



LESSON 5

Harvest/Foss

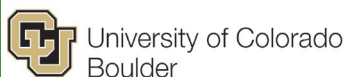
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The creation of this curriculum has been funded in part through Inside the Greenhouse project at CU Boulder

This lesson strives to address NGSS, Colorado 2020 and JeffCo Generations standards and goals, cited at the bottom of the lesson, by communicating science through embodied expression

Shine, The Musical
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Description

After considering fossil fuel vs. non-fossil fuel energy, students will rehearse and perform the Harvest/Foss song from *Shine* as a class.

Concepts

1. In the course of their evolution, humans began to explore using varied forms of energy to meet their needs and fulfil their desires
2. Both leaders and followers are needed for groups to use embodied communication together

Outcomes

Upon Completion of this lesson, students will be able to:

1. Identify and discuss the impact of different forms of energy
2. Use embodied communication as a group including both leaders and followers



Outline

- I. Set Up (20 min.)
- II. Introduction (15 min.)
 - a. Behavior Guidelines
 - b. Learner Level Assessment
- III. Embodied Warm Up Activities (20 min.)
- IV. Rehearse and Perform (20 min.)
- V. Follow-up Activities
 - a. Dig in to the history of agriculture
 - b. What seeds does your community sow?
- VI. Additional Resources
 - a. Sources
 - b. Vocabulary
- VII. Standards Addressed

I. Set Up (20 min.)

For this lesson, we'll be setting up and performing the second song of *Shine*, "Harvest". The choreography for "Harvest" on the *Shine* website is rather advanced: http://www.insidethegreenhouse.org/shine/shine_choreography.htm. On this video at the 6:47 mark, a much simpler choreography is demonstrated. Both provide examples of the choreography you could be teaching for this song, though you and the students are encouraged to design your own movements: <https://www.youtube.com/watch?v=gsnbX8gLfq0>.

Read through pages 4 through 11 of the script, which will be performed as part of this lesson. You'll need a screen, projector, and an internet connection for this lesson.

II. Introduction (15 min.)

Behavior Guidelines: This lesson involves embodied learning. Please review the "Guidelines for Embodied Lessons in the Classroom" included in this curriculum.

Learner Level Assessment: "Scattergories"

Divide students into groups of two to five. Explain the game: They will be given a category and their goal is to create a list of five items that they don't think any other group will think of in that category. They will only be given points for unique answers. Each round, they will only have two minutes to brainstorm. At the end of the round, have one representative come up and write the group's answers on the board.

Example: (This will also be the category you use for the first round, so don't show this example to students)





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Energy sources used to create electricity

Group 1:	Group 2:	Group 3:
Coal	Oil	Gasoline
Water	Gasoline	Water
Nuclear power	Coal	Geothermal
Methane	Bicycle powered generator	Wood (generator)
Solar	Wind	Solar
Points: 2	Points: 3	Points: 2

In this round, group two wins because they have the most unique answers. You can keep track of scores through the rounds or start over each round. Some answers may spark some debate. If there is a debatable answer, the teacher should ask the group that provided the answer to specify what they meant and based on their answer decide if they get the point.

In the next round, ask students to brainstorm transportation options that involve releasing carbon dioxide found in fossil fuels. In the third round, ask students to brainstorm transportation options that don't involve fossil fuels.

Assessment (Outcome 1): *After three rounds are complete, ask students, either in small groups or as a class, to discuss the pros and cons of using fossil fuels for electricity and transportation. Examples might include: "Fossil fuels help us get things done faster/there are limited amounts of fossil fuel because they take so long to form." And "Fossil fuels make travel across the country easy and affordable/Fossil fuels release stored carbon into the atmosphere." Discuss the difference between carbon that is in a natural earth cycle and carbon that has been released due to human intervention.*

III. Embodied Warm-Up Activities (20 min.)

Note that the warm up activities listed here are the same as lesson four. The purpose for repetition is to help students deepen their experience and get to know these activities better. Ask students to find different partners for 1 by 2 by Bradford and have different students lead Rhythm Repeater.

"1 by 2 by Bradford"

Objective: Fostering concentration and working together

Relevance of Activity to lesson: Helps students begin to think about replacing verbal communication with movement & sounds.

Activity: Have everyone partner up. Start by telling each pair to count to three, but by alternating numbers (person A says 1, person B says 2, A says 3, B says 1, A says 2 and so on). After a minute of that, tell the



groups to continue doing this, but replace 3 with a sound (the sound each group creates should remain consistent throughout the activity). Let all the groups practice that for a minute, and then tell them they now need to replace 1 with a movement (the movement each group creates should remain consistent throughout the activity). After a minute or so of practicing that, tell each group that they now have to replace 2 with a movement and sound (that too should remain consistent throughout the activity). Let the pairs continue for another minute, and encourage them to experiment with changing the tempo, volume, and energy levels. Can ask if any groups would like to demonstrate what they came up with for the entire group one at a time.

“Rhythm Repeater”

Objective: Help students to consider leading and following in an activity

Relevance of activity to lesson: This activity will help prepare students to create movements and work together in the next part of the lesson



Activity: Gather students in a large circle and send one student out of the room. This student will come back in once they hear the rhythm has begun and they will try to guess who is leading. Ask a student in the circle to start a rhythm that everyone can follow. They can create this rhythm by clapping, stomping, snapping, etc., but shouldn't use language. Let the rhythm leader know that they should change rhythms every 20 to 30 seconds. When they do, everyone should follow as quickly as possible. When the guessing student comes back in the room, they will have three chances to guess who is leading the rhythm. If they don't guess right, the leader reveals themselves. Pick a new student to go outside and a new rhythm leader and repeat for two to three rounds.

Assessment (Outcome 2): *Students work together as a group including leaders and followers while using embodied communication.*

IV. Rehearse and Perform (20 min.)

Optional (depending on time between lessons and if a recap of the plot of Shine is needed):

Begin by reading through pages 4 to 8.5 of *Shine* to establish the movement of the plot from “Long Time Comin’” to “Harvest.” This can be done through choosing character roles to read, rotating through student volunteers, or by the teacher.

As a class, watch the “Inside the Studio” feature with composer Tom Wasinger from minute 7 to minute 11:30: <https://vimeo.com/217016473>. This should help give students a feel for how the song was composed and which instruments were used. If you'd like you can also watch the “Harvest” choreography as a class:



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<https://vimeo.com/217015452>. However, note that the choreography in the video is quite advanced and it may work better for you to come up with your own movements as a class.

For this song, the focus will be on performance and choreography rather than signing (Unless you have extra class time and would like to teach the full song to students! Full lyrics are available in the scrip). Select the "Harvest" song with vocals here: http://www.insidethegreenhouse.org/shine/shine_music.html. Divide students into two groups. Perform the song with students divided into two groups, the Harvesters and the Followers of Foss. If time allows, perform the song twice so that each group can perform both roles.

Assessment (Outcomes 1): *Ask students to do a 60 second writing prompt on what created the conflict between the Followers of Foss and the Harvesters to wrap up this lesson. Responses can be shared depending on time.*

V. Follow-Up Activities

a. Dig into the history of agriculture:

Using the New World Encyclopedia (http://www.newworldencyclopedia.org/entry/Special:Cite?page=History_of_agriculture) or another appropriate source as a reference, create a class timeline that details the history of agriculture from ancient to modern. This timeline may have overlapping sections to accommodate multiple societies/practices happening together.

Assessment (Outcomes 1): *In their class timeline, students highlight the crops, animals, and tools that were the focus of each group/age. Students should also consider which sources of energy were/are used in the production of crops throughout history.*

b. What seeds does your community sow?

Make a list of all the crops that are grown in your area as a class. Assign students one crop to research either in pairs or individually. Students should highlight where the plant is originally from, how it came to the United States, and how it is currently used.

Assessment (Outcome 2): *Students design one prop to represent their crop and present it to the class.*

VI. Additional Resources

a. Sources

Script of *Shine*: http://www.insidethegreenhouse.org/shine/assets/shine_script.pdf

Music of *Shine*: http://www.insidethegreenhouse.org/shine/shine_music.html

Choreography of *Shine*: http://www.insidethegreenhouse.org/shine/shine_choreography.html

History of agriculture, 2019. New World Encyclopedia, 10 Jan 2018, 15:28 UTC. 20 Jan, 17:29, http://www.newworldencyclopedia.org/p/index.php?title=History_of_agriculture&oldid=1008693.





b. Vocabulary

Fossil fuel energy: Energy created by burning fossil fuels such as coal, methane and gasoline.

Non-fossil fuel energy: Energy created by using non-fossil fuel sources such as wind, sun, and water.

Harvest: The process or time of gathering crops

Agriculture: The practice of raising animals and growing plants for human use

VII. Standards Addressed

a. Next Generation Science Standards Addressed

4-PS3-2 Energy

Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

4-LS1-1 From Molecules to Organisms: Structures and Processes

Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-ESS1-1 Earth's Place in the Universe

Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

4-ESS3-1 Earth and Human Activity

Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

5-PS3-1 Energy

Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

5-LS2-1 Ecosystems: Interactions, Energy, and Dynamics

Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

b. JeffCo Generations Skills

Self-Direction & Personal Responsibility: Students take initiative, are inquisitive, entrepreneurial, and curious. They persevere through challenging situations, take calculated risks, and stand accountable for their actions. They continually advocate for their own needs as well as the needs of others.





Communication: Students learn to effectively communicate in written, digital, artistic, and oral forms. Students learn to explore and articulate their own points of view, while respectfully exploring and understanding the perspectives of others.

Collaboration & Leading by Influence: Students learn to work together, harnessing the power of teamwork, and learn the importance of influence to motivate others to get things accomplished.

Agility & Adaptability: Students learn to change in response to dynamic situations, environments, and complex problems. Students adjust to disruptions, ambiguity, and uncertainty in themselves, their organizations, and their communities – and thrive in spite of the obstacles.

Colorado Academic 2020 Standards Drama and Theatre Arts

Create

- Create characters from scripts or improvisation using voice, gestures and facial expressions
- Design a scene through an inventive process, and perform the scene

Perform

- Participate collaboratively with partners and groups
- Demonstrate safe use of voice and body to communicate characters

Critically Respond

- Develop selected criteria to critique what is seen, heard, and understood
- Examine character dynamics and relations

