



# landfillharmonic

*A symphony of the human spirit*

VIMEO & MEETAI FILMS IN ASSOCIATION WITH BELLA VOCE FILMS EUREKA PRODUCTIONS & HIDDEN VILLAGE FILMS PRESENT "LANDFILL HARMONIC" FEATURING "THE RECYCLED ORCHESTRA OF CATEURA"  
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# *Landfill Harmonic*

## Curriculum Guide



**JOURNEYS IN FILM**  
educating for global understanding

[www.journeysinfilm.org](http://www.journeysinfilm.org)



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JOURNEYS IN FILM: LANDFILL HARMONIC

# Educating for Global Understanding

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# Table of Contents

<b>INTRODUCTION</b>		<i>Click the Chapter heading to be taken to that page</i>
About <i>Journeys in Film</i>		6
A Letter From Liam Neeson		8
A Statement from the <i>Landfill Harmonic</i> Family		9
To the Teacher		11
<b>LESSONS</b>		
<b>LESSON 1:</b>	<b>THE RECYCLED ORCHESTRA</b> (Music, Language Arts, Social Studies)	13
<b>LESSON 2:</b>	<b>THE ENVIRONMENTAL CRISIS</b> (Environmental Science)	31
<b>LESSON 3:</b>	<b>PLANTING A SMALL SEED, WATCHING IT GROW</b> (Community Service)	51
<b>LESSON 4:</b>	<b>LANDFILL HARMONIC (ELEMENTARY LEVEL)</b> (Music, Language Arts, Science)	65

## About *Journeys in Film*

Founded in 2003, *Journeys in Film* operates on the belief that teaching with film has the power to prepare students to live and work more successfully in the 21st century as informed and globally competent citizens. Its core mission is to advance global understanding among youth through the combination of age-appropriate films from around the world, interdisciplinary classroom materials coordinated with the films, and teachers' professional-development offerings. This comprehensive curriculum model promotes widespread use of film as a window to the world to help students to mitigate existing attitudes of cultural bias, cultivate empathy, develop a richer understanding of global issues, and prepare for effective participation in an increasingly interdependent world. Our standards-based lesson plans support various learning styles, promote literacy, transport students around the globe, and foster learning that meets core academic objectives.

Selected films act as springboards for lesson plans in subjects ranging from math, science, language arts, and social studies to other topics that have become critical for students, including environmental sustainability, poverty and hunger, global health, diversity, and immigration. Prominent educators on our team consult with filmmakers and cultural specialists in the development of curriculum guides, each one dedicated to an in-depth exploration of the culture and issues depicted in a specific film. The guides merge effectively into teachers' existing lesson plans and mandated curricular requirements, providing teachers with an innovative way to fulfill their school districts' standards-based goals.

### Why use this program?

To be prepared to participate in tomorrow's global arena, students need to gain an understanding of the world beyond their own borders. *Journeys in Film* offers innovative and engaging tools to explore other cultures and social issues, beyond the often negative images seen in print, television, and film media.

For today's media-centric youth, film is an appropriate and effective teaching tool. *Journeys in Film* has carefully selected quality films that tell the stories of young people living in locations that may otherwise never be experienced by your students. Students travel through these characters and their stories: They drink tea with an Iranian family in *Children of Heaven*, play soccer in a Tibetan monastery in *The Cup*, find themselves in the conflict between urban grandson and rural grandmother in South Korea in *The Way Home*, watch the ways modernity challenges Maori traditions in New Zealand in *Whale Rider*, tour an African school with a Nobel Prize-winning teenager in *He Named Me Malala*, or experience the transformative power of music in *The Music of Strangers: Yo-Yo Ma & the Silk Road Ensemble*.

In addition to our ongoing development of teaching guides for culturally sensitive international films, *Journeys in Film* brings outstanding documentary films to the classroom. Working with the Rossier School of Education at the University of Southern California, *Journeys in Film* has identified exceptional narrative and documentary films that teach about a broad range of social issues in real-life settings such as famine-stricken and war-torn Somalia, a maximum-security prison in Alabama, and a World War II concentration camp near Prague. *Journeys in Film* guides help teachers integrate these films into their classrooms, examining complex issues, encouraging students to be active rather than passive viewers, and maximizing the power of film to enhance critical thinking skills and to meet the Common Core Standards.

*Journeys in Film* is a 501(c)(3) nonprofit organization.

# A Letter From Liam Neeson



Working in films such as *Michael Collins* and *Schindler's List*, I've seen the power of film not only to entertain, but also to change the way audiences see themselves and the world. When I first met Joanne Ashe, herself the daughter of Holocaust survivors,

she explained to me her vision for a new educational program called *Journeys in Film: Educating for Global Understanding*. I grasped immediately how such a program could transform the use of film in the classroom from a passive viewing activity to an active, integral part of learning.

I have served as the national spokesperson for *Journeys in Film* since its inception because I absolutely believe in the effectiveness of film as an educational tool that can teach our young people to value and respect cultural diversity and to see themselves as individuals who can make a difference. *Journeys in Film* uses interdisciplinary, standards-aligned lesson plans that can support and enrich classroom programs in English, social studies, math, science, and the arts. Using films as a teaching tool is invaluable, and *Journeys in Film* has succeeded in creating outstanding film-based curricula integrated into core academic subjects.

By using carefully selected documentary and international films that depict life in other countries and cultures around the globe, combined with interdisciplinary curricula to transform entertainment media into educational media, we can use the classroom to bring the world to every student. Our film program dispels myths and misconceptions, enabling students to overcome biases; it connects the future leaders of the world with each other. As we provide teachers with lessons aligned to Common Core Standards, we are also laying a foundation for understanding, acceptance, trust, and peace.

Please share my vision of a more harmonious world where cross-cultural understanding and the ability to converse about complex issues are keys to a healthy present and a peaceful future. Whether you are a student, an educator, a filmmaker, or a financial supporter, I encourage you to participate in the *Journeys in Film* program.

Please join this vital journey for our kids' future. They are counting on us. *Journeys in Film* gets them ready for the world.

Sincerely,

A handwritten signature in black ink that reads "Liam Neeson".



## A Statement from the *Landfill Harmonic* Family

We are beyond thrilled to announce that the inspiring story of the Recycled Orchestra of Cateura, as shown in our film *Landfill Harmonic*, is going to be brought directly into classrooms to teach children across the world.

*Landfill Harmonic* is a documentary film that follows the Recycled Orchestra of Cateura. This unlikely Orchestra from Paraguay plays music with instruments made entirely out of garbage from the landfill that overwhelms their town. In a place where living in poverty is a way of life, educational opportunities are extremely limited and the tools to improve the quality of life are extremely inadequate. The film shows the triumph of the members of the Orchestra who overcome all odds and realize that they can dream of a better future.

Not only has our film received an outstanding response from audiences across the world, it has been the recipient of numerous awards. It is now time to bring the success of the film to more children across the world. We've had a longstanding goal to change lives through this film by sharing the inspiring and remarkable story of the Orchestra and its members. There is no better way to do this than to bring the film and the story directly into the classroom.

Journeys in Film has allowed us to realize our goal by developing a one-of-a-kind curriculum that will be a powerful educational tool for generations to come. This curriculum will foster creativity and empathy in students, motivate them to be aware of their own impact on the environment and to be aware of how different countries and regions deal with environmental issues, teach them to be resourceful, and lead them towards positive collective action that will improve the livelihood of communities worldwide.

The Recycled Orchestra of Cateura is an authentic example of how education, innovation, resourcefulness and determination can transform reality and provide tangible opportunities to transcend even the most challenging circumstances in life.

As Orchestra Director Favio Chávez says: "To have nothing is not an excuse to do nothing." May we all take this lesson to heart and use this educational resource to make the world a better place for future generations.

*The Landfill Harmonic Family*



From left: Eddie Kim (Supervising Sound & Re-recording mixer), Brad Allgood (Director & Editor), Juliana Penaranda-Loftus (Producer & Co-Director), Michael A. Levine (Composer), Rodolfo Madero (Executive Producer), Peter Broderick (Distribution Consultant), Alejandra Amarilla (Executive Producer and Story Concept), Belle Murphy (Executive Producer) and Jennifer Tocquigny (Associate Producer).

## Film credits

MEETAI FILMS  
IN ASSOCIATION WITH  
BELLA VOCE FILMS  
EUREKA PRODUCTIONS  
& HIDDEN VILLAGE FILMS  
PRESENT  
“LANDFILL HARMONIC”

FEATURING “THE RECYCLED INSTRUMENT ORCHESTRA OF CATEURA”  
DIRECTION OF PHOTOGRAPHY BY: NEIL BARRETT, TIMOTHY FABRIZIO & BRAD ALLGOOD  
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DIRECTED BY: BRAD ALLGOOD AND GRAHAM TOWNSLEY

## To the Teacher

This curriculum guide to *Landfill Harmonic*, like other **Journeys in Film** resources, is based on a few fundamental beliefs:

- That a well-made, relevant film is an excellent way to convey information and teach students important critical thinking skills.
- That an interdisciplinary approach will reach students who have different learning modalities and interests.
- That talented teachers interacting with real students on a daily basis are best positioned to write good lesson plans.

There are four lessons in this guide. The first three are designed for secondary students, the fourth for elementary. Most teachers do not use all the lessons in a **Journeys in Film** guide; instead, they choose the lesson(s) most appropriate for their discipline, grade level, and syllabus.

Lesson 1 is an introduction to the Recycled Orchestra itself: the people who were responsible for starting it, its impact on the young people of Cateura and on their community, and the current goals and activities of the group. A set of handouts provide guided viewing questions to help students process the film and then they demonstrate their understanding by creating a class newspaper about the Orchestra.

Lesson 2 is an environmental science lesson that deals with the nature of landfills, the way landfills work, and the vocabulary for waste management. Students study the dangers to human health and the environment that may be associated with landfills, and then research the work of NGOs dedicated to improving the environment. They also consider waste disposal methods in their own communities.

In Lesson 3, a community service lesson, students discover organizations founded by young people that work to solve both local and global problems. Students then choose a problem in their own school or community and develop a way to improve the situation or solve the problem completely.

Lesson 4, for elementary students, has three parts: students use a mind-mapping technique to improve their understanding of the film, consider the problem of waste disposal in their own communities, and make their own musical instruments from recycled materials.

For more information about this and other free **Journeys in Film** curriculum and discussion guides, please see the **Journeys in Film** website at [www.journeysinfilm.org](http://www.journeysinfilm.org).





## Lesson 1 (MUSIC, LANGUAGE ARTS, SOCIAL STUDIES)

# The Recycled Orchestra

### Enduring Understandings

- Dreams are important no matter where you live and what your situation might be.
- Never underestimate the power of a community to believe in something and make it happen.
- Reporting and editorializing are not the same thing, but each serves as a valuable tool in delivering the news.

### Essential Questions

- Who are the people of Cateura and how are they working to change their lives?
- What do the students in the Recycled Orchestra prove to the world through their music?
- What is the difference between reporting and editorializing?

### Notes to the Teacher

In this lesson, students will closely view the film *Landfill Harmonic* and create a newspaper to highlight the accomplishments of the Recycled Orchestra.

Before the first class, make enough copies of the handouts for all your students. Be sure to review the handouts before giving them to your students to make it easier to anticipate any questions that might come up during the film. You should also view the film ahead of time to familiarize yourself with the names of people and places. The film relies on subtitles to deliver most of the story; be sure your students are seated so that they can clearly see these subtitles.

Viewing the film and note-taking on it will take approximately two 60-minute class periods, but you will likely need part of a third to complete any final discussions. This third class period would be an appropriate time to introduce the idea of creating a newspaper to your students as well.

**HANDOUT 1: FIRST IMPRESSIONS** asks the students to reflect on the differences between where they live and where the students in the film live; it also introduces the main figures and themes of the film. **HANDOUT 2** requires the students to pay close attention to the individual students highlighted in the film. **HANDOUT 3** focuses on the damage caused to the town by a flood and how the residents begin to recover and rebuild.

Creating a class newspaper using Microsoft Word, Publisher, or an online platform is the second major portion of this assignment. In the final segment of the film, the media discover the orchestra and suddenly it appears that Favio Chavez and his students are everywhere. The class newspaper that your students produce will highlight the accomplishments of the Recycled Orchestra both during the period covered by the film and the time since the film's release.

Before the second part of the lesson, locate two news articles on the same topic, preferably a topic of interest to your students. One should be a piece of objective reporting and the other an editorial or opinion piece on the same subject. Photocopy the articles for your students to read in class.

Students will need to choose which stories they wish to highlight in their paper, decide how they will organize it, and have a clear understanding of the difference between news reporting and opinion pieces.

Depending on the size of your class, you may wish to divide the students into smaller groups to have them focus on a specific section of the paper. Each student should be responsible for contributing a news report as well as either an Op-Ed or a Letter to the Editor about the Orchestra. The final product could be printed and distributed throughout the school or, if it is created online, a link to it could be added to the school website to promote the work of the students.

The amount of class time needed to complete this project is at your discretion. Students will need at least one class period to arrange their section with their news reports, advertisements, etc. They may need at least one additional period to put the final paper together. Select an editor as well as an editorial staff (one person from each section of the paper) to help assemble the final product. If you have students who work on the school newspaper or yearbook, they would be ideal to fulfill this role. (A little extra credit might be a good incentive.)

The articles below may be useful to you and your students:

The Difference between Reporting and Commentary  
<https://collegian.com/2013/02/the-difference-between-reporting-and-commentary/>

Letters to the Editor & Opinion Pieces  
<https://www.acep.org/Advocacy/Letters-to-the-Editor---Opinion-Pieces/#sm.0000ubdmc9iade1mzcx1mio8hovuy>

# Lesson 1 (MUSIC, LANGUAGE ARTS, SOCIAL STUDIES)

## COMMON CORE STANDARDS ADDRESSED BY THE LESSON

### **CCSS.ELA-LITERACY.SL.9-10.1**

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

### **CCSS.ELA-LITERACY.WHST.9-10.7**

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

### **CCSS.ELA-LITERACY.WHST.9-10.8**

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

### **CCSS.ELA-LITERACY.WHST.9-10.9**

Draw evidence from informational texts to support analysis, reflection, and research.

### **CCSS.ELA-LITERACY.WHST.9-10.10**

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

## Duration of the Lesson

Approximately four or five 60-minute class periods, plus additional time outside of class to complete research and writing for newspaper

## Assessments

Active note-taking during the film

Completion of **HANDOUTS 1–3**

Participation in class discussions after each viewing

Completion of newspaper project

Evidence of ability to distinguish between reporting and editorializing (**HANDOUT 4**)

## Materials Needed

Map of South America (wall map, student atlases, or a projected map such as the one at [http://www.nationsonline.org/oneworld/map/south\\_america\\_map.htm](http://www.nationsonline.org/oneworld/map/south_america_map.htm)).

### **HANDOUT 1: FIRST IMPRESSIONS**

### **HANDOUT 2: MEETING THE MUSICIANS**

### **HANDOUT 3: HOPE AND DESPAIR**

An assortment of newspapers (brought from home, collected from colleagues, requested from students, or borrowed from school library)

### **HANDOUT 4: REPORTING VS. EDITORIALIZING**

## Procedure

### Part 1: Viewing the film

1. Distribute **HANDOUT 1: FIRST IMPRESSIONS** and review it briefly so that students know what information they are watching and listening for. Begin the film, stopping after five minutes so that students can record what they have seen and heard. Then continue viewing as students take notes on the handout to 23:31. At the end of the segment, allow students a few extra minutes to finish responding to the questions.
2. Review the questions and the responses provided as a class.

Suggested answers:

Observations on the first five minutes will vary.

1. Paraguay
2. Cateura
3. Answers will vary.
4. Someone who works in the landfill
5. Director of the Recycled Orchestra
6. He asked for help from the community. Cola (Nicolás Gómez) began making instruments from refuse.
7. Violin: fork, metal sheets, thin wood  
Drum: x-ray film  
Cello: oil drum, spoon, heel of a shoe
8. Tania, Ada, Natalia, Maria
9. Answers will vary.
10. Answers will vary.

11. He wants to improve the quality of life for his students. The failure of the recycling project motivated him to pursue his music and start the orchestra.
3. Leave time for responses to the General Reflection questions to lead to deeper discussions about the conditions, lives, and location of the students in the film.
4. Show the map of South America and point out Paraguay for the students to gain a better understanding of the geography of the region.
5. Distribute **Handout 2** and continue to view the film from 23:31 to 48:56 as students take notes.

Suggested answers:

1. Attitudes that help people accomplish their goals.
2. Answers will vary.
3. Her father is mostly absent from her life due to drinking and an abusive relationship with her mother. Tania takes care of her siblings because her mother works multiple jobs to support the family. Most of the other children featured seem to have two active parents to help and guide them.
4. She didn't know her until violin classes. She is impressed by how she plays, but thinks of her as emotionally closed off because she won't tell them anything about her life.
5. Maria, because she keeps secrets.
6. Esteban had the mumps, and this affected his hearing.
7. He is very positive, excited, and happy.



# Lesson 1 (MUSIC, LANGUAGE ARTS, SOCIAL STUDIES)



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educating for global understanding

8. Chavez pushes the students to sound as crisp as possible. He buys shirts and luggage for them for the trip. He teaches them not just about music, but how to be responsible for their things.
  9. To perform for the Rio+20 conference.
  10. They begin to make YouTube videos to advertise the group. Various news sources pick up the story. Information about them comes out around the world.
  11. Ada contacts her favorite band, Megadeth.
6. Distribute **Handout 3** for student note-taking and then show the remainder of the film (48:56 - end); this will take about 35 minutes.
- Suggested answers:
1. David Ellefson, the bassist for Megadeth
  2. He has been struck by the connection of the human spirit and wanted to see the Recycled Orchestra for himself.
  3. Answers will vary.
  4. He wants them to play with the band in the United States.
  5. Answers will vary.
  6. Canada, Amsterdam, Spain, Korea, tour of South America with Metallica
  7. In June 2014, the largest flood in 20 years occurs. Many are forced from their homes.
  8. Cola lost his home and had to sell all his animals. His wife is distraught but keeps working. Tania's family lost their home and moved into the school. Ada sees her community destroyed. Favio Chavez begins to help.
  9. Garbage from the landfill is everywhere and conditions are worse than before.
  10. He makes the instruments and fixes them for the students. He is needed and likes his new role; everyone knows who he is.
  11. They are passing down hope and ownership to the kids.
  12. It is possible to achieve your dreams if you work hard. No matter how difficult conditions are where you live, they are not an excuse to ignore your dreams.
7. When the film has ended, conduct a discussion to help the students reflect on the film as a whole. Some questions you may wish to ask your students are:
- Had you ever heard of Paraguay before? What is your impression of this country? Do you think the film presents a sufficiently complete picture of the country?
  - Do you know where the landfill nearest to your school is? (You should be able to answer this question about your region if your students do not know.)
  - What do you think it would be like to live so close to a landfill?
  - Why do you think the Recycled Orchestra has been so successful? (Consider the buy-in of the community, Chavez's dreams, Cola's ingenuity, the curiosity of the students, willingness of people to embrace their successes, etc.)
  - Do you think the orchestra will continue to be successful?

## Part 2: A Recycled Orchestra newspaper

1. After your students have had the opportunity to share their views and ask questions about the film, explain to them that they will be creating a newspaper about the successes of the Recycled Orchestra.
2. Hand out the newspapers you brought from home or borrowed from the school library. Give students a few minutes to look at the various sections and have them list on the board the different sections of the newspaper. (National news, local community news, editorials, op-ed columns, sports, food, weather, technology, style, crossword puzzle, classifieds, letters to the editor, etc.) If students don't know the meaning of op-ed, explain that it is the section of the paper that contains signed essays written by commentators, giving their opinions.
3. Ask the students to think about which sections will be most helpful in sharing the story about the Recycled Orchestra. While they consider this, hand out your pre-selected articles and give the students time to read them either aloud or silently. Then lead a discussion about the difference between a news report and an opinion or editorial piece. (Use the linked articles from the Notes to the Teacher section to assist with this if desired.)
4. Once the students have a good understanding of the difference between objective reporting and opinion pieces, ask them to look for two examples of reporting and two examples of editorializing or opinions in the newspapers you have provided them. They should use **Handout 4** to record their examples.
5. Have students make a final decision about which sections they want in their newspaper about the Orchestra. (They will probably need sections on community/local news, technology, letters to the editor, weather, lifestyle, music reviews, interviews, and op-ed pieces to tell the whole story.) Either divide the students into the different groups for writing or allow them to choose which section they wish to write for. Each student should be responsible for writing a news report in addition to either a letter to the editor or an op-ed piece.
6. Arrange students in small groups and have them edit each other's work, improving the writing if possible and correcting any spelling or grammatical errors. Once this process is finished, have students prepare good copies of their work to submit to you for grading.
7. Have students submit the better of the two pieces they have written to the student editors for the newspaper. Be sure that each article is signed with the student writer's name as a byline.
8. "Publish" the newspaper online, linking to the school's website if you want a wider audience.

**Handout 1 ► P. 1**

# First Impressions

Opening scene reactions (from the first 5 minutes of the film)

What do you see?

A. \_\_\_\_\_

B. \_\_\_\_\_

C. \_\_\_\_\_

What do you hear?

A. \_\_\_\_\_

B. \_\_\_\_\_

C. \_\_\_\_\_

1. In what country does the film begin? \_\_\_\_\_

2. What is the name of the town where the municipal landfill is located? \_\_\_\_\_

3. Is this town similar to or different from where you live? Give one or two reasons for your answer.

**Handout 1 ► P. 2**

# First Impressions

4. What is a *ganchero*? \_\_\_\_\_

5. Who is Favio Chavez? \_\_\_\_\_

6. When he ran out of instruments for his students, where did he get more? Who helped him with this?

7. List some of the trash used to make the various instruments.

Instrument	Pieces of Trash
violin	
drum	
cello	

8. Who are the violinists?

9. Why do you think they have become especially close in this orchestra?



**Handout 1 ► P. 3**

## First Impressions

**10.** What did you think of their first public performance? Was it successful? Why or why not?

**11.** Why does Favio continue to push his students? What do you think are his motivations?

**General Reflection:**

What image or sound stood out to you the most in this segment? Why?

Write down a brief reaction or draw a picture of how you feel about this segment of the film. If you choose to draw a picture, be prepared to explain your artistic choices during a discussion.

**Handout 2 ▶ P.1**

## Meeting the Musicians

1. According to Favio, what are “proactive attitudes”?

2. How do you think understanding proactive attitudes will help the students with their performance?

**Tania**

3. How does her life appear to be more complicated than the lives of the other students in the film?

4. How does Ada describe Tania? Is she being fair?

5. Who does Tania seem to trust the most? Why is this?



**Handout 2 ▶ P. 2**

## Meeting the Musicians

**Esteban**

6. What particular challenge does he face? How did this happen?

7. What do you notice about Esteban's attitude?

**Chavez**

8. How do you know he cares deeply for his students? List some of the things he does or says in this segment to prove this.

9 Why are the students going to Rio?

**Handout 2 ▶ P. 3**

## Meeting the Musicians

**10.** How does the public start to recognize the Recycled Orchestra after their performance in Rio?

**11.** What does this new recognition empower Ada to do on Facebook?

**General Reflection:**

What image or sound stood out to you the most? Why?

Write down a brief reaction or draw a picture of how you feel about this segment of the film. If you choose to draw a picture, be prepared to explain your artistic choices during a discussion.



**Handout 3 ▶ P. 1**

## Hope and Despair

**1.** Who comes to Cateura?

**2.** Why does he make the trip?

**3.** What do you learn about Cola and his wife in this segment? How has the Recycled Orchestra changed their lives?

**4.** What request does Ellefson make of the orchestra?

**5.** How is the energy of the students different as they prepare to play with Megadeth as opposed to how they prepared for other performances in the film? Why do you think this is?

**Handout 3 ▶ P. 2**

# Hope and Despair

**6.** After the concert with Megadeth, where else do they go? List as many places as you can.

**7.** What tragedy strikes Cateura?

**8.** How does this impact the people of Cateura?

Person/Family	Impact
Cola	
Tania	
Ada	
Favio Chavez	

**9.** How has the flood changed the landscape of Cateura when the waters have receded?

**10.** What is Cola's role in the community?

**Handout 3 ▶ P. 3**

## Hope and Despair

**11.** Why is it important that the students are now teaching children to play instruments?

**12.** What does Chavez believe about dreams?

**General Reflection:**

What image or sound stood out to you the most? Why?

Write down a brief reaction or draw a picture of how you feel about this segment of the film. If you choose to draw a picture, be prepared to explain your artistic choices during a discussion.

**Handout 4 ▶ P. 1**

# Objective Reporting and Editorializing

Remember the definitions of “report” and “editorialize” as you choose examples of each.

**Report** (verb): to give a spoken or written account of something one has observed, heard, done, or investigated.  
Example of sports reporting: *“Mark Arcobello shot a wrister from close range into Francouz’s pads.”*<sup>1</sup>

**Editorialize** (verb): to make comments or express opinions rather than just reporting the news. Example of sports commentary: *“The 2018 United States Olympic men’s hockey team will be remembered as a squad with heart but little finishing skill...”*<sup>2</sup>

Now fill in the chart with examples of reporting you have found in your newspaper:

Title of Article	Section of Paper	Example of Reporting

Why are these examples of reporting?

<sup>1,2</sup> [https://www.washingtonpost.com/sports/olympics/united-states-bows-out-in-mens-hockey-with-shootout-loss-to-czech-republic/2018/02/21/6523c8fc-16c5-11e8-8b08-027a6ccb38eb\\_story.html?utm\\_term=.ca402ebd1e5c](https://www.washingtonpost.com/sports/olympics/united-states-bows-out-in-mens-hockey-with-shootout-loss-to-czech-republic/2018/02/21/6523c8fc-16c5-11e8-8b08-027a6ccb38eb_story.html?utm_term=.ca402ebd1e5c)

Handout 4 ► P. 2

## Objective Reporting and Editorializing

Examples of editorializing or opinion:

Title of Article	Section of Paper	Example of Editorializing

Why are these examples of editorializing or opinion?





# The Environmental Crisis

## Enduring Understandings

- Natural systems are interdependent.
- The actions of humans can impact the health of the environment.
- Humans can help protect the environment by limiting their waste.
- Risks to environmental and human health can be managed and reduced.
- A healthy and sustainable future for human communities on Earth is possible.

## Essential Questions

- What is “waste”?
- How is human waste managed in different parts of the world?
- How does a landfill work?
- What are the environmental implications of a landfill such as Cateura?
- What happens to water supplies in nearby creeks as the result of the dumping of solid waste in massive amounts?
- What health hazards do landfill scavenger communities face?
- How are environmental issues in areas surrounding landfills exacerbated by seasonal flooding?
- What can be done to protect the environment from damage associated with landfill proximity?
- How can clean water supplies be conserved in communities close to landfills such as Cateura?
- What are the human health consequences for communities near landfills such as Cateura?

## Notes to the Teacher

The activities in this lesson have been designed for tiered instruction, with each new lesson component building upon the last. Be sure to review the activities prior to the lesson to determine the class time needed for each one and appropriately plan for materials acquisition. While the suggested lesson duration is between two and five single-hour periods, the activities can easily be modified based on time available or where the lesson can best be integrated in the course curriculum. Students should have viewed *Landfill Harmonic* before beginning this lesson.

The activities are designed to introduce the concept of human waste streams, with a unique focus on understanding how human waste streams are managed, variations in waste stream management protocols in different parts of the world, and the critical environmental and human health implications of solid waste disposal. Video links to be displayed on a projector in each part of this lesson can also be shared with students for use on individual computers, depending on the classroom technology available.

Part 1 of this lesson highlights the need for the management of human municipal solid waste, inviting students to explore parallels between how waste is managed in their own region and how it is done in the community of Cateura. They will explore the cultural concept of “waste,” investigating their own waste management habits as well as variations in solid waste disposal in different countries. As students consider the global waste dilemma, they will begin to evaluate risks to environmental and human health imposed by the Cateura landfill on the surrounding region.

The landfill research assignment at the end of Part 1 can be offered as a homework or extra credit assignment. It could also be incorporated as a closing activity for this portion of the lesson or as a warm-up activity at the beginning of Part 2. A full set of copies of **HANDOUT 1: PORTRAIT OF A PLACE AND HANDOUT 2: DROWNING IN TRASH** should be made for each class. (Note: **HANDOUT 1** has an additional page if you wish to have students do more extensive journal writing.)

Part 2 of this lesson invites students to consider the interplay among human waste streams, landfill infrastructure, and environmental health. They will learn how landfills work, investigating the environmental implications of a landfill such as Cateura on nearby ecosystems. They will also examine the human health aspects of landfill operations, considering consequences uniquely associated with landfill scavenger communities as well as concerns over drinking water supply contamination.

A full set of copies of **HANDOUT 3: UP TO OUR WAISTS IN WASTE** and **HANDOUT 4: WATER RISING** should be made for each class for this part of the lesson. It should also be noted that the instructions for Step 3 on **HANDOUT 3: UP TO OUR WAISTS IN WASTE** may require special attention. Be sure to discuss the example given in the Part 2 Procedure for this portion of the activity, as it may help clarify instructions for the table. Keep in mind that student number assignments will be arbitrary. While **HANDOUT 4: WATER RISING** is a suggested homework assignment, it can also be completed in class as time permits. Please note that this activity requires an Internet connection; printing copies of the article for students who may not have internet access outside of school may be necessary.

## Lesson 2 (ENVIRONMENTAL SCIENCE)



Part 3 is designed to help students synthesize some of the concepts they learned in the previous portions of the lesson surrounding the environmental and human health concerns of landfill operations. Students will examine how the flooding of 2014 in Paraguay exacerbated the environmental issues in Cateura. They will also explore options for protecting the environment in this region from further damage and restoring a clean water supply. Students will work collaboratively to analyze the problems associated with the Cateura landfill and develop viable solutions to improve the environmental situation in the region.

This portion of the lesson requires a class set of **HANDOUT 5: NGO Go!**, noting that the duration of this particular project can vary as a function of class and/or curriculum time available.

### Additional Resources

Important Things to Know About Landfill Gas

[https://www.health.ny.gov/environmental/outdoors/air/docs/landfill\\_gas.pdf](https://www.health.ny.gov/environmental/outdoors/air/docs/landfill_gas.pdf)

Living Off Trash in Latin America: Debunking the Myths

<https://revista.drclas.harvard.edu/book/living-trash-latin-america>

Puerto Rico Had Towering Landfills and Coal Ash Pollution. Then, Maria Hit.

<https://grist.org/article/puerto-rico-had-towering-landfills-and-coal-ash-pollution-then-maria-hit/>

Waste Land: Does the Large Amount of Food Discarded in the U.S. Take a Toll on the Environment?

<https://www.scientificamerican.com/article/earth-talk-waste-land/>

In World's Poorest Slums, Landfills and Polluted Rivers Become a Child's Playground.

<https://www.pbs.org/newshour/world/in-worlds-poorest-slums-landfills-and-polluted-rivers-become-a-childs-playground>

Trash City: Inside America's Largest Landfill Site

<https://www.cnn.com/2012/04/26/us/la-trash-puente-landfill/index.html>

The World's Trash Crisis, and Why Many Americans are Oblivious

<http://www.latimes.com/world/global-development/la-fg-global-trash-20160422-20160421-snap.htmlstory.html>

Environmental Protection Agency: Landfills

<https://www.epa.gov/landfills>

Landfills: Impact on Groundwater

<http://www.waterencyclopedia.com/La-Mi/Landfills-Impact-on-Groundwater.html>

## COMMON CORE STANDARDS ADDRESSED BY THIS LESSON

### History/Social Studies

#### **CCSS.ELA-LITERACY.RH.9-10.1**

Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.

#### **CCSS.ELA-LITERACY.RH.9-10.3**

Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

#### **CCSS.ELA-LITERACY.RH.9-10.4**

Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

#### **CCSS.ELA-LITERACY.RH.9-10.7**

Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.

#### **CCSS.ELA-LITERACY.RH.9-10.8**

Assess the extent to which the reasoning and evidence in a text support the author's claims.

### Science and Technical Subjects

#### **CCSS.ELA-LITERACY.RST.9-10.1**

Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

#### **CCSS.ELA-LITERACY.RST.9-10.2**

Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

#### **CCSS.ELA-LITERACY.RST.9-10.5**

Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).

#### **CCSS.ELA-LITERACY.RST.9-10.6**

Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.

#### **CCSS.ELA-LITERACY.RST.9-10.7**

Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

#### **CCSS.ELA-LITERACY.RST.9-10.8**

Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.

## Lesson 2 (ENVIRONMENTAL SCIENCE)



**JOURNEYS IN FILM™**  
educating for global understanding

### COMMON CORE STANDARDS ADDRESSED BY THIS LESSON

#### Writing

##### **CCSS.ELA-LITERACY.WHST.9-10.2**

Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

##### **CCSS.ELA-LITERACY.WHST.9-10.4**

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

##### **CCSS.ELA-LITERACY.WHST.9-10.7**

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

##### **CCSS.ELA-LITERACY.WHST.9-10.8**

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

##### **CCSS.ELA-LITERACY.WHST.9-10.9**

Draw evidence from informational texts to support analysis, reflection, and research.

#### Duration of lesson

Three to five one-hour periods

#### Assessments

Completion of the *Portrait of a Place* journaling activity

Completion of the *Drowning in Trash* activity (thought questions and class discussion)

Completion of the *Up to our Waists in Waste* diagram assignment

Completion of the *Water Rising* assignment

Completion of the *NGO Go!* project

Group discussion

Student presentations

#### Materials needed

White board

White board markers

Computers with Internet connection

Projector

Blank index cards

Writing utensils

Markers

Colored pencils

Poster-board

**HANDOUT 1: PORTRAIT OF A PLACE**

**HANDOUT 2: DROWNING IN TRASH**

**HANDOUT 3: UP TO OUR WAISTS IN WASTE**

**HANDOUT 4: WATER RISING**

**HANDOUT 5: NGO Go!**

## Procedure

### Part 1: That's Rubbish! (1 one-hour class period)

1. Begin by asking students to consider what it might be like to live in Cateura, allowing them a few minutes to think about how the community is portrayed in the film *Landfill Harmonic*. Explain that they will be writing a journal entry through the lens of one of the students from the film, detailing the daily experience of life in a landfill-based community.
2. Distribute copies of **HANDOUT 1: PORTRAIT OF A PLACE** to each student, reviewing the instructions and allowing 15–20 minutes for journal entries to be completed. Be sure to remind students to focus on the elements of life in Cateura most associated with its proximity to the landfill.
3. When the journal entries are complete, divide students into groups of two and ask them to share their entries with each other. Allow 5–10 minutes for students to read and discuss each other's work. If time permits, invite several students to read their entries aloud. Ask the students to suggest one word which describes life near the landfill and record the responses on the board.
4. Host a brief discussion about life in the Cateura community using the journal entries, words on the board, and the following questions as a guide.
  - a. *How is the community of Cateura similar to where you live? What are some of the biggest differences?*
  - b. *What do you think it is like to live so close to a landfill? How might proximity to the landfill affect the people of Cateura?*
  - c. *How might you describe the smell of the air in Cateura?*
  - d. *Do you think the students in the film *Landfill Harmonic* are as aware of the waste in their community as you might be if you traveled there for the first time?*
  - e. *Would you be concerned about the health of the environment if you lived in Cateura?*
  - f. *Would you be concerned about your own health if you lived in Cateura?*
5. Distribute the blank index cards to the class, allowing 5 minutes for each student to make a list of the waste items they have generated today. Explain to the students that waste, in this case, is defined as anything thrown in a garbage can (as opposed to a recycling or compost container) and therefore destined for a landfill. Students should list as many items as possible in the time provided. If time allows, they can also write their items on the board. Ask the students to review their lists, circling anything that could have been recycled or composted. Ask the students the following question, allowing several minutes for open discussion.
  - a. *How would you define the term “waste”? Is waste different from garbage or trash?*
  - b. *How are recycling and composting related to waste?*
6. Ask the students to work with a partner to guess which five countries produce the most waste per person in the world. Share the online interactive *Most Wasteful Countries Map* with the class (<http://www.eco2greetings.com/c/most-wasteful-countries/>), either on a projector or via individual student computers. Data on which this map is based may be found by clicking on the data link at the bottom of the page. [Note: Map does not work on all servers.]



## Lesson 2 (ENVIRONMENTAL SCIENCE)



7. Divide the class into groups of two or three. Distribute copies of **HANDOUT 2: DROWNING IN TRASH** to each student. Play the 4 ½ -minute PBS NewsHour “Drowning in Trash” video clip from <https://youtu.be/oLIW75RCeYI>; students can access the file using individual computers in the absence of a projector. Review the instructions on the handout and allow students time to work on responses to the discussion questions provided. (Note: If time permits, you can also have students view the *Washington Post* video or read the related article; URLs are provided on the handout.)

8. Host a brief discussion using the discussion questions on the handout as a guide. Then, ask the following questions:

- What happens to the waste you generate at home? Please be specific.*
- Do you know how close you live to the nearest landfill in your region?*
- After watching the film Landfill Harmonic, are you concerned about environmental and human health impacts of having a landfill close by? Please explain.*

9. For homework, ask students to research a landfill close to their community. Students should determine the landfill name and location, as well as the proximity of the landfill to their homes.

### Part 2: Trash Talkin’ (1-2 one-hour class periods)

1. Invite several students to share their landfill research from the assignment. Ask how many students already knew where their local landfills were compared to those who were determining location for the first time. Host a brief discussion, using the following questions as a guide for your conversation:

- What is a landfill? How does a landfill work?*
- How many of you have been to your local landfill? (Ask students to describe the experience.)*
- In what ways do you think the landfill in Cateura might be different from your local landfill?*
- What are the consequences to environmental and human health if a landfill isn’t operating correctly?*

2. Distribute copies of **HANDOUT 3: UP TO OUR WAISTS IN WASTE** and divide students into pairs. Explain to the students they will have the opportunity to learn how a landfill works, considering the impact of the Cateura landfill on the surrounding community specifically. Review the instructions for **HANDOUT 3**, paying special attention to the prompt and table students are asked to complete in Step 3. Students may find the example below helpful regarding instructions for the table. Keep in mind that student number assignments will be arbitrary.

No.	Description of Landfill Area	Environmental Health Impact	Human Health Impact
1	Plastic liner at the bottom of the landfill	If it fails, the leachate from the landfill could contaminate groundwater and damage the surrounding ecosystem.	Groundwater contamination from the leachate could lead to toxic conditions in nearby wells.

3. Play the “Environmental Impacts of Landfill Leachate” video cited in the Directions section of **HANDOUT 3** (<https://www.youtube.com/watch?v=QYBvntdO6YM>); students can access the file using individual computers in the absence of a projector. Allow students 15-20 minutes to complete **HANDOUT 3**.

4. When students are finished, invite several to share their diagrams with the class. Be sure they use as many of the required terms as possible in their explanations of how landfills work.

5. Project the Anatomy of a Landfill image from **TEACHER RESOURCE 1**. Invite several students to share their entries from the table in Step 3. Students should come to the board and describe the areas they chose using the Anatomy of a Landfill diagram. Encourage students to think about the connection between a poorly managed landfill, such as the one in Cateura, and the health of the surrounding environment and nearby community. As students present, ask them to circle the areas referenced on the Anatomy of a Landfill diagram. Host a discussion, using the following questions as a framework for the conversation.

- a. *What kinds of items would you find in the Cateura landfill?*
- b. *What is landfill “leachate”? What are some examples of items in the Cateura landfill that may contain some of the toxic chemicals found in leachate?*
- c. *After completing this activity, have your concerns about the environmental health impacts of landfills changed? How about human health? Please explain.*
- d. *Where do the residents of Cateura acquire drinking water? How do you think drinking water supplies from nearby creeks in Cateura are affected by the massive amount of solid waste in the nearby landfill?*

6. If time permits, play this Voice of America video about the people whose livelihood it is to scavenge landfills (<https://www.youtube.com/watch?v=suYUkzjpOk8>). Explain to students that the dump featured in the video is in Kenya, but it is similar to the Cateura landfill in many ways. Ask

the students to focus on the health hazards associated with this type of lifestyle while they watch. Then, host a post-video discussion where students voice their concerns about the health of children, adults, and families of Cateura who live and work on the landfill site.

7. For homework, students should complete **HANDOUT 4: WATER RISING**. Distribute one copy of the handout to each student, reviewing the instructions and explaining that the questions focus on the impact to the landfill, surrounding environmental conditions, and human health of flooding in the Paraguay River. Note: This activity requires an Internet connection; print copies of the article for students who may not have Internet access outside of school.

### Part 3: Taking a Stand (1-2 one-hour class periods)

1. Begin by inviting students to share their work on **HANDOUT 4: WATER RISING**, using their responses to the questions provided as a framework for a quick discussion. Then, ask the students the following questions.

- a. *How does knowing more about the environmental situation in Cateura make you feel?*
- b. *How does knowing more about the environmental situation in Cateura influence the decisions you will make at your home about the trash you generate?*
- c. *What should be done to protect the people and environment of Cateura?*
- d. *Who should be responsible for preventing further environmental damage related to the landfill in Cateura?*

## Lesson 2 (ENVIRONMENTAL SCIENCE)



2. Divide students into new pairs; distribute copies of **HANDOUT 5: NGO Go!**. Explain to students that they will be assuming the role of an NGO (Non-Governmental Organization) that is working to help find solutions to the landfill-related environmental issues in Cateura. Review the instructions for **Handout 5**, focusing on the definition of an NGO and the requirements for the poster students will be creating. NOTE: This project is designed to span 1-2 class periods but can easily be adapted as a longer-term assignment depending on the total time available.
3. When the posters are complete, student groups should hang them around the room for a gallery walk. Give each group two minutes to present their NGO; all groups should then take 10-15 minutes to view other posters for the gallery walk.
4. When the gallery walk is finished, host a final discussion where students are asked to share positive feedback on each other's work. Ask the students to share (1) which NGO they liked best and (2) why they think that NGO will be effective in helping solve some of the environmental issues in Cateura.

### Extension Activities

1. Host a discussion about the rights of children around the world, focusing on communities in areas of poor environmental health such as Cateura. Invite students to explore the UN Convention on the Rights of the Child at <http://www.ohchr.org/Documents/ProfessionalInterest/crc.pdf> for evidence of the rights of children relating to environmental health. The following questions may be used as a framework for your discussion.
  - What needs do children have?
  - What rights do children have? Do rights for children change as they get older?
  - Should all children have access to healthy environmental conditions?
  - Who is responsible for making sure children have access to healthy environmental conditions?
  - Who is responsible for promoting the rights of children?
  - What actions could be taken to protect the rights of children?
2. Invite students to research and discuss waste management practices in different parts of the world. Research questions could focus on general waste management types (dumps vs. sanitary landfills), waste composition by percentage, or related questions generated by students.

**Handout 1 ► P. 1**

## Portrait of a Place

**Directions:**

Imagine you are one of the students featured in the film *Landfill Harmonic*. How do you think it feels to live so close to the Cateura landfill? Think about how it affects your home, commute to school, extracurricular activities, food, health, family, scenery, etc. How does the impact of the landfill on your life make you feel? In the space provided, write a journal entry which describes a day in your life as a young person living near the Cateura landfill.

## Portrait of a Place

**Handout 2 ▶ P. 1**

# Drowning in Trash

**Directions:**

Watch the PBS NewsHour “Drowning in Trash” video clip taken from a 2017 Washington Post article: <https://youtu.be/oLIW75RCeYI>. Use the information from the video to complete the discussion questions below to the best of your ability. (For further information, the entire Washington Post video report can be accessed at [https://www.washingtonpost.com/graphics/2017/world/global-waste/?utm\\_term=.02c835c57aed](https://www.washingtonpost.com/graphics/2017/world/global-waste/?utm_term=.02c835c57aed). An accompanying story can be found at [https://www.washingtonpost.com/world/africa/the-world-is-drowning-in-ever-growing-mounds-of-garbage/2017/11/21/cf22e4bd-17a4-473c-89f8-873d48f968cd\\_story.html?utm\\_term=.70555f390882](https://www.washingtonpost.com/world/africa/the-world-is-drowning-in-ever-growing-mounds-of-garbage/2017/11/21/cf22e4bd-17a4-473c-89f8-873d48f968cd_story.html?utm_term=.70555f390882).



**Discussion Questions**

1. In the *PBS Newshour* video, the reporter Kadir van Lohuizen recalls his experience of seeing trash on a remote Pacific island beach that had come from somewhere else. It was the first time he thought about what happens to trash after it is collected from his home. How often do you think about what happens to the trash you generate at home?

2. Van Lohuizen says that trash is often invisible in the Westernized part of the world. What does this mean?



**Handout 2 ▶ P. 2**

## Drowning in Trash

3. Are you surprised by the fact that New York City ranks as the leading producer of trash compared to any other place in the world? Why does New York City generate more trash than other cities with the same population, such as the Nigerian city of Lagos?

4. Van Lohuizen claims that many of the garbage incinerators in the United States are outdated and dangerous. What are the environmental and human health implications of using old technology like this?

5. The interviewer in this clip states that trash changes as countries develop. What does this mean? What examples does Van Lohuizen offer in response to this statement?

6. On average, Americans throw away their own body weight in trash every month. In Japan, the typical person produces only two-thirds as much. What do you think might account for this difference between countries?

Handout 3 ► P. 1

# Up to Our Waists in Waste

**Directions:**

Watch the “Environmental Impacts of Landfill Leachate” video at <https://www.youtube.com/watch?v=QYBvntdO6YM> and respond to the prompts below using what you learned. Additional print or online resources may be used for your research.

1. Use the space on the next page to create a diagram showing how a landfill works. Your diagram should be *colored* and *labeled* with the following terms:

groundwater	health	polyester	gas
freshwater	decompose	debris	bacteria
odor	leachate	drainage	methane
plastic liner	chemicals	gravel	atmosphere
soil	compacted clay	pipes	gas burning
PVC	contamination	drinking water	gas venting

2. Use your diagram to explain how a landfill works to a partner from class. Your explanation should be detailed and include as many of the terms displayed above as possible.

## Up to Our Waists in Waste

### Landfill Diagram

(see Step 1 on the preceding page for instructions)

**Handout 3 ▶ P. 3**

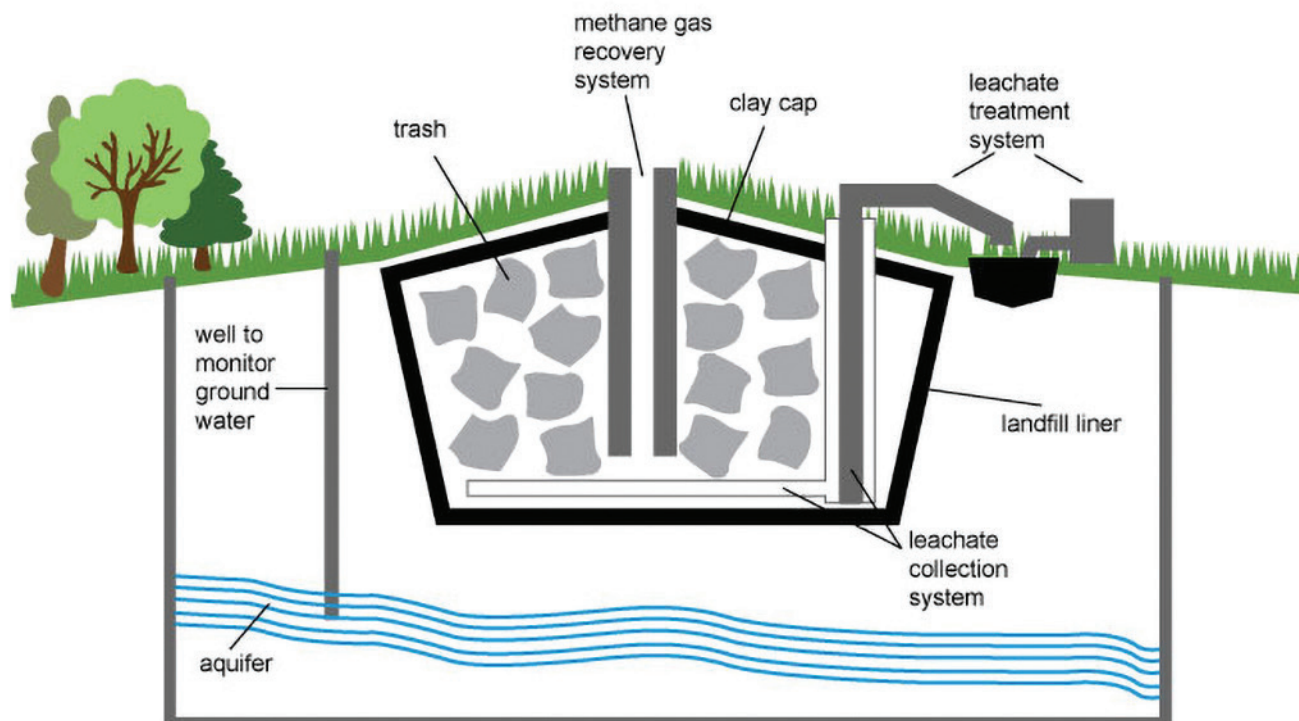
## Up to Our Waists in Waste

3. Review the diagram you created. Consider problems with the design of a landfill which might lead to contamination of the surrounding environment. Number three areas on your diagram where structural failure or poor construction could occur. In the table below, list each area and describe what the impact(s) to environmental and human health might be.

Number	Description of Landfill Area	Environmental Health Impact	Human Health Impact

## Teacher Resource 1 Anatomy of a Landfill

### Modern landfill



Source: Adapted from National Energy Education Development Project (public domain)

Handout 4 ► P. 1

# Water Rising

**Directions:**

Read the article “Paraguay Floods—Asunción Faces Environmental Disaster as River Threatens to Flood Toxic Dump” at <http://floodlist.com/america/paraguay-floods-asuncion-faces-environmental-disaster-river-flood-toxic-dump>. Please answer the questions below to the best of your ability, using the information from the article.

1. This article was published on the website *Floodlist* following the major flooding of the Paraguay River documented in the film *Landfill Harmonic*. According to the article, what water level (in meters) was considered “normal”? At what level was the river at the time the article was written?

2. In the article, a member of Parliament and leader of the committee of Ecology, Natural Resources, and Environment in Paraguay was quoted as saying that if the river waters mixed with the toxic residues it could lead to an “environmental catastrophe with international consequences.” What did this mean?

3. Why was a state of emergency declared after the flood waters began to rise near Cateura?

**Handout 4 ▶ P. 2**

## Water Rising

4. According to the article, how long were the flood waters expected to remain high after the initial event? What do you think some of the long-term concerns about water this high were for the community of Cateura?

5. What was the source of flooding documented in both this article and the film *Landfill Harmonic*? Do you think flooding in this region is still an environmental problem near this landfill today? Please explain.



## Handout 5

# NGO Go!

### Directions:

When the landfill of Cateura was made famous by the film *Landfill Harmonic*, organizations known as NGOs began partnering with the community to help its residents find more sustainable ways of living. An NGO, or Non-Governmental Organization, is a non-profit, volunteer-based citizens' group with a social mission. NGOs exist in all parts of the world, and are typically involved in environmental, advocacy, and human rights work.

For this project, you will work with your group to design an original NGO whose mission it will be to help improve the environmental conditions related to the landfill in Cateura. Your NGO must choose one of the following environmental issues as your main mission in Cateura.

- Restoring the clean water supply.
- Educating the public about the health hazards of landfill scavenging.
- Preventing long-term impacts of flooding near the landfill.
- Ensuring that the landfill infrastructure is more reliable.
- Preventing air pollution related to methane gas venting from the landfill.
- Reducing the amount of trash which ends up in the landfill.
- Choose your own environmental issue relating to the landfill in Cateura which is not listed here (with teacher permission).

Spend time researching methods you can use and planning your NGO with your group during the time your teacher provides. Make sure your plan is practical and sustainable and that it will be acceptable to the people of Cateura.

Your group must create a poster which advertises the work of your NGO. Finished posters must include the following information:

1. The name of your NGO.
2. An original logo for your NGO.
3. Detailed information about the mission of your NGO (an action plan). Please address the following:
  - a. What specific landfill-related environmental issue are you going to solve in Cateura?
  - b. What are you planning to do to solve this environmental issue? (This is the most important part of the poster.)
  - c. How will your work affect human health in Cateura?
  - d. How will you know when you have achieved your goal?
  - e. What will be the long-term impact of your work on the environment?
  - f. Why is the work of your NGO so important?

# Planting a Small Seed, Watching It Grow

## Enduring Understandings

- Students are surrounded by role models who have demonstrated the ability to bring change to the lives of others.
- The ways in which students can participate in improving their community and world are diverse and plentiful.
- The ways in which people improve the lives of others may not be the ways they originally intended.

## Essential Questions

- What models have been successfully used to initiate change in communities?
- How can those successful methods be used to bring about change in one's own community?
- How can you identify need in a community?
- How can local resources be used to create change?

## Notes to the Teacher

In the film *Landfill Harmonic*, Favio Chávez discovered that the environmental issues he arrived in Cateura to address were not the ones that he ultimately was going to solve. While the environmental issues that impacted the area would continue, he could still create changes that would have a broader impact in the community. Chávez realized that he could bring enrichment to the children whose parents worked in the landfill through teaching them to play musical instruments.

However, he didn't understand the demand that would follow as local families saw the impact of his work. He soon recognized that this need was greater than he imagined, and recruited Cola, a man who could use found items from the landfill to build the "library" of instruments to help Chávez facilitate the growth of the program. After being recognized by the documentary filmmakers who created *Landfill Harmonic*, the Recycled Orchestra of Cateura took on a new life, opening doors for children who were participants and assisting their families in ways Chávez would never have imagined when he first began to teach music in Cateura. Chávez identified a local need and located the people and resources that were available to help him fill that need.

Service organizations are created regularly through this same process. Someone identifies a need, seeks resources to fill the need, and adapts the program to fit the needs and resources that are available. This pattern occurs in all corners of the globe and across age and experience levels. It is possible for everyone — young and old, experienced and novice — to make a difference in the lives of others.

This lesson seeks to expose students to children and teenagers who have created their own service organizations in order to help students understand that the work such organizations do is accessible to everyone and has the power to make changes at the local, regional, national, and international levels. Students will learn more about the founder(s) and founding of one service organization, evaluate the processes that these service organizations used as they defined (and sometimes redefined) their goals, identify a need in their school or local community, and then come up with a plan to provide resources that would help to alleviate the need. The lesson is designed to be used after students have watched *Landfill Harmonic* and have been introduced to Favio Chávez, who acts as their first mentor in this process.

Prior to teaching the lesson, teachers should reserve library/ computer lab space if required, photocopy handouts, and talk with the school librarian about any resources that students may use to complete their handouts and prepare for their presentations. Students may also need access to phones for interviews. After the research portion has been completed and shared and students have created a service plan, other resources may be needed. These resources will certainly include time, but may also include access to poster materials, funds, transportation, and other goods as the project the students initiate dictates.

#### COMMON CORE STANDARDS ADDRESSED BY THIS LESSON

##### **CCSS.ELA-LITERACY.CCRA.SL.1**

Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

##### **CCSS.ELA-LITERACY.CCRA.SL.4**

Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

##### **CCSS.ELA-LITERACY.CCRA.W.8**

Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

##### **CCSS.ELA-LITERACY.CCRA.R.1**

Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

#### **National Youth Leadership Council K-12 Service-Learning Standards for Quality Practice addressed by this lesson** (<http://lift.nylc.org/>)

**Meaningful Service:** Service-learning actively engages participants in meaningful and personally relevant service activities.

**Youth Voice:** Service-learning provides youth with a strong voice in planning, implementing, and evaluating service-learning experiences with guidance from adults.

**Partnerships:** Service-learning partnerships are collaborative, mutually beneficial, and address community needs.

## Lesson 3 (COMMUNITY SERVICE)



### Duration of lesson

This is a three-part lesson, designed to take three-four total hours of class time for research and initial planning. Detailed planning and implementation of the service project will add additional time to the lesson, depending on the extent and goals of the project. If there are time limitations, explain those at the beginning of Part 3.

### Assessment

Class discussions  
Completion of handouts  
Student presentations  
Service project  
Optional writing project

### Materials Needed

Access to library or devices with Internet connection for research

**HANDOUT 1: SERVICE ORGANIZATIONS FOR RESEARCH**

**HANDOUT 2: SERVICE ORGANIZATION PROFILE**

**HANDOUT 3: SERVICE ORGANIZATION NEEDS AND RESOURCES**

**HANDOUT 4: SERVICE PROJECT PLANNING**

## Procedure

### Part 1: What do service organizations do?

1. Discuss the differences service organizations can make in a community, both directly and indirectly. Explain that community service has recently been accepted as a way to earn elective credits in high schools in many states and has even become a graduation requirement in one state. Because of this renewed emphasis on service in recent years, more organizations have been formed and they have taken on a variety of roles in their local, regional, and national communities. Ask students to brainstorm needs that service organizations fill.
2. After showing *Landfill Harmonic*, ask students why Chávez pursues the opportunity to provide music education in Cateura in the film. Discuss how he had to adapt his idea after it became impossible to implement the recycling program that he had envisioned in Cateura. A few discussion questions to guide you:
  - What need did Chavez recognize in the community that led him to form a program to offer music lessons to the children?
  - Did he envision the extent of his impact when he decided to offer music lessons? How did the service he was providing change over time?
  - What local resources did he use to help bring about the changes to his program?
3. Assign or allow pairs or small groups of students to choose an organization from **HANDOUT 1: SERVICE ORGANIZATIONS FOR RESEARCH**. This list includes service organizations that were founded by children and

teenagers; they are of varied sizes and have different goals. Be sure that each student pair chooses a different organization. This sheet will be used in Part 2, so ask students to keep track of it.

4. Once everyone has a research subject assigned, ask students to use their computers or other devices to research the organization that they have chosen. Distribute copies of **HANDOUT 2: SERVICE ORGANIZATION PROFILE** and ask them to complete the handout using the information from their research. Students may wish to email or call the organization directly as part of their research. This would provide an opportunity for mentoring and create additional enthusiasm for the project, as well as provide encouragement as students develop their own service project.
5. When the research has been completed, ask students to consider what they have learned about their organization, and then ask them to prepare a short presentation (1–2 minutes) for the next class on the founder, why the organization was created, what the goals of the organization are, and any changes in the mission or goals of the organization over time. They should also make a sign to put on the front of their desk with the organization's name on it. (If students need additional time, the work in steps 4 and 5 can be completed as homework or another class day may be devoted to research and presentation preparation.) As an extension activity, you may wish to ask students to reformat this information into a visual presentation using Powerpoint, Prezi, Powtoon, Explain Everything or a similar program.

## **Part 2: Roundtable – What difference can we make?**

1. Distribute copies of **HANDOUT 3: SERVICE ORGANIZATION NEEDS AND RESOURCES**. Ask students to use the chart on the handout to make a list of challenges the founders of the organizations were trying to address and what resources they needed in order to be successful. Students may also ask questions of their peers if they need clarification.
2. Give each student pair time to make their presentation and answer questions from other students about the organization they are discussing.
3. Once all students have made their presentations, discuss why these organizations have become successful. What makes them stand out from other less successful organizations? Ask students to consider this question for homework.

## **Part 3: How do YOU want to change the world?**

1. Divide students into small groups, arranging them so that each group contains students who researched a variety of service organizations. Ask each group to think about the presentations and discussions from the previous class, along with the homework question.
2. Direct each group to brainstorm needs students can identify within their school or local community. Unless your goal is to create a long-term program, encourage them to consider a specific problem and specific ways in which they can help to alleviate it. What resources will they need? Do they have the access to those resources? Using **HANDOUT 4: SERVICE PROJECT PLANNING**, students should consider if the resources that they can access are sufficient to complete a service project.

## Lesson 3 (COMMUNITY SERVICE)



3. Have each group present its idea to the class. Discuss whether the plan can be executed with the time and resources that are available. Develop consensus around one plan where there is a need, available resources, and student enthusiasm.
4. At this point, you may wish to continue planning work in class or move it to an outside time. Students should arrange to present their Service Project Plan to student government or the school administration in order to get approval for their project, if it is required. Once a project is approved, allow students to lead the effort. Teachers are encouraged to be a guide on the side, advising but not coordinating, so that students maintain ownership of the project. Once the project has been completed, teachers may wish to have students participate in the optional writing prompt that follows as a reflection.

### Writing Prompt (Optional)

Read and discuss the following prompt with students. Then have students draft and polish an essay in which they respond to this prompt with specific details about their plans, efforts, outcomes, and future goals. You might also wish to collaborate with an English teacher on this assignment.

In *Landfill Harmonic*, Favio Chávez stumbled into the creation of a music school and ultimately the creation of an orchestra for children of landfill workers. Your experience was more intentional. Consider how your service project allowed you to focus on a specific need and how the resources you accessed helped you to meet that need. How was your experience similar to and different from Chávez's? Is there potential for your project to grow into something bigger?

**Handout 1**

# Service Organizations for Research

**Directions:**

Use as many resources as possible to find out about one of these organizations and its founder(s). All organizations featured on this list were founded by children, teens, or college students because of a need they identified in their families or communities. Many of the founders continue to be actively involved in running their organizations. The websites of all these organizations contain information about their founding. You may wish to reach out to the organizations directly to see if someone would be willing to speak with you.

**Alex's Lemonade Stand**

Funding childhood cancer research

**Building Tomorrow**

Funding construction of primary schools in East Africa

**Coat-A-Kid**

Providing coats, hats and gloves to children in St. Louis

**CollegeSpring**

Assisting low-income students in the college process

**Food Recovery Network**

Providing leftover food from dining halls to hunger-fighting non-profits

**FUNDaFIELD**

Funding soccer fields and equipment for communities in developing countries

**Imagination Foundation**

Funding creativity and entrepreneurship for children around the world

**Kids Helping Kids, Santa Barbara**

Assisting kids, locally and globally, who need socio-economic or physical support

**Kids Saving the Rainforest**

Protecting Costa Rica's Pacific rainforest through research, volunteer training, and conservation

**Mission: Citizen**

Assisting immigrants who apply for naturalization and citizenship

**Positive Impact for Kids**

Improving the lives of kids who are in the hospital

**ProjectCSGirls**

Encouraging girls' interest in studying and working in technology and computer science related fields

**reKindle**

Encouraging acts of kindness, particularly those that help the homeless

**RISE Yoga for Youth**

Bringing yoga and wellness to schools and youth organizations in San Francisco

**Sheltering Books**

Providing books to homeless shelters across the U.S.

**Handout 2 ▶ P.1**

## Service Organization Profile

**Student Names:** \_\_\_\_\_

Research your service organization and answer the questions below. You will then present your organization to your classmates.

1. Name of the organization you have chosen: \_\_\_\_\_

2. Mission and goals of the organization:

3. Why was this organization created? What was the need the founder or founders tried to fill?



**Handout 2 ▶ P.2**

## Service Organization Profile

**4.** What resources were available to the founder(s) to help fill this need?

**5** How did the founder(s) spread knowledge and enthusiasm about this organization in order to expand its reach?

**6.** What obstacles were present for this organization as it was getting up and running? How did the founder(s) overcome them?

**Handout 3 ▶ P.1**

## Service Organization Needs and Resources

	Need Filled	Resources Used
Alex's Lemonade Stand		
Building Tomorrow		
Coat-A-Kid		
CollegeSpring		
Food Recovery Network		

**Handout 3 ▶ P.2**

## Service Organization Needs and Resources

	Need Filled	Resources Used
FUNDaFIELD		
Imagination Foundation		
Kids Helping Kids, Santa Barbara		
Kids Saving the Rainforest		
Mission: Citizen		

**Handout 3 ▶ P.1**

# Service Organization Needs and Resources

	Need Filled	Resources Used
Positive Impact for Kids		
ProjectCSGirls		
reKindle		
RISE Yoga for Youth		
Sheltering Books		

**Handout 4 ▶ P.1**

## Service Project Planning

Follow in the footsteps of Favio Chávez and the other founders you have studied. It's now time to create a service project of your own!

Brainstorm: What specific needs/issues do you see in your school or local community that you believe a class-based project could alleviate?

Which of the needs/issues from your list above seems to have the most support in your group? Why? What is the goal for your service project?

What resources or skills would be needed to complete the project? Do you have access to these resources? Be creative as you consider the answer to this question. Remember that Chávez didn't have the resources he and Cola needed until he found a way to use unorthodox materials to make instruments.

How many people will you need to complete the project?

**Handout 4 ▶ P.2**

## Service Project Planning

Which member(s) of your group will lead this project?

What is the timeframe for completing this project?

Do you need to seek permission or a local partnership before you begin? If yes, who will do this and by what date?

How will you know that you have successfully completed the project?

What steps will need to be taken to complete the project? Include specific tasks. You may need to continue on a separate sheet.





## *Landfill Harmonic* (Elementary Level)

### Enduring Understandings

- Landfills and methods of waste disposal have a significant impact on the environment and communities.
- The lives of students in Cateura were profoundly changed when they were given the opportunity to learn and perform music.
- Music can transform a person, a community, and the world.

### Essential Questions

- How did learning to play instruments affect the students of Cateura?
- Can a landfill have a positive effect on the environment and communities?
- How does the film *Landfill Harmonic* inspire positive action about waste pollution?

### Notes to the Teacher

*Landfill Harmonic* is a film about “The Recycled Orchestra,” a group of children from a Paraguayan slum who play instruments made entirely of discarded items salvaged from the landfill that dominates their town. It is a beautiful story about the transformative power of music but it also highlights two vital issues of our times, poverty and waste pollution.

The world generates about a billion tons of garbage a year. Those who live near it and make a living from it are the poor — like the people of Cateura, Paraguay. *Landfill Harmonic* follows the orchestra as it takes its trash-into-music around the world. The movie runs 84 minutes.

In this four-part lesson, students will be analyzing and discussing the film *Landfill Harmonic*, learning about the impacts of landfills on the environment, and comparing their own experiences making found-material instruments with what they saw in the film.

To prepare for this lesson, post a map of South America that shows Paraguay and its capital, Asunción. Cateura is a slum near this city but will probably not appear on the map. Make copies of the handouts for each student. Set up a blank concept map on Kidspiration or <https://www.mindmup.com/>, or use another web creation tool. Secure access to student computers.

You should also gather a large supply of recycled materials for instrument creation. Suggested materials include plastic containers, unused straws, gallon milk jugs, cardboard boxes, rubber bands, aluminum roasting pans, string, cardboard tubes, and popsicle sticks. Sand, salt, pebbles, birdseed, rice, beans, small beads, large beads, dried pasta, rice, and dried peas are also useful. Paints and markers should be added if you wish to have students decorate their instruments.



In the first part of the lesson, after a warm-up discussion on the musical instruments that students are learning to play, the class watches a quick video followed by your modeling how to fill in a graphic organizer. Then students watch *Landfill Harmonic* and complete **HANDOUT 1**, which asks them to reflect on what they like and dislike about the film, pose questions that they still have, and list key words from the film. They discuss their answers, use a mindmap to organize their ideas, and write an “exit ticket” on an index card that summarizes their learning.

Part 2 acquaints students with waste disposal in their own community, something that most of them never consider. Before teaching this part of the lesson, locate a copy of *Where does the Garbage Go?* by Paul Showers or a similar text. Here are some other possibilities:

*Follow that Garbage! A Journey to the Landfill* by Bridget Heos

*Recycle! A Handbook for Kids* by Gail Gibbons

*Why Should I Recycle?* by Jen Green

*This Book Stinks!* by Sarah Wassner Flynn

A series of extension activities is located at the end of the Procedures section if you wish to develop this part of the lesson further.

In Part 3 of the lesson, students make their own instruments out of recycled materials. Resources on making instruments from found materials may be found at <https://kinderart.com/art-lessons/music/easy-make-musical-instruments/> and [http://www.cbc.ca/parents/play/view/activity\\_musical\\_instruments](http://www.cbc.ca/parents/play/view/activity_musical_instruments). Make several instruments yourself to use as examples. This would be an excellent part of the lesson in which to team up with a music teacher.

The fourth part of the lesson asks students to synthesize what they have learned by making a concert tour poster for a hypothetical concert by the Recycled Orchestra in your own town or city. You may wish to have them make the posters with traditional art materials—poster board, paints, markers, clippings from magazines, images downloaded from the Internet, etc. However, it would be more in keeping with the spirit of the lesson if students designed their posters using a computer program such as PowerPoint or Publisher; if you choose this route, you may have to spend some classroom time familiarizing students with how to use the program of your choice.

# Lesson 4 (MUSIC, LANGUAGE ARTS, SCIENCE)



**JOURNEYS IN FILM™**  
educating for global understanding

## COMMON CORE STANDARDS ADDRESSED BY THIS LESSON

### CCSS.ELA-LITERACY.RI.5.2

Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. CCSS.ELA-Literacy.W.5.6

With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

### CCSS.ELA-LITERACY.SL.5.1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

### CCSS.ELA-LITERACY.SL.5.1.A

Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.

### CCSS.ELA-LITERACY.SL.5.1.B

Follow agreed-upon rules for discussions and carry out assigned roles.

### CCSS.ELA-LITERACY.SL.5.1.C

Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.

### CCSS.ELA-LITERACY.SL.5.1.D

Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

## Duration of Lesson

Approximately five 45-minute class periods.

## Assessments

Likes-Dislikes organizer on **HANDOUT 1**

Exit card after the discussion of the film

Sequence charts on waste-disposal

Recycling projects from the choice board (optional)

Found object musical instrument

Completed Concert Tour Promoter Poster

## Materials needed

Copies of **HANDOUTS 1–3**

Projector for screening video clips and mindmap website

Chart paper or white board for taking notes during class discussions

Index cards

*Where does the Garbage Go?* by Paul Showers, or other landfill text (See additional text resources in Notes to the Teacher.)

Assorted recycled materials for instruments (See suggestions in Notes to the Teacher.)

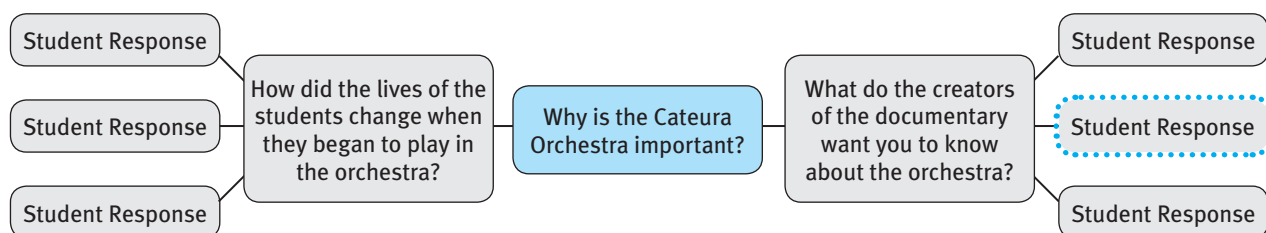
**HANDOUT 4** for Extension Activity 1 (optional)

# Procedure

## Part 1: Initial Viewing and Discussion

1. Begin the class by asking what instruments students in your class are learning to play. List the instruments on the board and add any instrument that you can play yourself. Group instruments if you wish into categories such as keyboard, wind, percussion, string. Ask what materials the instruments are made from and what musicians must do to take care of their instruments.
2. Explain that students are going to watch a film about a group of young people in Paraguay who form their own orchestra. Point out Paraguay on the classroom map, and then show them where the city of Asunción is.
3. Tell students that, as they view the film *Landfill Harmonic*, they will complete a graphic organizer to record their reflections on the film but first they are going to practice with a two-minute video on two brothers in China who make instruments from vegetables. On the board, draw a table with two rows and two columns; label it the same way the graphic organizer on **HANDOUT 1** is labeled. Then show the short video at <https://www.youtube.com/watch?v=N7qiwu46hrA>. Model the activity by having students suggest answers for the video while you record them on the board.
4. Distribute **HANDOUT 1: WATCHING LANDFILL HARMONIC**. Review the handout with the class so that they understand your expectations. Show the video and have students complete the handout. If you wish, stop the video periodically to give them some time to write.
5. Ask students for their initial reaction to the film. Allow students to talk through their ideas, using the graphic organizer to focus on parts they liked and disliked.
6. Have students present their questions. Record questions on chart paper or a white board. Give students time to think-pair-share their ideas on responses to each class-generated question.
7. Open up a Kidspiration page if you have that program on your computer or use <https://www.mindmup.com/> or another concept mapping program to record students' responses to two important questions:
  - a. How did the lives of the students change when they began to participate in the orchestra?
  - b. What do you think the creators of the documentary want you to know about the Cateura orchestra?

Here is a sample mindmap:



8. After discussion, have students write an exit ticket, a one- or two-sentence response on an index card about why the orchestra is important. Leave the website up for student reference during this writing activity.

5. Discuss ways to prevent trash from ending up in landfills. Encourage students to talk about ways that they and their families “reduce, re-use, and recycle.” Ask them what they know about your school’s recycling program. (See the Extension Activity below.)

## Part 2: What Happens to the Trash?

1. Ask students what happens to the trash that they throw away. Have them explain as far as they can, from the moment they drop something in a trash can at home, to a larger garbage can, garbage truck, and landfill. Students who live in apartments may use a garbage chute to a main collection area on a low floor of the building. (Most students will not understand the complete process or be able to locate the nearest landfill to their homes.)
2. Gather students for a read-aloud circle and read the book *Where does the Garbage Go?* by Paul Showers (or select another text from the suggested resources). Be sure to show pictures and discuss as you go.
3. Distribute **HANDOUT 2: WASTE SEQUENCE CHART**. Have students summarize what happens to trash once it is thrown away.
4. Have students view the video clip <https://www.youtube.com/watch?v=18FLfQDInl8> and record the problems with landfills. Discuss the problems caused by methane gas. (You might want to point out that this is a British video, so pronunciation of “methane” is different from the U.S.) Also have students consider the problems with toxic leachate. If you wish, you could supplement with the video at <https://www.youtube.com/watch?v=lsyg472MQp8>.

## Part 3: Instruments from Found Materials

1. Ask students to recall some of the materials that were used to make the instruments in Cateura. (Oil drums, shoe heels, forks, recycled wood). Explain that today students will be creating their own instruments from recycled materials.
2. Allow students time to sort through materials and experiment with using them to make sounds before committing to an instrument design. Provide some examples of instruments to inspire students. (See suggested websites mentioned in Notes to the Teacher.)
3. Once students have created instruments, give volunteers a chance to perform for the class.
4. Lead a discussion about the challenges students had when planning and building their instruments. How does this change their view of the students of Cateura and their instruments?

#### Part 4: Posters for a Concert

1. Ask students if they would like to see the Recycled Orchestra live in concert. Why or why not? How might it benefit the community if a concert were held near the school?
2. Divide students into small groups of 3 – 5 students. Distribute **HANDOUT 3: LANDFILL HARMONIC TOUR POSTER** and explain directions. If you wish, you can designate roles or have students choose among themselves who will be group leader, writer, artist, and concert promoter; however, remind them that every student in the group is responsible for contributing ideas.
3. Give students time to discuss the details of the concert and plan the approach they will take in designing the poster. They may wish to use the “Liked” section of **HANDOUT 1** for inspiration and to integrate some of the key words that they identified on the handout into the poster text.
4. When you feel students are ready, distribute poster boards and art materials for the assignment if you are making paper posters. If you are choosing to have students design the posters online, move to their computers and, if necessary, instruct them how to use the program you have chosen. Allow them time to work in small groups on the assignment.
5. When the posters are completed, hang the paper posters or project the computer-designed posters. Have each student group explain the decisions they made to the class. If you hang the posters on the wall, allow students to take a “gallery walk” to view each poster close up.
6. Conclude the lesson by writing the word “Transformation” on the board. Ask students for a definition. (A profound change). Have students explain who or what was transformed by the events portrayed in *Landfill Harmonic*.

#### Extension Activities

1. You may wish to create a choice board to encourage recycling at your school if it is nonexistent or inefficient. (See **Handout 4: Recycling Choice Board**.) Students may choose to craft an email to the principal (or whichever administrator handles school recycling) with ideas on what the school should do to increase recycling and decrease waste. They also may choose to create an informational poster to hang in the hallways about the importance of recycling. The final choice is to create a Prezi or PowerPoint presentation for another class that explains the problems with landfills and encourages the students to recycle. When completed, have students share their projects with the intended audience.

## Lesson 4 (MUSIC, LANGUAGE ARTS, SCIENCE)



2. Have students explore the Kids' Science Challenge Zero-Waste site and play the interactive game. Have them brainstorm their own ideas for creating a package that doesn't end up in a landfill. See <http://www.kidsciencechallenge.com/year-four/zw.php>
3. How-to-Writing: Have students write a detailed, step-by-step how-to guide for creating a found-material instrument.
4. Have students research Freshkills Park in New York City, a park being built on what was the largest landfill in the world. See <https://www.nycgovparks.org/park-features/freshkills-park>.
5. Watch how a violin is made and compare it with how instruments were constructed in Cateura. [https://www.youtube.com/watch?time\\_continue=4&v=WcJfbjcUDoo](https://www.youtube.com/watch?time_continue=4&v=WcJfbjcUDoo)



**Handout 1**

# Watching *Landfill Harmonic*

**Name** \_\_\_\_\_

**Directions:**

As you watch *Landfill Harmonic*, fill in the organizer below with your thoughts about the film.

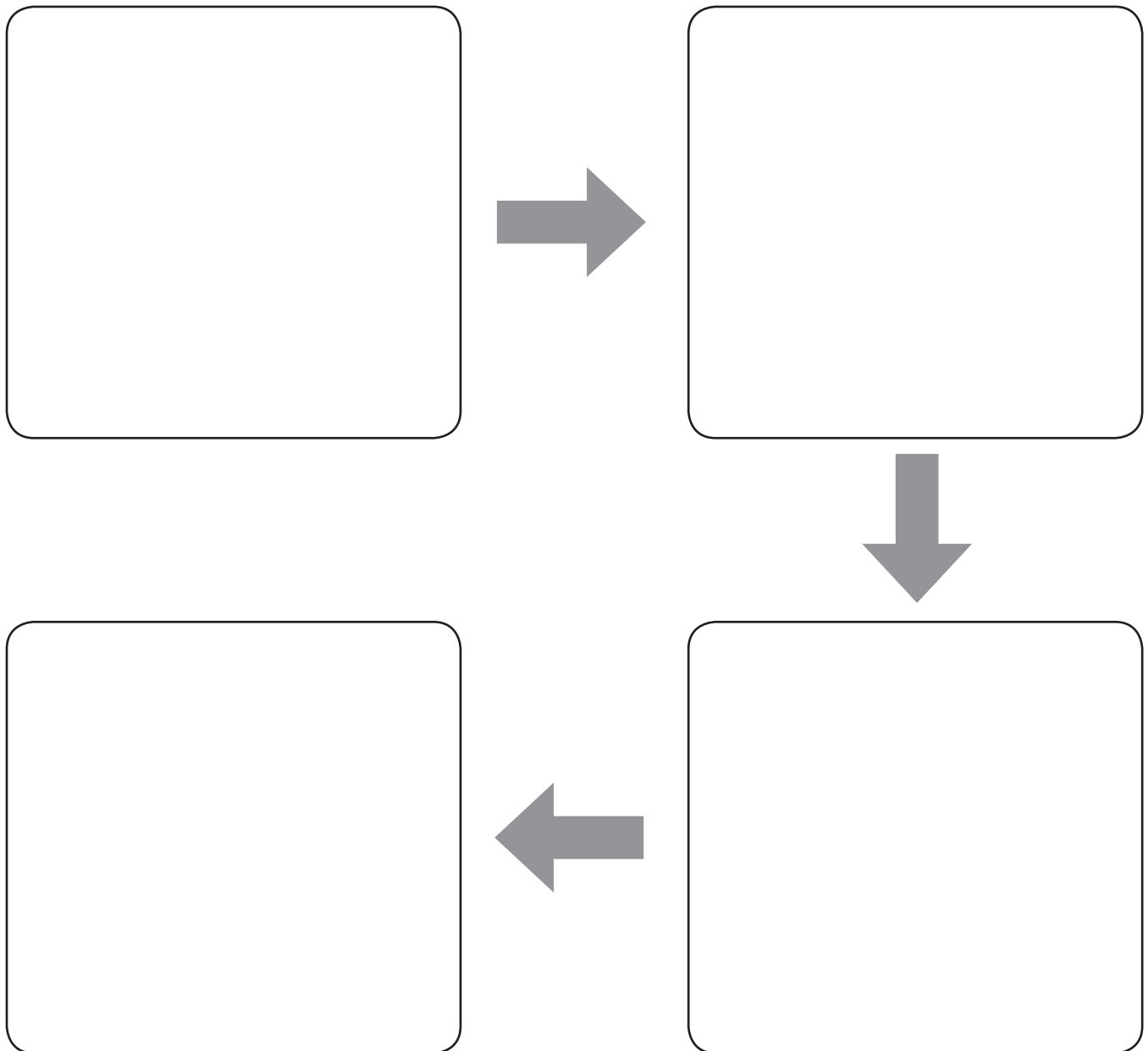
What I liked...	What I didn't like...
Questions I have...	Important words...

**Handout 2**

# Waste Sequence Chart

**Name** \_\_\_\_\_

What happens to your trash after you throw it away? Describe each step.





## Handout 3 ► P.1 Landfill Harmonic Tour Poster

Name \_\_\_\_\_

Group Members \_\_\_\_\_

### Directions:

With your group, design a poster to promote a concert of the Recycled Orchestra at your school. As tour promoters, you want to encourage people to come to the concert. Be sure to tell them why they will enjoy the music. Your poster should also explain why the orchestra is important to the environment and people of Cateura. Design your poster so that people will want to buy tickets and support the Recycled Orchestra.

Include each of these items in your poster. Check them off as you work on your poster:

Items for Inclusion	Brainstorming Ideas	✓
A headline and design to draw attention to your poster		

**Handout 3 ▶ P.2**      **Landfill Harmonic Tour Poster**

Items for Inclusion	Brainstorming Ideas	✓
The benefits of supporting the orchestra		
Reasons why the orchestra helps its members, the community, and/or the world		
Specific information about buying tickets including date, time, price, and place		

## Handout 4 Recycling Choice Board

Name \_\_\_\_\_

Choose one activity to demonstrate your understanding of the importance of recycling and reducing landfill waste.

Option 1: Write an Email	Option 2: Make a Poster	Option 3: Create a Prezi or PowerPoint Presentation
Write an email to the principal. Explain to him/her why our school should be concerned about reducing waste. Give two or three suggestions for how our school can reduce the trash we send to the landfill and increase school recycling.	Create a poster that will hang in the hallway for other students to see. Your poster should list three reasons it is important to recycle and give students two or three tips on how to decrease the trash they make.	Create a Prezi or PowerPoint to present to another class in our school. Teach students the problems with landfills and explain the reasons we should recycle waste. Include two or three suggestions for students to decrease their own trash.





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