

Kansas City Young Audiences

Teacher Program Guide

Simple Machines: Bodies at Work

Artist: Jane Gotch

Inside this guide:

- Workshop Description
- Educational
- Artist Bio
- Vocabulary
- List of Resources
- Post-Workshop Activities

Contact KCYA for more information on this and other programs.

816-531-4022
www.kcya.org

Workshop Description

This workshop is designed to help students experience and understand the forces at work in simple machines. Through creative movement, Jane Gotch 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.

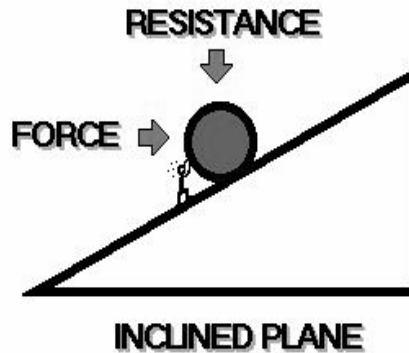
Jane first introduces the concept of the *space bubble* which helps students gain awareness of their bodies and respect each other's personal space. She

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, Jane discusses simple machines and shows pictures as examples. Stu-

dents 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 Jane to lead the activities.



Educational Objectives and Standards

Students will:

- Become familiar with the motion and function of simple machines.
- Demonstrate understanding of the dance concept of levels in space.

Science:

- Knows that the position and motion of an object can be changed by pushing or pulling

Dance

- Understands dance as a way to create and communicate meaning

Special Points of Interest:

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

Special REQUIREMENTS:

Open space; wood floor preferred

Artist Bio: Jane Gotch

Jane Gotch has been teaching movement to children since the age of 10. She has taught ballet, modern, tap, jazz, and creative movement to children of all ages locally and in Omaha, NE, Philadelphia, and the New York area.

She is also a certified trainer and pre-trainer of the **GYROTONIC®** and **GYROKINESIS®** system, which is an exercise and body rehabilitation system developed by a dancer which combines aspects of dance, tai

chi, yoga, martial arts, and swimming. She has taught this system around the world including New York, California, Israel, India, and now Kansas City.

She holds a BFA with honors in dance performance from the University of the Arts in Philadelphia. Jane's strength as a teacher is her ability, through movement, to ignite in her students, young and old, a confidence in themselves and their creativity which they can carry into all aspects of their life.



Jane Gotch

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

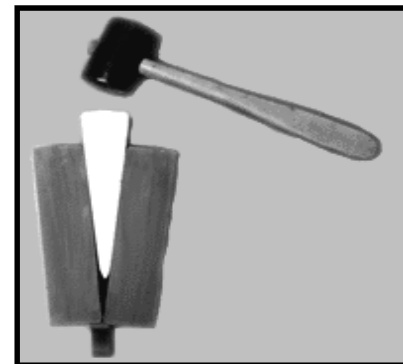
Simple machine: a simple tool used to make work easier

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.



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

WEB

[http://www.ed.uri.edu/SMART96/
ELEMSC/SMARTmachines/
machine.html](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](http://www.fi.edu/qa97/spotlight3/spotlight3.html)
Simple Machines Resources