the Irvin L. Young Foundation in 1949. Mrs. Fern Young continued her husband’s benevolence until her death in January 2002. Thousands of people, both at home and abroad, have been positively affected by their kindness. It is our goal that, by bearing Mr. Young’s name, we continue in his path of serving Wisconsin residents for years to come.

ABOUT YOUNG AUDITORIUM AT UW-WHITEWATER

The Young Auditorium is located on the University of Wisconsin-Whitewater campus and serves both the campus and public communities. The auditorium presents the highest quality arts and entertainment programming in a wide variety of disciplines for diverse audiences. There is something for everyone each season at Young Auditorium including touring Broadway shows; classical, jazz, rock, pop and folk music; family entertainment; school matinee performances; world-class ballet and opera; comedy; and lectures.

The ground breaking for the auditorium in June 1991 was made possible through the Irvin L. Young Foundation. The Foundation, along with the auditorium, honors an individual whose name has long been associated with philanthropy and humanitarianism throughout the state of Wisconsin and around the world. From humble beginnings, without the advantages of a high school or college education, Mr. Irvin Young used his time, talents and strong entrepreneurial spirit to establish a variety of successful businesses. Inspired by a business trip to Africa and the commitments he formed there, Mr. Young established

Horizons School Matinee Series

The mission of the Horizons program is to support the curriculum of schools by providing culturally diverse programs and outreach opportunities for K-12 students. This will be accomplished through

1) providing performances and hands-on, interactive outreach opportunities that cultivate and appreciation for the performing arts among young people that will last throughout their lives and

2) supporting teachers through professional development opportunities in the arts. It is our vision that someday every K-12 student in the auditorium’s service region will attend a Horizon’s performance and/or participate in an outreach event each year.

Garry Krinsky—Toying with Science!

Tuesday, December 4, 2012, 10:00 a.m.

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Horizons Educator’s Resource Guide content prepared by Shannon Dozoryst

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Extension lessons and activities compiled by Kayle Radmer and Kaeleigh Zielke in Reading 462: Literacy Instruction in the Elementary/Middle Grades under the supervision of Dr. Ann Ruff, professor, C&I Department UW-Whitewater, Spring 2012

Credits:

Editor: Shannon Dozoryst, Education and Outreach Coordinator

“Toying with Science” teacher guide provided by Garry Krinsky.

Extension lessons and activities compiled by Kayle Radmer and Kaeleigh Zielke in Reading 462: Literacy Instruction in the Elementary/Middle Grades under the supervision of Dr. Ann Ruff, professor, C&I Department UW-Whitewater, Spring 2012

Horizons Educator’s Resource Guide content prepared by Shannon Dozoryst

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Horizons School Matinee Series

Dear Teachers,

Thank you for choosing to attend a Horizons School Matinee Series performance at Young Auditorium. We strive to provide programs that enhance your curriculum and allow you to explore arts integration in the classroom with your students. To help meet that goal, we offer a resource guide for each performance. This guide has been designed to help you prepare your students with before activities that help them engage in the performance and after activities that encourage them to evaluate the performance and make relevant personal and academic connections. Within the guide you will find a variety of activities that can be used to enhance the core subject areas as well as the creative arts. Wisconsin Standards are listed for each lesson to help you link them to your existing curriculum. The materials in this guide reflect the grade range recommended by the performing arts group. As teachers, you know best what the needs and abilities of your students are; therefore, please select and/or adapt any of the material to best meet the needs of your particular group of students.

It is also part of our mission to provide teachers with support in the efforts to integrate arts in their curriculum and bring teaching artists into the classroom to work directly with students. Please visit our website www.uww.edu/youngauditorium for more information about the Horizons Outreach Program and Reaching New Horizons: Arts Integration in the Classroom., our new professional development series for teachers.

As you prepare for your visit to the Young Auditorium, please do not hesitate to contact our staff. We are happy to assist you in making your trip a positive and memorable experience for your students.

Thank you for your support!
Young Auditorium
A Teacher’s Guide to Prepare Students for the Performance of

GARRY KRINSKY

Toying with Science!
Garry Krinsky: Toying with Science

INTRODUCTION

It has been said that GARRY KRINSKY resembles a living cartoon with his animated characters and non-stop energy. Garry was an original member of the Boston Buffoons, co-founder of the Patchwork Players, and a member of The Wright Bros., a New England vaudeville troupe. Since 1978, Garry has brought his high energy and experience to thousands of schools, theaters and festivals and has also been seen on the NBC Today Show. Toying with Science is a fast-paced, varied and dynamic performance. Commissioned and developed with the Museum of Science in Boston, this performance explores, among other things, the scientific principles of gravity, leverage, simple machines, and the human property of imagination. Combining circus skills, mime, original music, and audience involvement, Garry and his audience investigate basic scientific information and delve into the imaginations of scientists who explore our world.

Within this guide you will find a glossary, information about levers, simple machines, fulcrums, questions to pose to your students regarding leverage and fulcrums, a worksheet on fulcrums, and information to make your students think more about these scientific principles and prepare for Garry’s performance. We hope that the guide will also give you ideas to develop follow-up activities after Garry’s performance.

Garry would love to know your ideas as well as those of your students on activities that you have developed in conjunction with this program. Occasionally he will selectively add projects to the guide that are sent to us, with credit to the students, teacher and school, to give future teachers innovative ideas to use with their students.

For a complete study guide with classroom expanded activities, vocabulary and bibliography, Garry’s complete guide can be found in the _______________________________. Teachers are encouraged to make a copy of the guide for their classroom use and copies of the worksheet on Find the Fulcrum for every student in their class.

Garry would love to hear from your students. If you have any questions or comments about the performance, or if you would like to mail student packets to Garry, you can address mail to:

GARRY KRINSKY c/o
Baylin Artists Management
18 West State Street, Suite 203
Doylestown, PA 18901
**GARRY KRINSKY: TOYING WITH SCIENCE**

**GLOSSARY**

**CENTER OF GRAVITY:** The point in any solid where a single applied force could support it; the point where the mass of the object is equally balanced. The center of gravity is also called the center of mass. (When a man on a ladder leans sideways so far that his center of gravity is no longer over his feet, he begins to fall.)

**GRAVITATION (GRAVITY):** The force, first described mathematically by Isaac Newton, whereby any two objects in the Universe are attracted toward each other. (Gravitation holds the moon in orbit around the earth, the planets in orbit around the sun, and the sun in the Milky Way. It also accounts for the fall of objects released near the surface of the earth. Objects near the surface of the earth fall at a rate of 32 feet per second.)

**FREE FALL:** In physics, the motion of a body being acted on only by gravity.

**FRICITION:** The force of one surface sliding, rubbing, or rolling against another. Friction slows down the motion of objects, and can create heat. Friction can also stabilize motion.

**FULCRUM:** The fixed point about which the lever moves. The point at which energy is transferred.

**INERTIA:** The tendency for objects at rest to remain at rest, and objects in uniform motion to continue in motion in a straight line, unless acted on by an outside force.

**LEVER:** A rigid rod or bar to which a force may be applied to overcome a resistance. A lever (or a combination of levers) is a simple machine used to gain force, gain speed, or change directions.

**LEVERAGE:** To wield power with levers. Understanding where the fulcrum is located allows us to position ourselves to gain our greatest leverage.

**MACHINE:** A device (or system of devices) made of moving parts that transmits, send or changes a force. Machines are often modeled on how the human body works.

**SCIENCE:** An organized body of information or HOW THINGS WORK!

**SIMPLE MACHINE:** Machines powered by human force (as opposed to batteries, electricity or burning fuel)
Garry Krinsky: *Toying with Science*

SOME FAMOUS NAMES IN SCIENCE

**GALILEO**
An Italian scientist of the late 16th Century and early 17th Century. His full name was Galileo Galilei. He proved that objects with different masses fall at the same velocity. Galileo also invented one of the first telescopes. Disputing the popular opinion of the time, Galileo proclaimed that the planets revolved around the sun and not around the earth.

Galileo. *After a painting by Ramsey.*

**NEWTON, SIR ISAAC**
An English scientist and mathematician of the 17th Century. Newton made major contributions to the understanding of motion, gravity and light. He is said to have discovered the principle of gravity when he saw an apple fall to the ground at the same time that the moon was visible in the sky.

**NEWTON’S LAWS OF MOTION**
The three laws that govern the motion of material objects. They were first written down by Isaac Newton and gave rise to a general view of nature known as the CLOCKWORK UNIVERSE. The laws are: 1. Every object moves in a straight line unless acted on by a force. 2. The acceleration of an object is directly proportional to the net force exerted and inversely proportional to the object’s mass. 3. For every action, there is an equal and opposite reaction.

**LEVERS**
Here are examples of levers. Long levers = power; short levers = speed and mobility

<table>
<thead>
<tr>
<th>LONG</th>
<th>vs</th>
<th>SHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>shovel</td>
<td></td>
<td>trowel/toy shovel</td>
</tr>
<tr>
<td>ladle</td>
<td></td>
<td>spoon</td>
</tr>
<tr>
<td>ax</td>
<td></td>
<td>hatchet</td>
</tr>
<tr>
<td>pitchfork</td>
<td></td>
<td>fork</td>
</tr>
<tr>
<td>sledge hammer</td>
<td></td>
<td>hammer</td>
</tr>
<tr>
<td>tennis racquet</td>
<td></td>
<td>ping pong paddle</td>
</tr>
</tbody>
</table>

These are Levers

**SIMPLE MACHINES**
Most of the items below are simple machines. Identify those that ARE NOT simple machines.

- scissors          - umbrella
- hedge cutters      - wind-up clock
- can opener         - toaster
- calculator         - mouse trap
- window shade       - bicycle
- reclining chair    - car jack
- hour glass         - chop sticks
- telephone          - telephone

Can you name other levers?

Can you name other simple machines?

(ANSWERS: the are NOT simple machines: hot shower, toaster, telephone, calculator - fueled by electricity, fuel, or battery)
Garry Krinsky: Toying with Science

FULCRUMS

The fulcrums pictured on the next page are examples of fixed fulcrums, but we often use non-fixed or moving fulcrums. For example, in a rowboat the oars are placed into oar locks which are fixed fulcrums, but when paddling a canoe, our lower hand acts as the fulcrum but it is moving. Fixing the fulcrum (keeping its movement to a minimum) can often give us more power. We can apply more of our force in a rowboat than we can in a canoe. (However, canoes can often move faster because they have less surface in the water, and do not have as much speed-robbing friction to slow them down. Friction is also the main reason why fat-wheeled mountain bikes cannot travel as quickly as thin wheeled racing bikes.)

As with a canoe paddle, we encounter many non-fixed fulcrums in sports. Can you name some other sports levers where we transmit our power through non-fixed fulcrums?

(ANSWERS (just a list to get everyone started): baseball bats, hockey sticks, pole vaults, pool cues, tennis racquets, golf clubs, and Lacrosse sticks.)

We do not need levers to use leverage. We often use our arms and legs as levers. Can you name activities where you or other people use your arms and legs as levers?

(ANSWERS (just a list to get everyone started): dancing, doing martial arts, directing traffic, performing mime, pitching a baseball, wrestling, bowling, playing Frisbee, throwing a football, swimming, diving.)

When compared to a long canoe oar, in swimming, our hands act as small, barely efficient levers. The canoe oar increases our power. Most of the machines and tools that we build use the human body as a model, and by adding the scientific principal of leverage, it increases our own power to make the human race move stronger, faster and more efficient.

TEACHER NOTE: On the next page are examples of fixed fulcrums. You may make copies of this page to use as worksheets for your students.
Garry Krinsky: *Toying with Science*

FIND THE FULCRUMS
TIPS FOR SAFETY
Remove “breakables.” You will need to move around, so prepare the room for your feet. Feathers break easily, so be gentle with them. Feathers have points, so be careful with your eyes.

TIPS FOR SUCCESS
Look at the top of the feather. Balance in a non-windy space (indoor spaces work best). The more you practice, the better you will get, so don’t get frustrated if success doesn’t come right away.

PLACES TO BALANCE ON
Back of hand
Shoulder
Elbow
One finger
Top of your foot
Chin
Nose

TRICKS TO TRY
- from a hand balance, throw it up and catch it
- keep it balanced
- throw it from one hand to the other
- throw it in the air, clap and catch it (see if you can add more claps)
- carefully switch the feather from one finger to another
- balance it on your foot, kick it up to your hand
- let a “balanced” feather lean, walk in that direction
- as above

EXPLORE NEW PLACES TO BALANCE ON
- Hold the feather like a dart or javelin (point up) and throw it straight up. It will turn over and return to earth facing down. Catch it in the palm of your hand. It helps to bend low to catch the feather so that it has time to straighten.
- While balancing, sit, lie down, then stand up again.
- Lying on your back, balance the feather on the bottom of your foot.
- EXPLORE NEW TRICKS!

TIPS FOR THROWING
- Throwing it high and catching it low gives you more time to see the feather.
- Higher throws allow the feather to straighten out.
- Straight throws are the easiest to catch.
- When throwing more than one feather with more than one person, one person should call out a loud and clear “cue” so that all partners throw at the same time.

MORE THAN ONE PERSON PASSING
- With a high, straight throw, pass a balanced feather from one partner to the other.
- With each partner balancing a feather, one partner gives a clear CUE (“1, 2, 3!” or “Ready…Go!”) and partners switch feathers with a high, straight throw, AND, of course they balance it when they catch it.
- One partners give a “javelin” toss to the other.
- Two partners “javelin” toss at the same time (on a clear CUE) switching their feathers with a high and accurate throw.
- Three partners stand in a triangle formation, each holding a feather with the “javelin” hold. On a clear CUE, they toss their feather to one partner, then IMMEDIATELY turn to catch it from the other partner.

- Two partners stand one behind the other, both facing the same directions. The front partner balances a feather (on their hand), then throws it straight up moving forward underneath it, while the back partner steps up and catches it. This can also work with a whole line of people, with the front person moving to the back of the line each throw. A clear CUE is IMPORTANT!

HAPPY BALANCING!!!
Garry Krinsky: *Toying with Science*

**BIBLIOGRAPHY**

**SCIENCE**


**MIME & THEATER**

Montanaro, Tony. *MIME SPOKEN HERE: VIDEO VOLUME 1 & 2*. PO Box 1054, Portland, ME.

**THEATER GAMES**


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520 Broadway, Third Floor
New York, NY 10012-4436
Phone: (212) 941-0060
Fax: (212) 941-0793

For more information on Garry Krinsky, please refer to his website:

[www.garrykrinsky.com](http://www.garrykrinsky.com)

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“Toying with Science” Vocabulary

Grades: 4-5

WI State Standards:
A.4.1 When conducting science investigations, ask and answer questions that will help decide the general areas of science being addressed

Objectives:
- Students will be able to demonstrate the knowledge of vocabulary words related to the “Toying with Science” show.
- Students will be able to recall information about the “Toying with Science” show by demonstrating how the vocabulary word relates to the show.

Materials:
- “Toying With Science” Vocabulary Worksheet
- Dictionary

Sources:
Garry Krinsky “Toying with Science”

Lesson Procedure:
1. Before seeing the show “Toying with Science”, distribute the “Toying with Science” vocabulary worksheet. The first two columns are to be completed before seeing the show and the last column is to be completed after the show.
2. Instruct students to find the definition of the vocabulary term that will appear in the show and write the definition in the first column labeled “Definition”. Next in the “This reminds me of….” column, instruct students to write down what the definition or term reminds them of. This can be related to where they have heard the term before, an example of the term or even a picture.
3. After the students have the worksheet completed, discuss their results as a class before seeing the “Toying with Science” show. When reviewing the worksheet write the definitions on the board or overheard, so that the students can make sure their definition is correct. Verbally share and explain the “This reminds me of….” column.
4. After seeing the “Toying with Science” show, instruct students to take out the “Toying with Science” vocabulary worksheet.
5. In the last column “How it was used in “Toying with Science,” the students are to identify a way in which the show demonstrated an explanation of the vocabulary term.
6. Once the worksheet has been completed, review it as a class. The first two columns should have been reviewed before the show, so review the “How it was used in Toying with Science” column of the worksheet.
7. Inform the class that there may have been numerous ways the term was used in the show, so not all answers will be the same.
<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Definition</th>
<th>This reminds me of...</th>
<th>How it was used in “Toying with Science”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center of Gravity</td>
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<td></td>
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<tr>
<td>Gravitation</td>
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<tr>
<td>Free Fall</td>
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<td></td>
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<tr>
<td>Friction</td>
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<td></td>
<td></td>
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<tr>
<td>Inertia</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary</td>
<td>Definition</td>
<td>This reminds me of...</td>
<td>How it was used in “Toying with Science”</td>
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<tr>
<td>------------------</td>
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<td>------------------------</td>
<td>-----------------------------------------</td>
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<tr>
<td>Fulcrum</td>
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<td>Lever</td>
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<td></td>
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<tr>
<td>Leverage</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Machine</td>
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<td></td>
</tr>
<tr>
<td>Simple Machine</td>
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<td></td>
</tr>
</tbody>
</table>
Vocabulary Definitions from the Garry Krinsky Website

**CENTER OF GRAVITY:** The point in any solid where a single applied force could support it; the point where the mass of the object is equally balanced. The center of gravity is also called the center of mass. (When a man on a ladder leans sideways so far that his center of gravity is no longer over his feet, he begins to fall.)

**GRAVITATION (GRAVITY):** The force, first described mathematically by Isaac Newton, whereby any two objects in the Universe are attracted toward each other. (Gravitation holds the moon in orbit around the earth, the planets in orbit around the sun, and the sun in the Milky Way. It also accounts for the fall of objects released near the surface of the earth. Objects near the surface of the earth fall at a rate of 32 feet per second.)

**FREE FALL:** In physics, the motion of a body being acted on only by gravity.

**FRICTION:** The force of one surface sliding, rubbing, or rolling against another. Friction slows down the motion of objects, and can create heat. Friction can also stabilize motion.

**FULCRUM:** The fixed point about which the lever moves. The point at which energy is transferred.

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**MACHINE:** A device (or system of devices) made of moving parts that transmits, send or changes a force. Machines are often modeled on how the human body works.

**SIMPLE MACHINE:** Machines powered by human force (as opposed to batteries, electricity or burning fuel).
Write about your experience at the play:

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

Draw an illustration of your favorite simple machine.
Friction in My Daily Life

Grades: 4-5

WI State Standards:
A.4.1 When conducting science investigations, ask and answer questions that will help decide the general areas of science being addressed
C.4.2 Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations
D.8.5 While conducting investigations, explain the motion of objects by describing the forces acting on them

Objectives:
- Students will be able to identify instances in which friction is created in their daily lives.
- Students will be able to explain the effects of friction in their daily lives.
- By completing the investigation worksheet, students will be able to create a report of their findings, and demonstrate an understanding of how friction is present in their daily lives.

Materials:
- Bill Nye The Science Guy Video
- “Friction in My Daily Life” Worksheet

Sources:
- Bill Nye the Science Guy Video on Friction
  http://www.gamequarium.org/cgi-bin/search/linfo.cgi?id=7236
- Garry Krinsky Website: Vocabulary definition of friction
- Scholastic Friction in My Daily Life Questions:
  http://teacher.scholastic.com/dirtrep/friction/observe.htm

Lesson Procedure:
1. Introduce friction to students. Explain that “FRICTION: is the force of one surface sliding, rubbing, or rolling against another. Friction slows down the motion of objects, and can create heat. Friction can also stabilize motion.” (Garry Krinsky Website).
2. Have students watch Bill Nye the Science Guy Video on Friction.
3. After watching the video, distribute the “Friction in My Daily Life” worksheet to the students. Instruct the students to investigate instances when friction is happening in their daily life and answer the questions on the worksheet. In order for the students to observe friction in their daily life, they may have to explore the school. This may include going to the playground, gym, library, etc. The last step is for the students to draw a picture of the friction they are explaining in their daily life. An example of an instance where friction is in our daily lives is: The tip of a pencil and the paper rub together when you are writing and create friction. In this case the friction is helping you write. With a dull pencil the friction is increased and a sharper pencil the friction is decreased. Another similar instance would be writing with a marker on a whiteboard.
4. After the worksheet has been completed the students are to write their findings into a small report. This report can be about a paragraph long and in complete sentences.
5. Once the students have finished creating the report on their findings, instruct students to share their reports with the class.
6. Once all of the reports are read hold a small class discussion. Some questions to use are: Can anyone relate to the findings from other students? What surprised you about friction? How did this relate to the “Toying with Science” play? Did you learn anything new?
Friction in My Daily Life

1. In what daily instance is friction happening?
   ____________________________________________________________________________
   ____________________________________________________________________________

2. What two items are rubbing together and creating friction?
   ____________________________________________________________________________
   ____________________________________________________________________________

3. In this instance is friction helping or making it harder? How?
   ____________________________________________________________________________
   ____________________________________________________________________________

4. What could you do to change the amount of friction?
   ____________________________________________________________________________
   ____________________________________________________________________________

5. What is another similar instance in which friction might work the same way?
   ____________________________________________________________________________
   ____________________________________________________________________________

6. Draw a picture below of the friction in your daily life:
Let’s Build a Simple Machine

Grades: 3 – 5

WI Common Core Standards:
- G.4.5 Ask questions to find answers about how devices and machines were invented and produced.
- W.5.3 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Objectives:
- Students will be able to build various simple machines using classroom objects
- Students will be able to describe their simple machine and its use

Materials:
- “Let’s Build a Simple Machine” worksheet
- Writing utensil
- Students should have access to all classroom material. Providing a “materials bank” would discourage them from using critical thinking skills.
  - Material examples include: pencils, erasers, books, math manipulatives, etc.
  - Teachers should set parameters as to what students can and cannot use
- “My Simple Machine” writing paper

Sources:
http://www.garrykrinsky.com/page1.htm
http://science.bppst.com/simplemachines.html
http://www.internet4classrooms.com/science_elem_machines.htm

Lesson Procedure: (can be 2 separate lessons of science and language arts or 1 longer lesson)
1. Review instructions (safety, time limit, classroom expectations)
2. Distribute handout - “Let’s Build a Simple Machine” and provide students with time to work individually or with a partner.
3. The teacher should observe/facilitate, but offer little to no assistance.
4. Students can build more than one simple machine; this will vary for each student or group
5. Students must record their simple machine (picture, materials, type, use)
6. When class is finished, students can share/display their simple machines
7. When students finish viewing the displays they can return to their desks
8. The teacher should distribute the writing assignment (directions on worksheet)
9. When students are finished writing, the teacher should check for completion and encourage volunteers to share what they have written.

Post Lesson Discussion/ Assessment:
- Teacher will check for accurate completion on simple machine worksheet
- Discuss with students
  - Outcome of activity
  - Likes/dislikes
  - What challenges they overcame while doing this activity
Activity: After the Play

Name: __________________________

Directions: Fill in each blank. Make sure to include a picture, the objects you used, the type of machine it is, and how it can be used. Remember that a simple machine must include 2 or more objects.

<table>
<thead>
<tr>
<th>Picture</th>
<th>Objects Used</th>
<th>Type of Machine</th>
<th>What could you use it for?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td>- Pencil</td>
<td>- Lever</td>
<td>- A seesaw</td>
</tr>
<tr>
<td></td>
<td>- Triangle Manipulative</td>
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</tbody>
</table>


Imagine you are an inventor! You just created an amazing and useful simple machine. Write about your simple machine. Make sure to discuss how you built it, what you built it out of, how to use your simple machine, and any other creative description you would like to include (price, color, size).

Remember to use adjectives (descriptive words)!

________________________________________________________________________________
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Activity: After the Play

Simple Machine Scavenger Hunt

Grades: 3 – 5

WI Common Core Standards:

G.4.4 Identify* the combinations of simple machines in a device used in the home, the workplace, or elsewhere in the community, to make or repair things, or to move goods or people

Objectives:

Students will identify simple machines located around the school

Materials:

Writing Utensils
“Simple Machine Scavenger Hunt” Worksheet – One per student

Sources:

http://www.garrykrinsky.com/page1.htm
http://www.freeclubweb.com/powerpoints/science/simplemachines.html
http://science.pppst.com/simplemachines.html
http://www.internet4classrooms.com/science_elem_machines.htm

Lesson Procedure:

1. At this time, students will have knowledge of simple machines from their prior lessons
2. Teacher will discuss directions and expectations of this activity such as: Moving safely in the classroom and building. Moving respectfully around the building (indoor voices). Have respect for group members and group leader
3. Teacher may want to break students into smaller groups and may want to ask for aides or parent volunteers to assist groups.
4. Students will receive “Simple Machine Scavenger Hunt” handout and read the directions
5. Students can begin exploring the school grounds for simple machines
6. Students should be recording each simple machine they find
7. Teacher/aide/volunteer can assist students if necessary, but most investigating should be done by students

Post Lesson Discussion/Assessment:

1. After scavenger hunt, students can discuss their findings
2. Teacher can assess students by reviewing student worksheet (looking for proper identification) and through classroom discussion responses
**Simple Machine Scavenger Hunt**

**Directions:** Take a look around the school and find simple machines. In the chart below, write where you found the simple machine and what kind of simple machine it is. Make sure to move around the building respectfully.

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<tr>
<th>Object</th>
<th>Location</th>
<th>Type of Simple Machine</th>
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Reflecting on the Performance

Write a friendly letter - As a way to reflect on the show, ask your students to write the Young Auditorium staff a letter. Our staff would love to hear what your students think about the Horizons productions they experience. For your convenience there is a letter template on the next page that is ready for you to reproduce for your students. This activity will provide your students with the opportunity to practice their writing skills by writing a critical evaluation of the Horizons performance for an authentic audience.

Write a Review - Create an idea map on the board by asking students to brainstorm everything they remember from the performance. The first part of this activity should be objective; remind students that they will be able to express their opinions when the write the review. Prompt students with the following questions: Was there music involved? If so, was it instrumental or what kinds of songs did they sing? In what different ways did the actors use their voices? What costumes did the actors wear? Did the actors wear masks? How did the different characters move? What did the set on the stage look like? What else can you remember?

- Instruct students to write a review that includes the following components:
  1) A rating, out of five stars
  2) One paragraph that objectively describes what you saw and heard at the performance
  3) For each star in your rating, explain one thing you liked about the performance (e.g. a four star rating equals four things you liked about the show)
  4) For each star under five, explain one thing you didn’t like about the performance (e.g. a three star rating equals two things you didn’t like about the show)
  5) Use at least two of the new vocabulary words from this study guide or the performance in your review
  6) Use the stages of the writing process to produce your review: pre-writing, draft, review, revise, edit
  7) Publish your work by sending it to Young Auditorium! (Use the address on the letter template on the next page.) We would love to hear from you, and our education coordinator will write back!

Create a Theatre Journal - Download and reproduce the four Theatre Journal pages available on the Young Auditorium web site. www.uww.edu/youngauditorium Copy the pages back-to-back and fold them down the middle into a booklet. There are a variety of writing and drawing activities to stimulate your students’ imaginations before and after the play.
Young Auditorium
Horizons School Matinee Series
930 W. Main Street
Whitewater, WI 53190

Dear Horizons:

My name is __________________________________________

I attend __________________________ School in _______________________
(city or town).

I just saw ______________________________________________________ (name of show).

I liked the performance because
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

My favorite part was when
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

One question that I have is
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

Signed

________________________________
Theatre Vocabulary A-Z

Act: 1. To perform a role on stage; 2. One of the main divisions of a play or opera, i.e. Act I, Act II
Actor: Someone who performs a role on stage
Applause: To show approval by clapping the hands
Apron: The part of the stage that extends in front of the main curtain
Audience: Spectators that listen to or watch a performance
Backstage: The part of the stage and theater that the audience cannot see
Balcony: A platform inside of a building extending out over part of the main floor, as in a theatre
Blackout: A fast shutdown of lights to darkness
Bow: To bend the head, body or knee in acknowledgement
Box Office: Refers to the ticket office where people can buy tickets for a show
Cast: The group of actors or performers in a show
Catwalk: A walkway above the stage used to gain access to equipment
Choreographer: A person who arranges dances or other movements
Company: The cast, crew, and other staff associated with a show
Costumes: Clothes worn by the actors on stage
Crew: People that perform the technical tasks for a show
Cue: The signal for an actor or crew member to do an action
Curtain Call: At the end of a performance, the acknowledgement of applause by actors taking bows
Dialogue: The spoken text of a play, conversations between characters
Director: Person who guides the actors in the development of a show
Downstage: The part of the stage nearest to the audience
Dress Rehearsals: A full rehearsal in costume, to practice the show as it will be on show night
Dressing Rooms: Room in which actors change into their costumes and apply makeup
Equity: Short for American Actors’ Equity Association, the trade union of actors, directors, designers and stage managers (www.actorsequity.org)
Follow Spot: A hand operated lighting instrument that emits a high intensity beam of light used to follow an actor on stage
Front of House: Areas of the theatre in front of the proscenium arch, includes lobby areas open to the general public
Gel: Thin, transparent sheet of colored plastic used to color stage lights
Ghost Light: A light on a pole that is left on stage when nobody is there so the last person out and the first person in won’t fall off the end of the stage in the dark
Green Room: Room close to the stage for the actors to meet and relax
House: 1. The audience inside the theatre; 2. The seating area inside the theatre
Intermission: A brief break between acts of a performance, usually ten to twenty minutes long
Load In/Load Out: Process of moving a production in or out of the theatre
Matinee: A performance held in the daytime, especially in the afternoon
Musical: A play whose action and dialogue is interspersed with singing and dancing

Orchestra Pit: Sunken area immediately in front of the stage, intended to accommodate an orchestra

Props: Something other than scenery or costumes that is used in a performance, short for “properties”

Proscenium: The frame separating the stage from the audience

Rehearsal: A practice session in preparation for a public performance

Script: The text or a musical or play

Set: The complete stage setting for a scene or act

Sound Check: A thorough test of the sound system before a performance

Stage: the part of the theatre on which performances take place

Stage Manager: A person who is in charge of the stage and the related details of a performance

Stage Right/ Stage Left: The left and right of the stage from the point of view of the actor on stage looking at the audience

Theatre: A building or area for dramatic performances

Understudy: Someone who studies another actor’s part in order to be his or her substitute in an emergency

Upstage: The part of the stage furthest from the audience

Usher: A person who guides audience members to their seats

Wardrobe: The general name for the costume department

Wings: The out of view area to the left and right sides of the stage

A Lesson in Theatre Etiquette

A fun way to review theatre etiquette with your students is to have them compare appropriate dress and behavior for the theatre with other activities such as attending a concert, going to a movie, swimming at the beach, going to a sports game, or going to the mall with family or friends. Divide the class into groups and assign each group a different activity. Have the groups list the appropriate dress and behavior for their activity and why. The groups can then briefly role play their activity and present their ideas to the rest of the class. After all groups have presented, discuss how we behave differently for a live theater performance than we do for other activities (such as watching TV or a movie).

Print copies and review the “Courtesy Counts” sheet in this guide with your students.
Courtesy Counts

Please share this information with your students . . . most children are unfamiliar with proper theatre behavior. Make sure you share these courtesies as a part of their experience, and be sure to select shows appropriate for their age & attention span. Ask students to use the restroom before the performance begins.

Produce positive energy . . . Watching a live theatre performance is very different from watching a movie or television show. A live presentation has not been prerecorded with the mistakes edited out. The audience’s behavior and reactions can either add or detract from a performance. Each audience member affects those around him/her as well as the performers. Concentrate on helping the performers by producing only positive energy!

Find your seat . . . An usher will show you where to sit. Walk slowly and talk quietly as you are seated.

Keep it clean . . . Gum, food, and beverages are not allowed in the theatre!

Quiet on the set . . . Young Auditorium is known for its excellent acoustics, so if you make a noise others will hear you (including the performers)! Please no talking, humming, unwrapping cough drops and candy, or foot tapping during the performance. Exceptions to this rule include shows that ask for audience participation. Applause and laughter are appreciated and appropriate.

Unplug . . . Turn off pagers, cell phones, cameras, and watch alarms during performances. Better yet, leave them at home or school!

Only use your memory as a recording device . . . Flash photography and video recording are not allowed during performances because the bursts of light are dangerous to the performers on stage and distracting to other patrons. Please keep recording equipment at home or school, or conceal it in a jacket pocket or purse.

Respect personal space . . . Please keep feet on the floor, not on the seat or balcony rail in front of you. Shifting in your seat, wearing hats, or wandering in the aisles is extremely distracting to those around you; please stay in your seat until intermission or the final curtain.
FOR YOUR INFORMATION
(teachers & chaperones)

PLACE: All Horizons School Matinee Series performances will be held in Young Auditorium, on the UW-W campus. Musical Encounters concerts are held in the Light Recital Hall in the Greenhill Center of the Arts. You will be escorted from the auditorium to the recital hall if you are attending a concert.

TIME: The doors of the auditorium will be opened 30 minutes prior to curtain time. Please arrange your schedule so the buses will arrive with time for seating and a bathroom stop. Late arrivals will not be seated until there is an appropriate pause in the production.

BUSES: The east side of Lot 1 is reserved for buses that are staying for the duration of the Horizon’s performance. Buses that are not staying will pull into Lot 2 and line up along the curb to drop off and pick up students. Please make sure that your bus driver receives the Bus Driver’s Memo available on our website.

WHEELCHAIR: All entrances are wheelchair accessible. If you have upper level seats, use the elevator. Main floor seats are on the same level as the lobby. Please inform us at least 4 weeks in advance if you need wheelchair seating or any other special accommodations.

RESTROOM: Main floor men’s and women’s restrooms are located on each side of the auditorium. On the upper level, the women’s restroom is on the south side and the men’s restroom is on the north side of the building. Please try to limit your restroom visits to before or after the show.

SEATING: An auditorium escort has been assigned to your school. The escort will direct you to your seats. All seats are reserved; thus each group must adhere to the seating assignment and may use only the number of seats reserved. Please plan to have chaperones seated with the students under their supervision. Chaperones - please do not bring infants/babies to the school matinee performance. After all the students and respective chaperones have been seated, please settle in and remain seated during the entire show. No one should leave the hall until after the final curtain, except in the case of emergency. Leaving during the performance is exceedingly distracting for both the performers and members of the audience. If students must leave during the performance for any reason, re-entry into the auditorium will be allowed only when there is an appropriate pause in the program.

CAMERAS/RECORDERS AND CELL PHONES: The use of cameras or recorders during any performance is strictly forbidden. Please do not bring them to the program. Cell phones must be turned off for the duration of the program. We encourage you to ask your students not to bring cell phones with them to the theatre.

FOOD, drinks, and chewing gum are not permitted in the auditorium.

EMERGENCY: Please contact the nearest usher in case of emergency.

LOST ARTICLES: Report lost articles to the house manager, or call 262-472-4444.
EXITING: Please disperse in an orderly manner. Teachers and chaperones have the responsibility of keeping their
group together. Ushers are not assigned to oversee your exit from the building.

BUS PICK-UP: Your bus pick-up will be the same place as the drop-off.

LUNCH: Local fast food establishments and restaurants, as well as UW-W campus dining (262-472-1161) are happy
to accommodate your group for lunch. Please make advanced arrangements to promote efficient service.

LUNCH SPACE: Schools may request a place to eat their bag lunches. Young Auditorium can accommodate a very
limited number of people eating lunch picnic-style seated on the floor. This must be scheduled in advance. You will receive an admission slip in the mail confirming lunch space, which you must bring along with your lunches.
We thank you, in advance, for cooperating in implementing these procedures, giving all audience members the opportunity to sit back, relax, and enjoy the show.

Thank you for coming – we appreciate having you as a part of the Horizons program!

SPECIAL NOTE: Please print the Bus Driver Memo/Map from our website www.uww.edu/youngauditorium and give it to your driver on the day of the show!

Policies
Please note the following policies are in place to ensure enjoyment for all!

The house opens at least one-half hour before the curtain.

A seat must be purchased for everyone attending an event, including teachers, chaperones, and bus drivers.

Timing is everything . . . so don’t be late! Performances begin at 10:00 a.m. and 12:30 p.m. so plan to arrive at the theater 30 minutes early.

Patrons arriving late are seated only when there is a suitable pause in the performance.
The Horizons School Matinee Series is funded cooperatively by the University of Wisconsin-Whitewater, participating schools, grants from the Wisconsin Arts Board, Dorothy Remp Elmer Children’s Arts Outreach Endowment, Nasco, and Target, and a partnership with the National Endowment for the Arts, in addition to various public and private institutions. Young Auditorium is a non-profit organization under Section 115 of the Internal Revenue Code.

John F. Kennedy Center Partners in Education Program

The Young Auditorium and School District of Janesville are members of the Partners in Education program of the John F. Kennedy Center for the Performing Arts, Washington D. C. Selected because of their demonstrated commitment to the improvement of education in and through the arts, the Partnership Team participates in collaborative efforts to make the arts integral to education. For more information, please visit http://www.kennedy-center.org/education/partners.