

Reflections/Notes:

**ATLANTA BALLET**  
Centre for Dance Education

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Teaching and Learning Across the Curriculum

Curriculum guides provide differentiated ideas and activities aligned to a sampling of standards. The guides do not necessarily imply mastery of standards, but are intended to inspire and equip educators.

Form/Structure/Organization • Relationships • Sequence • Simple Machines



Discover how movement can enhance understanding of simple machines!

Explore a variety of basic techniques in dance/choreography and identify how these strategies can be integrated into the science curriculum. This activity allows students to explore simple machines through movement and create imaginative new machines through choreographic sequences and collaboration.

**Essential Question:**

**How can students use movement to better understand simple machines?**

**Process**

Warm-up: Name Game

- Have the group form a circle. Pick a person to go first and have him/her say his/her name while making a movement or gesture (related to a part of a machine) to accompany his/her name. The circle then collectively repeats the person's name and gesture.
- Continue with the next person stating his/her name and making a gesture. The circle repeats the new person's name and gesture. Then, starting with the person of origin, repeat all the names and gestures shared to that point.
- Continue until everyone in the circle is included.
- Using the name movements, the class will create a "class machine" where each part is dependent on another for its movement.
- With teacher guidance, students will create simple movements/shapes to represent each of the six simple machines (screw, wheel and axle, pulley, inclined plane, wedge).
- Next, divide students into groups. Each group must create a new machine combining at least 2 of the aforementioned simple machines. Students will generate a name and job for their machine.
- Students will create a short movement phrase—"The Dance Machine"—to represent how their machine works.
- Audience members will identify which simple machines were used to create the new machine during the groups' dance performances.

**Assessment**

- Did students create dances according to the stated criteria?
- Were students able to identify the simple machines in the dance sequences?
- Did students' newly invented machines work to complete the tasks they were intended to fulfill?

**Materials**

- sound source (CD player, iPod)
- audio recording

**Vocabulary**

**Locomotor**

Movement that travels through space

**Non-locomotor**

Movement that does not travel through space

**Spiral**

A plane curve generated by a point rotating around a fixed point; a helix

**Counter balance**

To act against with an equal weight or force

**Force**

Strength; power; energy; intensity

**Energy**

The exertion of power

**Kinetic Energy**

The energy of a body or a system with respect to the motion of the body or particles in the system

**Potential Energy**

The energy of a body or a system with respect to the position of the body or the arrangement of the particles of the system

**Classroom Tips**

Clear desks to have an open space and be tolerant of noise and excitement, but set limits. Review the rules for appropriate audience behavior.

**Georgia Performance Standards**

**SCIENCE**

**GRADE 4**

**S4P3:** Students will demonstrate the relationship between the application of a force and the resulting change in position and motion on an object.

a. Identify simple machines and explain their uses (lever, pulley, wedge, inclined plane, screw, wheel and axle).

**DANCE**

**GRADE 4**

**D4FD.1:** Technique - Identifies and demonstrates movement elements, skills, and terminology in dance

**D4FD.2:** Understands and models dance etiquette as a classroom participant, performer, and observer

**D4CR.1:** Demonstrates an understanding of creative and choreographic principles, processes, and structures

**D4CR.2:** Demonstrates an understanding of dance as a way to communicate meaning

**D4RE.1:** Demonstrates critical and creative thinking in all aspects of dance

**D4CO.4:** Demonstrates an understanding of dance as it relates to other areas of knowledge

**National Standards**

**SCIENCE**

**NS.K-4.2:** As a result of the activities in grades K-4, all students should develop an understanding of:

- Properties of objects and materials
- Position and motion of objects
- Light, heat, electricity, and magnetism

**DANCE**

**Standard 3:** Understanding dance as a way to create and communicate meaning

**Standard 4:** Applying and demonstrating critical and creative thinking skills in dance

**Standard 7:** Making connections between dance and other disciplines