

Program Name: Simple Machines: Bodies at Work

Artist: Harlan Brownlee

Special Requirements:

Open space; wood floor preferred

Special Points of Interest:

The third and most profound simple machine is the wheel. The first two are the lever and the wedge.

Other programs by this artist:

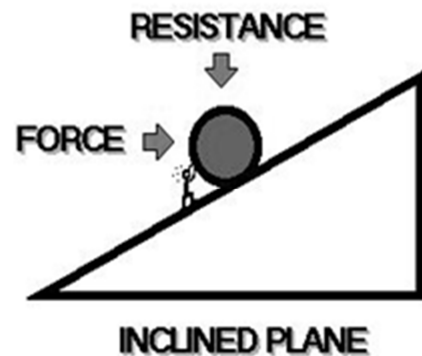
- Rain Forest
- Weather on the Move
- The Giving Tree
- Anansi the Spider

Workshop Description

This workshop is designed to help students experience and understand the forces at work in simple machines. Through creative movement, Harlan Brownlee works with students to reinforce the principles of simple machines. Ideas of wheels, gears, pulleys, levers, inclined planes, wedges, and screws are explored and structured into a movement class.

Harlan first introduces the concept of the *space bubble* which helps students gain awareness of their bodies and respect each other's personal space. He then discusses the dance concept of levels of space—low, medium, and high—and students create shapes at these levels.

Once these basic movement concepts have been introduced, Harlan discusses simple machines and shows pictures as examples. Students then create shapes of simple machines, move through space to explore simple machine movement, and create a simple machine dance. Throughout the workshop, the classroom teacher works with Harlan to lead the activities.



Curriculum Connections & Educational Objectives

Students will:

- Become familiar with the motion and function of simple machines.
- Demonstrate understanding of the dance concept of levels in space.
- Know that the position and motion of an object can be changed by pushing or pulling
- Understand dance as a way to create and communicate meaning



Artist Bio:

Harlan Brownlee understands the transformational power that the arts have to improve the quality of life for individuals and the community. Brownlee has worked for 35 years in the arts education field as a performing artist, teaching artist, and arts administrator.

Mr. Brownlee is on the Kennedy Center's National touring roster for the Changing Education Through the Arts program and has conducted professional development, workshops, and residencies extensively in the Midwest and throughout the United States. Most recently, Harlan was chosen as a presenter for Project Lead the Way's National Conferences and awarded a 2019 Young Audiences National Residency Teaching Artist Credential.

He has designed and implemented hundreds

of lesson plans instructing a weekly class at Community School #1 that integrates dance and movement with an emphasis on the subject areas of science and literacy. Harlan has instructed pre-service teachers as an adjunct professor for Rockhurst University's School of Education and the University of Missouri – Kansas City's School of Education.

Mr. Brownlee received his B.F.A. from the University of Wisconsin-Milwaukee and his M.A. from University of Missouri – Kansas City. His performance background includes work for thirteen years as one of the Artistic Co-Directors with City in Motion Dance Theater in Kansas City, Missouri.

List of Resources:

Books:

[Simple Machines \(Starting With Science\)](#)

by Adrienne Mason, Deborah Hodge,
The Ontario Science Centre
Kids Can Press; (March 1,
2000)
ISBN: 1550743996

Online Resources:

<http://www.ed.uri.edu/SMART96/ELEMSC/SMARTmachines/machine.html>

This website, the Simple Machines Home Page, has classroom activities, standards and benchmarks, useful web sites, and resources

<http://www.fi.edu/qa97/spotlight3/spotlight3.html>

Contact KCYA for more information about this and other programs

816.531.4022
KCya.org

Vocabulary

Choreographer: a person who makes up dances

Inclined plane: a surface angled so something can slide up or down it

Lever: a bar free to move about a fixed point, called a fulcrum, and used to pry or lift

Pulley: a wheel and axle with a rope or wire over it, used to lift objects

Screw: a wedge with spiral grooves, like an inclined plane, wrapped around a shaft, used to hold things together

Simple machine: a simple tool used to make work easier

Wedge: two inclined planes tapering to a thin edge, used to force things or hold things open

Wheel: a circular frame that turns on an axle

Post-Workshop Activities

1. Review students' understanding of simple machines by asking them to create the shape of each using only their arms, or just their hands and fingers.
2. Bring in, or invite students to bring in, examples of simple machines from home.
3. Have a scavenger hunt around school, looking for ways simple machines make people's work easier.