groups, create a small photo collage for each category using photos from magazines, newspapers, online, or hand-drawn. The photos/drawings you find should best illustrate the characteristics of each category.

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Where are We Sitting? Reading the Benedum Seating Chart

Adapted from an activity created by the Pittsburgh Opera Education Department

Grades: 5-12

Time needed: one 45-minute class period

Materials needed: "Seating Chart" worksheet

PDE Academic Standards: 2.1, 2.2, 2.4, 2.5, 2.6

By the end of this activity, students will be able to:

- **Accurately interpret a seating chart that contains one-to-one data correlation**
- **Compute basic addition, subtraction, and multiplication problems involving the chart data**
- **Make inferences about what the chart means**

Introduction:

When patrons buy tickets to the Pittsburgh Ballet Theatre, they have a choice of where they would like to sit. Where they choose to sit determines the price of the tickets. In general, those seats closest to the stage with the best views cost the most! But many adults have trouble reading and interpreting charts and graphs like these that they encounter in their daily life. You will study the information and then see if you can answer the questions correctly.

Reading a Seating Chart

Educator's role:

- Copy off "Seating Chart" worksheet
- Share solutions with the class.
- Facilitate the reflection discussion.

Have students complete the "seating chart" worksheet, showing their mathematical work on an extra sheet of paper. Share solutions with the class.

Reflection Discussion

- Describe the process you used to make your calculations.
- What information are you able to infer from this chart?
- In your opinion, what makes this chart easy or difficult to read and understand?

Assessment

- Worksheet and examples of work
- Participation during discussion

Where are We Sitting? Reading the Benedum Seating Chart Worksheet

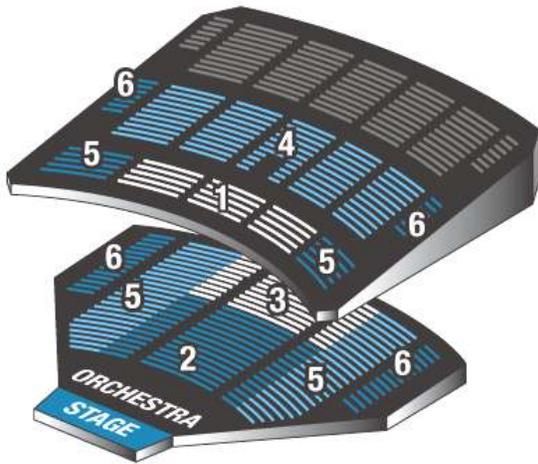
When patrons buy tickets to the Pittsburgh Ballet Theatre, they have a choice of where they would like to sit. Where they choose to sit determines the price of the tickets. In general, those seats closest to the stage with the best views cost the most! But many adults have trouble reading and interpreting charts and graphs like these that they encounter in their daily life. You will study the information and then see if you can answer the questions correctly.

The following chart is taken from the Pittsburgh Ballet Theatre's website (www.pbt.org). The seating chart is for the Friday Evening 4 Show season subscription option.

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Select Your Seating Section

You select the section and we'll suggest the best seats available.



Benedum Center Floor Plan

Friday 4 Show

Section	Price Range
<input type="radio"/> Price Zone 1	\$363.00
<input type="radio"/> Price Zone 2	\$333.00
<input type="radio"/> Price Zone 3	\$241.00
<input type="radio"/> Price Zone 4	\$201.00
<input type="radio"/> Price Zone 5	\$160.00
<input type="radio"/> Price Zone 6	\$85.00

- What is the difference in price between a Zone 1 subscription and a Zone 6 subscription? A Zone 2 subscription and a Zone 5 subscription?
- What is the total cost for two subscriptions in Zone 2, three subscriptions in Zone 3, and one subscription in 5?
- Pittsburgh Ballet Theatre has a special “Family Package” for adult subscribers where they can add on a child ticket for 3 family shows at a greatly reduced rate. If the two adults purchased 4 show season subscriptions in Zone 2 and added on two “Family Package” subscriptions, also in Zone 2, at \$126.95 per “Family Package” subscription, what would the total cost be? What percentage off is a Family Package subscription from the regular adult subscription price?
- Why are the tickets in the Main Floor on the sides the least expensive?
- If you could afford the price of a subscription, in what section would you want to sit? Why? How many tickets are included in a subscription?

Bonus

- Check out the Pittsburgh Ballet Theatre website (www.pbt.org). Investigate other subscription options. Why are some days more expensive than others?

Can We Afford This Trip?

Adapted from an activity created by the Pittsburgh Opera Education Department

Grades: 3-12

Time needed: one 45-minute class period

Materials needed: “Budget” Worksheet, computers

PDE Academic Standards: 2.1, 2.2, 2.4, 2.5, 6.5, 7.1, 7.4

By the end of this activity, students should be able to:

- **Generate a variety of budgets**
- **Make relevant and justifiable decisions regarding what to spend money on**
- **Perform basic mathematical computations**

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Introduction:

Going out for a day at the Ballet can add up quickly between tickets, parking fees, food, etc.

Budgeting the Trip

Educator's role:

- Copy off "Budget" worksheet
- Divide students into small groups (3-4 students in each)
- Facilitate the reflection discussion.

Divide students into small groups. Have students complete the "Budget" worksheet by creating 3 different budgets.

Reflection Discussion

Once the groups have completed the worksheet, have each group share the process of how they budgeted for the trip, including:

- Decisions about what to spend money on
- What other decisions they had to make as a group
- Where they got their numbers from

Assessment

- Worksheet
- Participation during discussion

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Can We Afford This Trip? Budget Worksheet

You are in charge of creating 3 sample budgets that illustrate the cost for a family of four (2 adults, 2 children under the age of 18) to attend a performance of the Pittsburgh Ballet Theatre at the Benedum Center for the Performing Arts.



Using Microsoft Excel, generate 3 different budgets—one under \$300, between \$300 and \$500, and one greater than \$500. Here are some expenses to consider:

- Cost of tickets
- Parking fees
- Food--reservations, costs, etc.
- Donation to Pittsburgh Ballet Theatre
- Miscellaneous

Be specific about what production the family will attend, where the family will sit in the theatre, where they will park, where they will eat, etc. Use the internet to research each of these expenses, if possible, and cite where you found your numbers.

Sample Budget

Expense	Details	Price Each	Price X 4	Total
Tickets to <i>The Nutcracker</i> on Sunday matinee	Sitting in Orchestra Center			
Parking Fee	At Theatre Square Garage	\$7.00	--	\$7.00
Food	Brunch at Six Penn Kitchen	\$25.00	\$100.00	\$100.00
Donation to PBT		\$10.00	\$40.00	\$40.00
Miscellaneous	Soft drinks in lobby during intermission	\$4.00	\$12.00	\$12.00
			TOTAL	

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Are We There Yet?

Adapted from an activity created by the Pittsburgh Opera Education Department

Grades: 6-12

Time needed: one 45-minute class period

Materials needed: computers, paper, writing and drawing utensils, printouts of maps of Pittsburgh

PDE Academic Standards: 7.1, 7.2, 7.3, 7.4

By the end of this activity, students should be able to:

- **Read and decipher various types of maps (topographical, street, etc.)**
- **Apply their knowledge of maps to develop an original map pertaining to the problem at hand.**

Introduction

Patrons of the Pittsburgh Ballet Theatre, including schools, often drive long distances and times to attend a performance at the Benedum Center for the Arts. But some drive for an hour and travel approximately 60 miles, while others may drive for an hour but only travel 10 miles. Why do you think this is?

Mapping Pittsburgh

Educator's role:

- Divide students into partners.
- Facilitate the reflection discussion.

Divide students into partners. Each group will be responsible for creating their own, original map of the Pittsburgh region. The map should include geographical features (rivers, parks, etc.), major roadways and a map legend. Make sure to also include where the school is on the map! Before beginning on their own map and using computers or pre-printed maps, have students research different types of maps of Pittsburgh (topographical, street, etc.) to gather information from.

After creating the map, the next task is for students to draw concentric circles showing the areas where people have to spend 15 minutes in the vehicles to get downtown, 30 minutes in their vehicles, and finally 60 minutes.

Be sure to consider:

- Road construction
- Bridges or tunnels along the route
- Traffic patterns at different times of day

Finally, have students exchange maps. Using the "Mapping Pittsburgh" worksheet, have them record similarities and differences they notice between their map and their classmates' maps.

Reflection Discussion

- Once the groups have completed exchanging maps, have each group share the process of how they created the map, including deciding what features and roads to include, how they determined the length of commute, etc.
- What would happen to the commute times if a bridge were taken out?

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- What other data could we analyze from your map? How could we analyze that data?
- What inferences can you make from using your map?

Assessment

- Worksheet, including comments of similarities and differences
- Participation during activity and discussion

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Mapping Pittsburgh Worksheet

Part One: Working with your partner, create your own, original map of the Pittsburgh region. The map should include geographical features (rivers, parks, etc.), major roadways, and a map legend. Make sure to also include where the school is on the map!

After creating the map, the next task is for students to draw concentric circles showing the areas where people have to spend 15 minutes in the vehicles to get downtown, 30 minutes in their vehicles, and finally 60 minutes.

Be sure to consider:

- Road construction
- Bridges or tunnels along the route
- Traffic patterns at different times of day

Part Two: Exchange maps with your classmates and compare them to the map you created. In the box below, record similarities and differences you see in their maps.



Similarities	Differences

Challenge:

Determine a scale to use for your map (1 inch = 2 miles, for instance) and create your map to scale.

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Renovating the Benedum Center for the Performing Arts

Grades: 6-12

Time needed: one-three 45-minute class periods, depending upon which activities are done

Materials needed: "House Rules" worksheet, writing utensils, printouts of Benedum pictures, pdf file "Benedum Ground Plan" from PBT website

PDE Academic Standards: 2.2, 2.3, 3.4, 4.3, 4.4, 9.2, 11.1

By the end of these activities, students will be able to:

- **Compute complex mathematical problems using mathematical reasoning skills**
- **Research various technologies used in performing arts spaces**
- **Synthesize new information to creatively generate design and engineering solutions to real-life problems.**

Introduction:

The Benedum Center for the Performing Arts went under massive renovations in the 1980s to bring the theatre back to its former glory, expand the stage and backstage areas, and update it to meet the needs and demands of the time. Consider ways to renovate the building using technology and resources for one of the following problems:

Activity One—Lighting Systems

Educator's Role:

- Secure computer access
- Break students into small groups
- Facilitate discussions on students' findings

First, in small groups, research and create a timeline of the history of stage lighting. How have the technologies changed over time? Timelines can be written in narrative form, written in chronological order, or visually represented on a poster.

Most stage lighting systems in modern theatres have a mixture of different lighting instruments. In small groups, research the following stage lighting instruments (Fresnel-lensed spotlight, Ellipsoidal Reflector Spotlights, and Followspots) and answer the following questions:

- What kind of lighting is each instrument used for?
- Find the specifications:
 - intensity (in lumens)
 - focus--how is the light focused?
 - color--how is the color changed on this light?
- Where is the most logical place to position this light--on stage or in the house?

The Benedum Center currently has a stock of 473 lights. At today's current costs, investigate what the total value of this lighting system is if they have the following distribution of lights:

- 3 Followspots
- 215 Fresnel-lensed spotlights
- 255 Ellipsoidal Reflector spotlights

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Your job will be look at pictures of the Benedum and determine places to “hide” stage lighting. In order to maintain the historic status, the Benedum Center must make modern technology as non-obtrusive as possible. Determine how you would best “hide” stage lighting in the house of the Benedum Center. Please see the pdf file “Benedum Ground Plan” on our website to use in facilitating this portion of the exercise.

Activity Two—The New Proscenium

Educator’s Role:

- Printout image
- Break students into small groups
- Facilitate discussions

Facilitate a discussion on the parts of a performing arts auditorium—stage (where artists perform), proscenium (the archway that “frames” the stage), and the “house” or “orchestra” (seats for patrons).



<http://cdn.calisphere.org/affiliates/images/csdhi/kt0290182t/hi-res/5727.jpg>

Explain to the students that the original proscenium of the Benedum Center is too large for modern performing arts companies. At 70 feet wide and 40 feet tall, it is too large for even the biggest touring Broadway shows or grandest operas.

Your job is to design a new proscenium archway that will better accommodate modern performing arts companies. The new proscenium archway will be built in front of the original proscenium. It should be sturdy yet removable in order to maintain the building’s historic status. It should also have the capability to hold extra speakers and sound equipment. The final dimension of the new proscenium arch should be 57 feet wide and 38 feet tall. Make a scale model (i.e. 1 inch = 1 foot) of the new arch and write a short description that answers

- What materials would you use for
 - supports?
 - frame?

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- What color or decoration do you use on the proscenium, if any?
- How is the proscenium removable? What is the amount of storage space (sq. foot) required to store your design once it is disassembled?

When you visit the Benedum Center, check out *their* solution for the proscenium. What materials is it made out of? What features do you notice about it?

Activity Three--Reupholstering the Chairs

Educator's Role:

- Break students into small groups
- Secure computer access
- Facilitate discussions

The 2,881 chairs in the Benedum Center were originally upholstered during the renovation nearly 20 years ago and it's time to do it again! But a lot has changed in the textile industry.

First, research what the textile industry was like here in the United State in the 1980s and what it is like now. Answer the following questions:

- What types of textiles were being created for upholstering furniture? How were the various fibers grown, processed, produced, and distributed?
- What factors are related to the growth or decline of the textile industry in the United States?

Your job will be to locate and "purchase" fabric for the reupholstering project, and create a timeline and budget for the reupholstering project from start to finish. Here is the data that should be found and/or used:

- Locating and Purchasing the Fabric
 - Numbers to Know:
 - The specific type of fabric needed to reupholster the chairs at the Benedum is a mixture of 90% natural fibers and 10% synthetic. Because most current fabric is not this mixture, the fabric must be custom made and takes approximately 10 weeks for it to be made.
 - Each chair will need 7 yards of fabric for the cushion and back of the seat.
 - There are 2881 chairs in the Benedum Center, but 300 spare chairs are also prepared during renovations.
 - Locate the fabric. What is the cost per yard? How many yards will you need total? What company are you buying the fabric from?
 - Where is the fabric coming from? Don't forget shipping charges!
 - What is the estimated time it will take for the fabric to arrive?
- Reupholstering the Chairs:
 - Each person who reupholsters the chairs is paid \$23.17 an hour. The total labor costs for the project are estimated to be close to \$200,000. If the laborers are working 8 hours a day for 6 days a week for 3 weeks, how many total laborers is the Benedum expecting to hire?

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- Each chair must be hand-upholstered. Based on the information you calculated in the previous problem (total number of laborers), calculate the total number of labor hours accrued over the 3 week period. Then, calculate how long each chair approximately take to reupholster.
- What challenges might arise that would delay a project of this scale? What remedies to these challenges can you propose?
- Getting rid of Waste:
 - How much waste fabric will you accumulate?
 - Investigate how much it will cost to rent dumpsters to trash the fabric. How many dumpsters will you need?
 - What happens to this industrial waste? Where does it go in Allegheny County? Investigate options for reusing the old fabric.
- Create Timeline and Budget:
 - Using the answers to your investigations, create an overall timeline and budget for the project.
 - After students have completed their budgets, share with them the Benedum's projections for the project:
 - \$250,000 in materials
 - \$200,000 in labor
 - \$450,000 total cost
 - How might you account for the differences between your budget and the Benedum's budget?

Jobs at PBT

Grades: 5-12

Time needed: one 45-minute class period

Materials needed: "Jobs at PBT," "Job Profile," and "Salaries" worksheet

PDE Academic Standards: 1.4, 1.5, 1.8, 2.1, 2.2, 2.4, 2.5, 2.6, 9.1, 11.1, 13.1, 13.3

By the end of this activity, students will be able to:

- **Generate appropriate and relevant questions pertaining to their topic**
- **Use the internet to decipher between reliable and unreliable sources and accurate answers to their questions**
- **Identify various preparatory paths and skill sets needed for different jobs**
- **Perform basic computation and mathematical reasoning skills to solve the problems at hand**

Introduction:

Dancers are not the only employees at Pittsburgh Ballet Theatre! It takes many skilled professionals to run a ballet company or any arts organization.

What does it take to be a _____?

Educator's role:

- Make copies of worksheets
- Secure computer access and gather supplies, if needed.
- Prepare students with discussion and information about sources and bibliographies, if necessary.
- Facilitate the reflection discussion.

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As a large group, brainstorm questions you would ask a person about their career or job. Hand out the “Jobs at PBT” worksheet and discuss. Assign individuals or partners a job from the list research.

Using the internet or print resources, have students research and find answers to the questions generated by the group during the brainstorm. Students should cite their sources for their answers and create an annotated bibliography of their sources that reflects upon the reliability and usefulness of each source.

Next, have students complete the “Job Profile” worksheet using their research.

Reflection Discussion

- What surprised you about the job you were given as you were conducting research?
- After conducting your research, what questions do you still have about the job you were given?
- What similarities and differences do you see between various jobs in their preparation, skills needed, and tasks?
- How did you determine what sources to use and their reliability? Which were most useful to you and why?

Salaries

Educator’s role:

- Make copies of the “Salaries” worksheet
- Secure computer access and gather supplies, if needed.
- Share solutions with the class.

Salaries account for a large portion of the annual budget at Pittsburgh Ballet Theatre. Using the internet, research the average salary for each of the positions listed on the worksheet. Some useful websites to look at include:

- “Bureau of Labor Statistics website” <http://www.bls.gov/bls/blswage.htm>
- www.salary.com
- www.monster.salary.com

Using the worksheet, compute how much the ballet spends on its full-time employees.

*Challenge: Fringe benefits, including health care, retirement plans, life insurance, etc., are available to all full-time employees. The current percentage of a person’s salary that fringe benefits account for is 24.2736%. Compute the amount of fringe benefits the company pays for each employee, and recomputed the total amount for company salaries to include fringe benefits.

Reflection questions:

- Why are fringe benefits important to employees?
- How might hiring part-time versus full-time employees help and/or hurt the employer and the employee? Make a pro and con list for each side if needed.

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JOBS AT PBT

Artistic Director: The guiding force behind the company. Responsible for the artistic growth and direction of the organization. Among other things, the artistic director selects the dancers for the company and determines what the ballet company will perform each season.

Executive Director: Responsible for the financial and professional success of the company. Oversees all non-artistic personnel.

Conductor: Auditions and selects musicians for the PBT Orchestra. Conducts the orchestra for the performances. Arranges music and determines the size of the orchestra for the piece. Works with dancers and ballet masters on tempo. Controls tempo and sound of the orchestra while considering the dancers' needs.

Ballet Master/Mistress: Advises the Artistic Director on scheduling and casting. Scouts for new talent and choreography. Works with the dancers on a regular basis: teaching company class, rehearsing upcoming ballets, as well as constantly coaching and refining the dancers' work.

Company Pianist: A pianist who works with the Company on a daily basis playing music for Company class and rehearsals.

Production Manager: Responsible for making the production look the way the Artistic Director perceives it to look. Negotiates with designers and union personnel.

Stage Manager: Assists the production manager and "calls" the shows. The Stage Manager gives everyone their cues during the performance, including lighting technicians, dancers, conductor, and stagehands responsible for props and sets. He runs the show. He is also responsible for the audio and video requirements for the company.

Costumier: Makes new costumes for ballets and alters existing costumes to fit other dancers. PBT's Costumier also designs costumes and creates her own patterns out of plain brown paper.

Director of Marketing: Responsible for all income goals. Oversees Public Relations, Subscriptions, Group Sales and Telemarketing.

Director of Education: Responsible for developing education materials about the productions and for implementing arts education programs within schools and the community.

Subscription Manager: Handles seating and ticketing for ballet subscribers as well as all customer service opportunities.

Director of Development: Responsible for soliciting contributions from corporations, foundations and individuals.

Tour Manager: Responsible for booking PBT on national and international tours. Handles all logistics of the dancers' itinerary.

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Director of Finance: Accountant for the Ballet. Oversees the budget by tracking expenses, income and cash flow.

School Director: Manages all aspects of the Pittsburgh Ballet Theatre School including training, recruiting and scholarships.

Ballet Faculty: Responsible for teaching dance to children and adults through PBT School.

Company Dancers: Perform dances for company productions.

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JOB PROFILE WORKSHEET (please use complete sentences)

Name of job: _____

Main tasks of job:

Skills needed for job:

Likely preparation needed to achieve this job, including school, courses, experience, etc.:

Create a career preparation plan for attaining this career. List all steps necessary to obtain this position.

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Salaries Worksheet

Job Title	# of staff with title	Average Salary	Total
Artistic Director	1		
Company Dancer	30		
Conductor	1		
Executive Director	1		
Development Associates	4		
Education Associates	1		
Marketing Associates	4		
Stage Manager	1		
PBT School Principals	2		

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Get With the Program

Adapted from an activity created by the Pittsburgh Opera Education Department

Grades: 5-12

Time needed: one 45-minute class period

Materials needed: "Program" worksheet for grades 5-8 OR grades 9-12

PDE Academic Standards: 1.8, 2.2, 5.1, 5.3, 6.4, 6.5, 9.1, 11.1

By the end of this activity, students will be able to:

- **Demonstrate estimation skills.**
- **Develop and compute equations involving addition, multiplication, and percentages.**
- **Investigate and analyze current recycling practices.**

Introduction:

Often when you attend a live performing event, including the ballet, theatre, opera, or symphony, you are given a program that includes information about the production, artist biographies, staff listings, donor listings, ads, and other important information about the production. The Marketing Department at Pittsburgh Ballet Theatre creates a new program for every one of their productions.

Number of Programs

Educator's role:

- Copy off "Program" worksheet
- Divide students into small groups (3-4 students in each)
- Facilitate the reflection discussion.

Divide students into small groups. Have students complete the "program" worksheet, showing their mathematical work on an extra sheet of paper and including any research they find. Share each group's programs with the class. See who got the closest to the actual number (on average, the Pittsburgh Ballet Theatre orders **7,000 programs** for each production.)

Reflection Discussion

- Describe the process you used to determine your estimations.
- What other items can you think of that might make a difference in the number of programs needed?
- Why are programs important to the overall experience? How could they be re-imagined to save on resources (money, paper, etc.)?

Assessment

- Worksheet and examples of work
- Participation during discussion

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Get with the Program Worksheet (grades 5-8)

Often when you attend a live performing event, including the ballet, theatre, opera, or symphony, you are given a program that includes information about the production, artist biographies, staff listings, donor listings, ads, and other important information about the production. The Marketing Department at Pittsburgh Ballet Theatre creates a new program for every one of their productions.

All audience members receive a program when they enter the auditorium, but some patrons choose to recycle the programs at the end of the performance. So how does the Pittsburgh Ballet Theatre estimate how many programs to print?

First, estimate the total number of programs you think you would need to order for each production. Then, calculate how many programs should be printed if only 50%, 75%, and 100% of the tickets are sold. Show all of your work!

Here are some numbers to consider in your equations:

- The Benedum Center for the Performing Arts seats 2,889.
- The standard run of a production at Pittsburgh Ballet Theatre has 4 performances.



Challenge Questions:

- Ushers recycle programs that are left in the seats or lobby at the end of the performances. Approximately 20% of the distributed programs are collected after each performance and used at future performances. Rework your calculations to include the recycled programs.
- On average, each program has 40 pages of printer paper. Based on the number of programs ordered for each of the percentages listed above, how many pieces of paper are included in your order? Then weigh a piece of paper. What would your order weigh?
- The programs are printed in full color on glossy paper. Can extra programs be sent to a recycling facility after all the performances are complete? What are the guidelines for recycling paper in your home area?
- In what ways can recycled paper be used? What is the process for recycling paper? Is there a limit to the number of times paper can be reused?
- Contact other arts organizations in your area. How do they use their paper resources? Do they recycle extra programs and paper? Do they recycle trash from their concession sales such as plastic cups, beverage bottles, etc.?

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Get with the Program Worksheet (grades 9-12)

Often when you attend a live performing event, including the ballet, theatre, opera, or symphony, you are given a program that includes information about the production, artist biographies, staff listings, donor listings, ads, and other important information about the production. The Marketing Department at Pittsburgh Ballet Theatre creates a new program for every one of their productions.

All audience members receive a program when they enter the auditorium, but some patrons choose to recycle the programs at the end of the performance. So how does the Pittsburgh Ballet Theatre estimate how many programs to print?

First, estimate the total number of programs you think you would need to order for each production. Then, calculate how many programs should be printed if only 50%, 60%, 70%, 80%, and 90% of the tickets are sold. Show all of your work!

Here are some numbers to consider in your equations:

- The Benedum Center for the Performing Arts seats 2, 889.
- The standard run of a production at Pittsburgh Ballet Theatre has 4 performances.
- Ushers recycle programs that are left in the seats or lobby at the end of the performances. Approximately 20% of the distributed programs are collected after each performance and used at future performances.



Challenge Questions:

- On average, each program has 40 pages of printer paper. Based on the number of programs ordered for each of the percentages listed above, how many pieces of paper are included in your order? Then weigh a piece of paper. What would your order weigh? How much would it cost to ship the order with UPS?
- The programs are printed in full color on glossy paper. Can extra programs be sent to a recycling facility after all the performances are complete? What are the guidelines for recycling paper in your home area?
- In what ways can recycled paper be used? What is the process for recycling paper? Is there a limit to the number of times paper can be reused?
- Contact other arts organizations in your area. How do they use their paper resources? Do they recycle extra programs and paper? Do they recycle trash from their concession sales such as plastic cups, beverage bottles, etc.?