artsNOW
Integrated learning solutions

INVENTION CONVENTION
Grade Band: K-1
Content Focus: Theatre, Science & ELA

LEARNING DESCRIPTION

Challenge your students in a new way as they work collaboratively to imagine inventions that could address class problem. Students will imagine the different components of the invention using sound and movement to embody it and bring it to life.

LEARNING TARGETS

Essential Questions	"I Can" Statements
What is an invention? How can I work with a team to develop and enact an invention? How can theatre techniques be used to communicate ideas?	I can collaborate effectively with others to clearly demonstrate our invention using my voice and body. I can clearly articulate, describe, and illustrate my ideas through writing and drawing.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Kindergarten: ELAGSEKSL1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges. ELAGSEKSL4 Describe familiar people, places, things, and events and, with prompting and support, provide additional detail. ELAGSEKSL5 Add drawings or other visual displays to descriptions as desired to provide additional detail. ELAGSEKSL6 Speak audibly and express thoughts, feelings, and ideas clearly. **Grade 1:** ELAGSE1SL1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion. ELAGSE1SL4 Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. ELAGSE1SL5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. ELAGSE1SL6 Produce complete sentences when appropriate to task and situation.	**Kindergarten:** TAK.CR.1 Organize, design, and refine theatrical work. TAK.CR.2 Develop scripts through theatrical techniques. TAK.PR.1 Act by communicating and sustaining roles in formal and informal environments. **Grade 1:** TA1.CR.1 Organize, design, and refine theatrical work. TA1.CR.2 Develop scripts through theatrical techniques. TA1.PR.1 Act by communicating and sustaining roles in formal and informal environments.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Kindergarten: **COMMUNICATION - Meaning and Context**	**Anchor Standard 3:** I can act in improvised scenes and written scripts.

Standard 1: Interact with others to explore ideas and concepts, communicate meaning, and develop logical interpretations through collaborative conversations; build upon the ideas of others to clearly express one's own views while respecting diverse perspectives. 1.2 Practice the skills of taking turns, listening to others, and speaking clearly. 1.4 Participate in conversations with varied partners about focused grade level topics and texts in small and large groups. 1.5 Explain personal ideas and build on the ideas of others by responding and relating to comments made. **Standard 3:** Communicate information through strategic use of multiple modalities and multimedia to enrich understanding when presenting ideas and information. 3.2 Use appropriate props, images, or illustrations to support verbal communication. **Grade 1:** **COMMUNICATION - Meaning and Context** **Standard 1**: Interact with others to explore ideas and concepts, communicate meaning, and develop logical interpretations through collaborative conversations; build upon the ideas of others to clearly express one's own views while respecting diverse perspectives. 1.2 Practice the skills of taking turns, listening to others, and speaking clearly. 1.4 Participate in shared conversations with varied partners about focused grade level topics and texts in small and large groups. 1.5 Explain personal ideas and build on the ideas of others by responding and relating to comments made in multiple exchanges. **Standard 3:** Communicate information through strategic use of multiple modalities and multimedia to enrich understanding when presenting ideas and information. 3.2 Use visual displays to support verbal communication and clarify ideas, thoughts, and feelings.	

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
• Invention - Something that has been created or devised, typically a process or device • Inventor - A person who created or devised a particular process or device or who creates or devises processes and devices as an occupation • Machine - An apparatus using or applying mechanical power and having several parts, each with a definite function, that together perform a particular task	• Voice - An actor's tool that we shape and change to portray the way a character speaks or sounds • Body - An actor's tool that we shape and change to portray the way a character looks, walks, or moves • Ensemble - A ensemble of actors working together

MATERIALS

- Whiteboard or smartboard
- Markers
- Paper
- Pencils and other writing and drawing implements

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

Machine Activity

- Lead students through a traditional theatre exercise called the "Machine".
  - Discuss how machines have different parts that often have repetitive movements and sounds.
  - Inform students that in this activity they will use their voices and bodies to become parts of a machine, and as an ensemble they will create a machine.
- Model for students creating a repetitive movement and sound (e.g., arm rotating in a circle, voice saying "Wee-OPP! Wee-OPP!") Emphasize that the movement and sound can be random, but must be sustainable, so it should not be too difficult, require too much energy, or strain the voice.
- Have a volunteer come to the front or the center to establish the first component of the machine.
- One by one, have students add on to the machine. Emphasize that they can face in different directions, assume different levels, and move and make sounds with different rhythms.
  - Remind them that new components can reflect or connect with existing components.
  - Coach students who have difficulty coming up with ideas.
  - Continue to add components until all students are part of the machine.

- Option: Give the instruction that the machine moves faster and gets louder for an exciting crescendo until it breaks down.

Work Session

- Define inventor and invention, and discuss the role of inventors in society and in history, identifying some famous inventions/inventors throughout history.
    - Ask the following questions:
        - "What do you think is the greatest thing that has ever been invented?
        - Can you name some famous inventors and what they are famous for inventing?". Students may need help with this, so having some examples that students encounter everyday, such as cars, lightbulbs, pencils, etc. will be helpful.
            - Examples: Alexander Graham Bell – telephone; George Washington Carver – agricultural processes; Margaret Knight – folding paper bag; Willis Haviland Carrier – air conditioner; Thomas Edison – light bulb; Joseph Dixon – pencil; Sarah Boone – ironing board; Garrett Morgan – traffic light; John S. Pemberton – CocaCola; Madame C.J. Walker – hair care products; Isaac Merrit Singer – sewing machine; Mary Anderson – windshield wipers; Grace Hopper – computer coding.
- Tell students, "Now we will become inventors!" Present students with a problem that they can relate to, such as, the class wants to have a rabbit as a class pet, but the rabbit must stay at school over the weekends. How will the rabbit get food and water?
    - As students share invention ideas, record them on the board.
- Assign working teams of two to three students.
- In their ensembles, students should discuss which idea they would like to develop. Work with the class to ensure that a variety of ideas will be represented.
- Have ensembles discuss the components of their invention, and how it would work.
    - "What parts do you see? What are their colors, shapes, movements and sounds? How would the parts connect with and affect each other? What would power the machine? What would be put into the machine, and/or what would come out of it? What scientific processes are involved in your invention (e.g. simple machines, forces, heat, electricity, magnets, etc.)?"
    - Have the groups draw pictures of their ideas.
    - During the ensemble work time, conference with the ensembles to coach them on the development of their ideas.
- Explain, "Now that you have imagined and developed amazing inventions, you will work as an ensemble using your actors' tools – voice and body – to bring them to life".
    - Explain that an ensemble is a group of performers that work together and that an effective ensemble takes turns, listens to everyone's ideas, is careful to be safe, and takes time to practice.
- Have ensembles decide which component of the invention each member of the ensemble will act out.
    - Remind students that they will use their bodies to create the movements of the invention, and their voices to create the sounds.
    - For sounds, they can also use body percussion (e.g., claps, stomps).
    - Depending on the nature of the invention, it is acceptable for one student to have multiple roles, or for two students to work together to create one component.

- Have the ensembles stand and work in assigned areas of the classroom to rehearse and refine the demonstrations of their invention.
    - Have students practice an introduction to their demonstration with the name of their invention. Instruct students to be prepared to explain how their invention works after they demonstrate it.
- Invention Convention: Have the ensembles present their demonstrations to the class, with their introduction and explanation. Allow time for questions and answers of each ensemble about their invention.

Closing/Reflection

- Reflect on each demonstration after it is presented, discussing the merits of the invention idea and how the ensemble used their voices and bodies to demonstrate it.
- Have each student write about their ensemble's invention and/or draw a picture of it, describing/illustrating what it does.

ASSESSMENTS

Formative

Teachers will assess students' understanding of the content throughout the lesson by observing students' participation in the activator, discussion of what an invention is and what inventors do, and collaboration with their groups to design and perform an invention to address a class need.

Summative

CHECKLIST

- Students can collaborate effectively as an ensemble to clearly demonstrate their invention ideas using their voices and bodies.
- Students can clearly articulate, describe, and illustrate their ideas in their writings and drawings.

DIFFERENTIATION

Acceleration: Challenge students to identify their own problem and develop an idea for an invention that will address the problem.

Remediation:

- Engage in the process as a whole class, rather than in small ensembles, focusing on a single invention idea.
- For the opening "Machine" activity, involve smaller numbers of students in several iterations, rather than the entire class at once.
- Allow multiple students to work together to become a particular component of the invention so that they can do the movements and sounds together.

ADDITIONAL RESOURCES

- Picture books about individual inventors, such as *The Boy Who Invented TV* (Philo Farnsworth), by Kathleen Krull; *Counting on Catherine* (Catherine Johnson), by Helaine Becker; and *June Almeida, Virus Detective*, by Suzanne Slade.
- Books about the invention process, such as *The Most Magnificent Thing*, by Ashley Spires; *Rosie Revere, Engineer*, by Andrea Beaty; and *What Do You Do With an Idea?*, by Kobi Yamada.
- PBS Learning Media, "What Are Inventions?"

**This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

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SYNCHRONICITY THEATRE SMART. GUTSY. BOLD.