artsNOW
Integrated learning solutions

UNIT: POLLUTION MATTERS
EXPLORING POLLUTION THROUGH DANCE (Lesson 1 of 3)
Grade Band: 3, 5
Content Focus: Visual Arts & Science

LEARNING DESCRIPTION

In this lesson, students will learn about air, water and land pollution around the world by responding to images and conducting research. Students will then express their understanding of pollution through movement using locomotor and non-locomotor movements and levels.

LEARNING TARGETS

Essential Questions	"I Can" Statements
How does pollution affect people from different cultures in different ways? What are the effects of pollution on people and the environment?	I can identify types of pollution around the world. I can analyze the effects that pollution has on human life. I can express my feelings about pollution using movement.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Grade 3: S3L2. Obtain, evaluate, and communicate information about the effects of pollution (air, land, and water) and humans on the environment. a. Ask questions to collect information and create records of sources and effects of pollution on the plants and animals. b. Explore, research, and communicate solutions, such as conservation of resources and recycling of materials, to protect plants and animals.	**Grade 3:** ESD3.CR.1 Demonstrate an understanding of the choreographic process. ESD3.CR.2 Demonstrate an understanding of dance as a form of communication.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Grade 5: 5-ESS3-1. Evaluate potential solutions to problems that individual communities face in protecting the Earth's resources and environment.	**Anchor Standard 1:** I can use movement exploration to discover and create artistic ideas and works. **Anchor Standard 2:** I can choreograph a dance.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
• Pollution - The introduction of harmful or toxic substances, known as pollutants, into the environment • Reduce, reuse, recycle - A sustainability concept aimed at minimizing waste and conserving resources • Garbage - Waste materials that are no longer useful or wanted and are typically discarded • Litter - Waste, trash, or discarded material that is improperly disposed of in public spaces instead of in designated trash or recycling bins • Smog - A type of air pollution that	• Mood - Emotion or feeling • Locomotor movement - A movement that travels through space • Non-locomotor movement - A movement that does not travel through space • Levels - One of the aspects of movement (there are three basic levels in dance: high, middle, and low)

results from the interaction of sunlight with pollutants like ground-level ozone and particulate matter • Smoke - A collection of gasses, particles, and other chemicals released when a substance undergoes combustion (burning) • Water vapor - The gaseous form of water • Acid rain - Precipitation (rain, snow, sleet, or fog) that has a lower pH than normal due to the presence of harmful chemicals, primarily sulfur dioxide (SO_2) and nitrogen oxides (NO_x) in the atmosphere • Oil spills - The release of liquid petroleum (crude oil or refined oil) into the environment, typically into bodies of water like oceans, rivers, or lakes • Runoff - The flow of water, usually from rainfall or melting snow, that travels over the ground and eventually enters rivers, lakes, streams, or oceans • Pesticides - Chemicals or substances used to prevent, control, or eliminate pests, such as insects, weeds, fungi, rodents, and other organisms that can harm crops, livestock, or human health • Fertilizers - Substances or materials added to soil or plants to provide essential nutrients that promote healthy plant growth • Emissions (ex: car, airplane) - The release of substances (often gasses, liquids, or particles) into the environment	

MATERIALS

- Digital images of pollution around the world to project
- Chart paper
- Markers
- Pollution articles:
  - National Geographic - Water bottle pollution
  - Clean-air-kids
  - Teaching Kids News
  - Science for Kids
  - National Institute of Environmental Health Sciences for Kids
  - Ducksters - Air pollution
  - Ducksters - Water pollution
- Computer/tablet for Padlet (if chosen)
- Sticky notes
- Eco versus ego website: https://recyclingsutainabiliy4a.weebly.com/ego-vs-eco.html
- Step Inside Artful Thinking Routine
- If doing extension, old t-shirts

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

- Lead students in a mirroring movement warm-up to introduce the following vocabulary:
  - Locomotor
  - Non-locomotor
  - Levels (high, middle, low)
  - Pathways
- Begin by telling students that they will mirror your movements so they must be watching closely. Have students establish a space where they can move without interfering with other students.
  - Start by doing simple non-locomotor movements (i.e., bending, twisting, shaking, etc.)
  - Now incorporate high, middle, and low levels by making non-locomotor movements at different levels.
  - Begin to incorporate locomotor movements, such as stepping together from side to side, gliding as if skating, walking, etc.
  - Incorporate levels high, middle, and low by making locomotor movements at different levels.
- Debrief with students explaining the dance vocabulary.
- Now, tell students that you will call out vocabulary and they will make a movement that expresses the vocabulary.
  - Example: Create a locomotor movement at a low level.
- After practicing using the vocabulary, have students return to their seats.
- Show students images of pollution around the world and discuss the images as a class.
  - Engage students in the Step Inside Artful Thinking Routine.
    - Choose a person, object or element in an image or work of art, and step inside that point of view. Consider:
      - What can the person/thing **perceive** and **feel**? What might the person/thing **know about** or **believe**?
      - What might the person/thing **care about**?

        - How would you feel if you were in the same situation or you were in that environment?
    - Take on the character of the thing you've chosen and improvise a monologue. Speaking in the first person, talk about who/what you are and what you are experiencing.
    - What do you think caused the pollution in the environment?
- After several of the images, discuss the feelings that students have. Ask students to show that feeling using a movement.
- Then ask students to explain their rationale for choosing each movement.

Work Session

Part 1

- Introduce to students the concept of "Ego vs. Eco" (human advancement at the expense of nature versus caring for the ecosystem). Use this website resource to explore/research this concept: https://recyclingsutainabiliy4a.weebly.com/ego-vs-eco.html.
- Students will create journal entries on Padlet/sticky notes (teacher's choice) to explain possible causes of and solutions for pollution viewed in the images from the slideshow.

Part 2

- Students will share journal entries from Part 1 with a partner. Students will share their partner's entry with the class.
- The teacher will provide students with articles about pollution. Teachers may use the following articles or choose their own articles.
    - National Geographic - Water bottle pollution
    - Clean-air-kids
    - Teaching Kids News
    - Science for Kids
    - National Institute of Environmental Health Sciences for Kids
    - Ducksters - Air pollution
    - Ducksters - Water pollution
- Students will locate key vocabulary or unknown words from the text (text rendering).
- Students will combine their words to create a class vocabulary list and define the words together on an anchor chart using chart paper and markers.
- Students will reread the article independently, or with a partner, to increase their understanding of the academic language in context.
- The class will review the images from the activator again and describe the images using their newly acquired vocabulary.

Part 3:

- Place students in small groups of three or four students.
- Students will review the research and make a list of six adjectives used to describe pollution.
- Direct students to work together to choreograph a movement for each adjective.
- Students should then connect them together to form a dance.
- Students' dances must:
    - Have at least six movements
    - Use both locomotor and non-locomotor movements
    - Use all three levels–high, middle, and low
- If time permits, direct students to select music that they connect to. Otherwise, provide

students with two options of music to use for their dance (instrumental recommended).
- Students should rehearse their dances.

Closing/Reflection

- Have students name the different types of pollution they saw and describe the effects it has on our world.
    - Have students discuss where they saw locomotor/non-locomotor movements and levels.
- Ask students:
    - How does it make you feel seeing pollution around the world?
    - Where have you seen pollution in your own environment?
    - What could you do to help the environment?
    - How can we further reduce the amount of waste that we have?
    - What is something new you learned about pollution while participating in this project?

ASSESSMENTS

Formative

- Teachers will observe students':
    - Responses during the activating strategy: Step Inside
    - Journal entries
    - Research and identification of relevant vocabulary terms from research
    - Students' collaboration on choreography

Summative

- Students' choreography:
    - Has at least six movements
    - Uses both locomotor and non-locomotor movements
    - Uses all three levels–high, middle, and low
    - Includes a movement for six different relevant adjectives to describe pollution
- Students can name the different types of pollution they saw and describe the effects it has on our world.

DIFFERENTIATION

Accelerated:

- Students will create an environmental awareness brochure using six facts from the articles they have read and their science resources (books, articles, etc.). They must accurately use the science vocabulary. A word bank can be provided from the class discussion.
- Have students create a reusable shopping bag by recycling an old t-shirt–instructions provided in the link: http://www.scatteredthoughtsofacraftymom.com/2015/09/how-to-make-tote-bag-from-t-shirt-no-sewing.html/2

Remedial:

- Provide sentence starters for students' journal entry writing.

- Allow for peer tutor and pairings.
- Include visuals to support the content vocabulary.
- Allow students to copy their articles into Microsoft Word Online and use the “Immersive Reader” feature to hear their articles read aloud. (Office365 Student Account>Word Document Online>View>Immersive Reader)

ADDITIONAL RESOURCES

CREDITS

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**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.*