

### Unit Overview

Unit Length	7 weeks (24 60-minute lessons)
Grade Level(s)/Subject(s)	Grades 3-5
Unit Overview	<p>This unit provides elementary age students opportunities to examine how environmental racism not only accelerates the breakdown of communities, but affects already marginalized individuals.</p> <p>Students will begin their journey by diving into <i>The 1619 Project</i> resources to connect the problem of environmental degradation and its effects to systemic racism. Students will explore this idea in the context of six unique case studies that represent five different regions of the United States: east coast, west coast, southern America, northern America and middle America). Each week of the unit will center around a different case study through the lens of key community players. They include urban planners, health care workers, local government officials, business leaders, and student activists. The role of students will be to examine and interrogate the case study and the situation it presents. Students will then work together to investigate further and come up with proposed solutions.</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> <li>● How have certain factors contributed to NYC having neighborhoods that have good quality air environments, health outcomes, living conditions, and some neighborhoods that have the opposite?</li> <li>● Why does wealth differ by neighborhood?</li> <li>● How does race affect how a person experiences the effects of environmental issues?</li> <li>● What is Ben Chavis’ impact on how we understand environmental issues?</li> <li>● How do different communities experience environmental racism?</li> <li>● How can a community come together to make a change?</li> </ul> <p><u>Methodology</u>                  By employing a routine inquiry model, students will learn more about the issue of environmental racism, discover a range of</p>

	<p>solutions, meet agents of change, and eventually see themselves as changemakers working to solve the problem of environmental racism. This model encourages students to engage in a process of active investigation and discovery. Because a key goal of the unit is to present the voices of community players, we have incorporated audio or video recordings throughout the unit.</p> <p>For each week we will follow the same format of four steps:</p> <ol style="list-style-type: none"> <li>1. <b>Learn</b> — Students will first <i>learn</i> by activating prior knowledge through discussion of the essential questions, identifying and learning key vocabulary and then interacting with the case study.</li> <li>2. <b>Engage</b> — Students will <i>engage</i> by using graphic organizers to discuss with their peers the problem identified and further questions that arise.</li> <li>3. <b>Investigate</b> — Students will <i>investigate</i> by doing further research of related primary sources and provided resources. They will use a graphic organizer to come up with proposed solutions.</li> <li>4. <b>Present</b> — Students will <i>present</i>, either in written or oral form, their final conclusions and proposed solutions.</li> </ol> <p>Within the materials included, we provide the case studies, suggested primary and secondary source documents and resources for further research, as well as suggested teacher steps. We intentionally left these teacher steps brief and general as we encourage teachers to use the materials to design their own lesson plans that will incorporate dynamic teaching activities such as discussion protocols, vocabulary protocols, journaling, small group work, or exit tickets that allow students to engage with the materials and the essential questions. This will also allow teachers to differentiate and scaffold the information. The unit will culminate in a final project for students to present their final understandings.</p>
<p>Objectives &amp; Outcomes</p>	<p><u>Objectives:</u>              Students will...</p> <ul style="list-style-type: none"> <li>● Describe the systems of power that drive historical and contemporary patterns of environmental racism locally, nationally, and globally</li> </ul>

	<ul style="list-style-type: none"> <li>● Analyze how access to resources distinguishes neighborhoods along the lines of race and wealth leading to unfair and detrimental health outcomes for marginalized communities.</li> <li>● Investigate the factors that contribute to structural racism and how structural racism contributes to the disproportionate burden of disease and health disparities often aggravated by the environment.</li> </ul> <p><u>Outcome:</u>                  Students will cultivate a civic responsibility to advocate for environmental justice and become active participants of their community in any future role: urban planner, government employee or official, health worker, business leader, or an activist.</p>
Standards	<p>The following is a <a href="#">list of Grade 4 standards</a>.</p> <p>4R1: Locate and refer to relevant details and evidence when explaining what a text says explicitly/implicitly and make logical inferences.</p> <p>4R3: In informational texts, explain events, procedures, ideas, or concepts, including what happened and why, based on specific evidence from the text.</p> <p>4R7: Identify information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, illustrations), and explain how the information contributes to an understanding of the text.</p> <p>4SL1: Engage effectively in a range of collaborative discussions with diverse partners, expressing ideas clearly, and building on those of others.</p> <p>4SL2: Paraphrase portions of information presented in diverse formats (e.g., including visual, quantitative, and oral).</p> <p>4SL3: Identify and evaluate the reasons and evidence a speaker provides to support particular points</p> <p>4ESS3: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. 4ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.</p>

Facilitation Resources

- [\*Born on the Water\* by Nikole Hannah-Jones, Renée Watson, Nikkolas Smith\\*](#)
- [\*Man in the News: Benjamin Franklin Chavis Jr.: Seasoned by Civil Rights Struggle.\*” by Neil A. Lewis, \*The New York Times\*](#)
- [“\*Environmental Justice: Opposing a Toxic Waste Landfill.\*” \*PBS Learning Media\*](#)
- [“\*This Is Environmental Justice\*” by Darryl Fears and Brady Dennis, \*The Washington Post\*](#)
- [“\*A Bridge Too Far?: Benjamin Chavis\*” \*The New York Times Magazine\*](#)
- [\*Dr. Benjamin Chavis at the NAACP Convention in Detroit, Click On Detroit | Local 4 WDIV\*](#)
- [“\*Pollution Is Killing Black Americans. This Community Fought Back.\*” by Linda Villarosa, \*New York Times\*](#)
- [\*An Educator's Guide to The 1619 Project: Born on the Water\*](#)
- [“\*Hope\*” photo essay by Djeneba Aduayom and Nikole Hannah-Jones\\*](#)
- [“\*Why does health differ by neighborhoods.\*” \*NYC Health\*](#)
- [“\*About NYC Health Data\*”](#)
- [“\*Ralph Fiennes, Master of Monsters\*” by Maureen Dowd, \*The New York Times\*](#)
- [“\*Traffic\*” by Kevin Kruse \\*](#)
- [“\*The Wealth Gap\*” by Trymaine Lee \\*](#)
- [“\*Urban Planning.\*” \*National Geographic\*](#)
- [“\*Urban Planning.\*” \*Brittanica Kids\*](#)
- [\*Environmental resolution developed by the city Austin\*](#)
- [“\*What are wetlands?\*” \*WWT\*](#)
- [“\*Ever wondered where the rain goes? Sustainable drainage animation.\*” \*CIRIA's Susdrain Project\*](#)
- [“\*Urban Heat & Cool Spaces.\*” \*austintexas.gov\*](#)
- [“\*Municipal Government.\*” \*Britannica Kids\*](#)
- [\*Questions for a Resilient Future: Julian Agyeman\*](#)
- [“\*Addressing environmental health disparities in southern California’s Black communities.\*” \*UCI School of Social Sciences\*](#)
- [“\*Los Angeles County’s Black Residents Are Most at Risk in Major Floods.\*” By Audra D. S. Burch and Eileen Guo, \*The New York Times\*](#)
- [“\*What is Research?\*” \*Ann & Robert H. Lurie Children's Hospital of Chicago\*](#)
- [“\*Research Facts for Kids.\*” \*Kiddle\*](#)
- [“\*Sugar\*” by Khalil Gibran Muhammad\\*](#)

	<ul style="list-style-type: none"> <li>• <a href="#">"How to Become a Successful Business Leader," Masterclass</a></li> <li>• <a href="#">"2) Pahokee, Florida (1909- )," contributed by Sumaya Addish, Blackpast.org</a></li> <li>• <a href="#">"The Burning Problem of America's Sugar Cane Growers," by Paul Tullis, Claims Journal</a></li> <li>• Teacher-created worksheets, graphic organizers, case studies, and presentations linked throughout the pdf</li> </ul>
<p>Performance Tasks</p>	<p><u>Weekly Performance Tasks:</u>              Each week, students will craft an infographic, news clip, or powerpoint that captures the issues explored in each case study and the community players contributing to solving environmental racism in their community.</p> <p>On the first few days, schedule conference time with students where they will choose one of the following methods to demonstrate their learning after each case study lesson. They will do so on the fifth day:</p> <ol style="list-style-type: none"> <li>1. Infographic (on a large piece of paper or poster board)</li> <li>2. Tik Tok News Clips (using Flip Grid)</li> <li>3. Powerpoint</li> </ol> <p>All options should include the following elements:</p> <ul style="list-style-type: none"> <li>• the name of the community player</li> <li>• the location of the case study state the problem</li> <li>• discuss what the community player does and how they try to fix the problem state what questions you still have</li> </ul> <p>Students can choose to work with a partner or in groups of three to four to capture their learning. As students add to their "document" after each case study, they will be making connections and drawing conclusions on how each community player contributed to environmental justice. At the end of the unit, they will revisit their work and present what they have learned.</p> <p><u>Environmental Justice Fair</u> [<a href="#">.pdf</a>][<a href="#">.docx</a>]              At the end of the unit, teachers will arrange for an Environmental Justice Unit Fair that can be held in a gymnasium or in a large area. Classes, parents, and community members will be invited to the Fair.</p>

<p>Assessment/Evaluation</p>	<p><u>Formative Assessments:</u> Throughout the unit teachers can use the following examples of student work to assess students:</p> <ul style="list-style-type: none"><li>● Group storyboards</li><li>● Before/After charts (before and after their proposal) (can use art and writing)</li><li>● Compare and contrast case studies</li><li>● Stop &amp; Jot notes</li><li>● Graphic Organizers</li><li>● Written reflections</li><li>● Final cumulative projects</li></ul> <p><u>Summative Assessment:</u> Checklist and Rubric</p>
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## DAILY LESSONS AND RESOURCES

### Week 1: Introduction to the Unit Concepts & Themes

#### Day 1

#### Lesson Objectives & Essential Questions

##### Lesson Objectives:

Students will...

- Define environmental racism
- Analyze and critique the contamination of a community in Warren County

##### Essential Questions:

- What is environmental racism?
- How does race affect how a person experiences the effects of environmental issues?
- What is Ben Chavis' impact on how we understand environmental issues?

#### Lesson Materials & Resources

- Unit Slides [[.pdf](#)] [[.docx](#)] (slides 1 - 9)
- Excerpt "Man in the News: Benjamin Franklin Chavis Jr.; Seasoned by Civil Rights Struggle," by Neil A. Lewis, *New York Times* [[.pdf](#)][[.docx](#)]
- Lesson 1 Vocabulary Worksheet [[.pdf](#)] [[.docx](#)]
- Teacher Copy Vocabulary Words
- "[Environmental Justice: Opposing a Toxic Waste Landfill](#)," *PBS Learning Media* (4:33)
- "[This Is Environmental Justice](#)" by Darryl Fears and Brady Dennis, *The Washington Post*
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

##### Additional resources:

- "[A Bridge Too Far?; Benjamin Chavis](#)" *The New York Times Magazine*
- "[Dr. Benjamin Chavis at the NAACP Convention in Detroit](#)," *Click On Detroit | Local 4 WDIV* (1:31)

#### Lesson Activities

##### Lesson Steps:

1. **Activity Inquiry** - Begin the unit by displaying and reading from the introductory presentation slides to introduce the unit.
2. Introduce and discuss the following vocabulary words[[.pdf](#)] [[.docx](#)]:
  - Marked man: a person who is singled out for special treatment that is intended to harm them
  - State trooper: a member of the police force

- **Revolt:** Illegally trying to change a system, sometimes using force or violence
- **Racism:** When people are treated unfairly because of their skin color or background
- **Environmental racism:** Regular actions that people take which then result in communities of color living closer to pollution and other environmental hazards. Because of these actions, their physical, mental and emotional health are affected badly.
- **Environmental justice:** Making sure to create rules and laws for the environment that benefit people who have been treated badly in the past. It is the fair treatment and inclusion of all people no matter their race, color, national origin, or income when it comes to creating and following environmental rules and laws.

3. **Activity Read Aloud** - Reads or asks several students to read the following excerpt from "[This Is Environmental Justice](#)" by Darryl Fears and Brady Dennis, *The Washington Post*:

*"Ben Chavis was driving on a lonely road through rolling tobacco fields when he looked in his rearview mirror and saw the state trooper. Chavis knew he was a marked man.*

*Protests had erupted over North Carolina's decision to dump 40,000 cubic yards of soil contaminated with cancer-causing chemicals in a poor Black farming community in Warren County, and Chavis was a leader of the revolt. The trooper pulled him over.*

*"What did I do, officer?" Chavis asked that day in 1982. The answer shocked him. "He told me that I was driving too slow." Chavis was arrested and thrown in jail. When the cell door slammed shut, he gripped the metal bars and declared: "This is racism. This is environmental racism."*

4. **Assessment** - Have students *stop and jot* down their answers in a notebook to the following questions:

- What is environmental racism?
- Mr. Chavis believed that he experienced environmental racism? Why?

- a. Walk around the classroom to grade students' answers. Differentiate assessment by asking students to provide an oral response.
- b. Play "[Environmental Justice: Opposing a Toxic Waste Landfill](#)," *PBS Learning Media* for students from minute markers 2:04 to 3:39.

*Educator Note that only a portion of the video is played as this resource is primarily intended for grades 6-8).*

- c. Ask students to adjust or add to their answer to the question, "What is environmental racism?"

5. **Closing Activity** - Have students answer the question in their notebooks: What do you look forward to learning in this unit?"

- a. Chart and display student responses.
- b. Replay the introductory presentation slides for student support.



6. Set up for tomorrow's lesson "We will take a look at how one community fought back against environmental actions that were hurting their community."

Day 2

Lesson Objectives & Essential Questions

Lesson Objectives:

Students will...

- Compare and contrast their own (or neighboring) communities to Grays Ferry
- Generate potential solutions to the issue of hazardous waste contamination

Essential Questions:

- How do different communities experience environmental racism?
- How can a community come together to make a change?

Lesson Materials & Resources

- Unit Slides [[.pdf](#)] [[.docx](#)], Week 1
- Lesson 2 Vocabulary Worksheet [[.pdf](#)][[.docx](#)]
- Teacher Copy Vocabulary Words [[.pdf](#)][[.docx](#)]
- "[Pollution Is Killing Black Americans. This Community Fought Back,](#)" by Linda Villarosa, *New York Times*
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Warm-up:

Introduce and discuss the following vocabulary words [[.pdf](#)][[.docx](#)]:

- **Contamination:** When something becomes dirty, polluted, or not usable because something else touched it or was added to it
- **Hazardous waste:** Something that is thrown out and can harm people's health and the environment
- **Immigration:** the process of moving to a new country, with plans to live there permanently
- **Immigrant:** a person who comes to live permanently in a foreign country.

Lesson Steps:

1. Play the audio of the article "[Pollution Is Killing Black Americans. This Community Fought Back.](#)" by [Linda Villarosa, New York Times](#)
  - a. At several points, stop and provide students with opportunities to stop and Think-Write-Share (approximately every 2-3 minutes)
  - b. Encourage students to share their answers and record them on chart sheets or a google doc that can be shared/is visible by students.
  
2. **Discussion:** How do people experience environmental racism?
  - a. *SAY: There are primarily two reasons. One, people with little money cannot afford to live in neighborhoods where there is little or no pollution. They end up in neighborhoods that hurt their health. Or, even if their neighborhoods have decent air quality, they often find themselves faced with a new dilemma or problem when businesses and officials make decisions that now harm their neighborhoods. Many of these neighborhoods are segregated from other races. We will learn more in the unit of examples of poor decisions that harm particular communities.*
    - i. Present the following questions in a space that is visible to students. Instruct students to discuss the questions in dyads or triads:
      - Is your neighborhood one where you believe the air quality and the environment is a healthy one?
      - How do you know?
    - ii. While students are discussing, take note of the conversations.
  - b. *SAY: There are people who can afford to live in neighborhoods where there is no pollution, where there is clean air. But, they are told they cannot live in those neighborhoods because of the color or tone of their skin. They are denied or rejected because of their race. This is called discrimination and racism.*
    - i. Present the following questions in a space that is visible to students. Instruct them to discuss the questions in dyads or triads:
      - *Have you, your family or someone you know experienced discrimination and racism?*
      - *How does or did it make them feel?*
    - ii. While students are discussing, take note of the conversations.
  - c. If students in your class are immigrants, encourage them to share with the class. Highlight and celebrate some of the countries from where they or their families hail. Perhaps you have a chart already of the birth countries of the parents of students.
  - d. *SAY: Many Black Americans who came to the United States in the 1600s did not immigrate to this country. Theirs is not an immigration story. Theirs is not an immigration story.*

\*\*\**Educator Note: This closing statement is especially important as it prepares students for the African-American experience through the seminal work of authors Nikole Hannah-Jones and Renée Watson, along with illustrator Nikkolas Smith.*

3. **Assessment or Homework** - Have students answer the following prompts in their journals:
- Do I know of facilities in my neighborhood or in other neighborhoods that produce hazardous waste like the one in Grays Ferry?
  - How is my neighborhood different and why?
  - What ideas or solutions do I have that can help the problem?"

Closing Activity/Comments:

1. *SAY: Today we learned how one community experienced hazardous waste. You discussed how you would react if hazardous waste was dumped in your neighborhood. (Comment on what students did well). It was important to start our unit with a discussion of environmental racism and an example of such in Philadelphia. We learned two reasons why people experience racism. One, they cannot afford cleaner neighborhoods. Two, even when they can afford them, they are prevented from living in them because people judge their skin color.*

*For the next few days, we are going to do a bit of a shift. I am excited about it and I know you will be as well. We are going to study history – the history of African Americans in this country.*

*Our unit on environmental racism will primarily focus on neighborhoods that impact African Americans in this country. So an important question is why? Why do we say African Americans often confront or experience racism? How do we come to understand how and why African Americans experience racism, and later specifically environmental racism? We will be reading a special book “Born on the Water” to answer those questions. It is the story of African Americans and where it all began. Stay tuned for tomorrow.*

Day 3

Essential Questions

Essential Questions:

- In *Born on the Water*, how do the authors, Nikole Hannah-Jones and Renée Watson, develop the themes of despair, hopelessness, theft of a culture and theft of heritage?
- In *Born on the Water*, how do the authors develop the themes of hope, love, belief in one another, support of one another and rebirth?
- How does the illustrator, Nikkolas Smith, support the themes in his illustrations, especially in his depiction of movements?
- How do the authors develop the theme of resilience in the verses?
- How does the illustrator show the resilience of Africans in the way he paints their faces, their clothing, their jewelry, and shows the movement of their bodies?

*Educator note: Review the EQ with students. Craft them as your LO*

Lesson Materials & Resources

- Unit Slides [[.pdf](#)] [[.docx](#)]
- [Born on the Water by Nikole Hannah-Jones, Renée Watson, Nikkolas Smith](#)  
*Educator note: provide either a digital version projected, a physical copy using a document camera, or individual copies for each student. We recommend the latter.*
- Vocabulary for *Born on the Water* Worksheet [[.pdf](#)][[.docx](#)]
- Teacher Copy Vocabulary Words [[.pdf](#)][[.docx](#)]  
*Educator note: Post the themes and vocabulary in your classroom somewhere that is visible to all students. It should stay posted for the duration of the unit.*
- [An Educator's Guide to The 1619 Project: Born on the Water](#)
- Titles and Illustrations in *Born on the Water* Worksheet [[.pdf](#)][[.docx](#)]
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Warm-up:

Introduce and discuss the following vocabulary words [[.pdf](#)][[.docx](#)]:

- **Ancestor:** Your parents' mom and dad. Their mom and dad and their mom and dad. They would be your ancestors.
- **Roots:** The part of a plant that is underground. They hold the plant in the ground and keep it upright. Ancestral roots are the people who made your parents, your parents' parents, and their parents' parents.
- **Freedom:** When people have the right to live their lives the way they want
- **Legacy:** The things your family is proud of that they pass down to you
- **Immigration:** The process of moving to a new country, with plans to live there permanently
- **Africa:** We live on the continent of North America. There are 6 other continents. Africa is one continent. People move from one continent to another continent. For example, my ancestors were on the continent of \_\_\_\_\_ and they came to North America. Ms. Hawkins' ancestors and Ms. Lamarre's ancestors came from the continent of Africa and they moved to North America.
- **Point Comfort:** The place in Virginia where the ship docked or landed.

Lesson Steps:

1. **Introduce [Born on the Water](#).**

- a. *SAY: Our 7-week unit is a study of how depending on where a person lives, their health outcomes and also their feelings about where they live are either positive or negative. Why is that?*

*In the two previous lessons, we learned the term environmental racism and we examined a case in Philadelphia. Our unit on environmental racism will primarily focus on neighborhoods that impact African Americans in this country. So an important question is why? Why do we say African Americans often confront or experience racism? How do we come to understand how and why African Americans experience racism, and later specifically environmental racism?*

*We will be reading a special book "Born on the Water" to answer those questions. It is the story of African Americans and where it all began.*

- b. Post "Theirs is not an immigration story" on the board.
- c. *SAY: You will hear that verse repeated in the book we will read together, [Born on the Water](#). Descendants of Black Americans were taken from Africa and forced to arrive in the United States or other parts of the world. They were brought on ships from Africa, crossing the Atlantic Ocean, and arriving first in the state of Virginia. They spent months on ships – on the water.*

*The authors of Born on the Water share that these people were born on the water. It is not a literal term. It is a figurative sense. They were not actually born on the water, but in a sense,*

*when they were taken from Africa and came to the United States, they experienced a horrendous journey. That journey in a sense made them the people they became in America. They became determined, strong, imaginative, creative, and resilient. The harsh journey was their birth. They were “born on the water.”*

2. **Stop and share.** Have students discuss responses to the following questions in dyads or triads. Project the question on the board or point to a chart sheet where the questions are written. Walk around and take note of student conversations.
  - a. What do you think life was like for people who were kidnapped from their homes and suddenly forced into the bottom of a small, dark ship?
    - What did they lose? (answers might be family members, items, friends, customs, language)
    - What thoughts and feelings might they have experienced? (answers might be fear, anger, sadness, helplessness)
    - What challenges did they face? (answers might be hunger, being beaten, being unsure of where they were going, death)
  - b. If they survived, what qualities do they now possess? (an alternate version can read: Having gone through a horrible experience and surviving that experience, what possible qualities or skills do people at times gain?)

*\*\*\*Educator word of caution: All of us experience emotional trauma. Many of us do not bounce back from trauma. It is important to add a caveat when discussing this part: Many Africans and their descendants, as well as anyone, regardless of the race, can suffer from the effects of trauma. There are resources that can help individuals. Talking with a family member or an adult at school to get support is a good first step. Experiencing trauma does not mean you are weak. Getting help shows your strength, how strong you are*

- c. Encourage students to share some of their conversations out loud to the class.
3. **Introduce plot and structure - SAY:** *Born on the Water* tells the story of a young girl who receives an assignment in school. Her teacher asks the class to draw a flag of the countries where their families come from.
  - a. **What is the problem?** *The girl feels ashamed because her classmates all seem to know where their ancestors come from, but she does not. At home, she tells her Grandma about the assignment and the problem she faces. She shares with Grandma that she knows of only three generations. She knows her parents, her grandparents and her great grandparents. But, where did her great, great-grandparents and their parents come from?*
  - b. **What is the solution?** *Grandma provides a solution. She gathers the whole family and tells them about a people, a people born on the water. What does Grandma hope to accomplish by sharing the story? She wishes to tell her granddaughter about her origin – an origin that should make her feel proud. We will learn that it is the origin of the story of how America was built, grew, and became a strong nation.*
  - c. *Born on the Water is written as a poem. We will read the book twice. Our first reading will be a “reading” of the illustrations and the titles of each of the poems. We will make guesses*

*as to what the story Grandma is telling us simply by looking at the beautiful illustrations. The next time we read the book, we will read it in its entirety. Let's begin reading by previewing the 15 sections or 15 poems that make up the entire book and the number of illustrations in each.*

4. **Inquiry and Discovery Activity** - As a class, preview *Born on the Water* by analyzing the illustrations and titles.
  - a. Share the Titles and Illustrations in *Born on the Water* Worksheet [[.pdf](#)][[.docx](#)] with students.
  - b. Flip through the pages and read the titles only. If students each have a copy of their own book, ask students to read the titles and look at the pictures.
  - c. Students should describe what they notice in the worksheet. They can write the corresponding title number and answer in notebooks so as not to feel constrained to write their answer in a small box.
  - d. Encourage students to discuss their observations with their peers, finding observations that are similar and different from their own. This could be done in a variety of ways. Teachers can choose to pause to discuss students' thoughts and ideas as a whole or allow small groups to meet to compare and contrast answers.
  - e. Records student ideas on the board.
    - **Differentiation:** Conference with students who struggle with the assignment. Provide students with a Word Bank to assist them in writing.
    - **Differentiation:** Students can respond using a speech to text on a device or they use a recorder.
    - **Enrichment Differentiation:** Some students may be able to do the assignment by writing in verse what they think the picture is depicting.

Closing:

*SAY: Today we previewed the book by examining the illustrations closely. Tomorrow, we will read the verses together.*

Day 4

Essential Questions

Essential Questions:

- In *Born on the Water*, how do the authors, Nikole Hannah-Jones and Renée Jackson, develop the themes of despair, hopelessness, theft of a culture and theft of heritage?
- In *Born on the Water*, how do the authors develop the themes of hope, love, belief in one another, support of one another and rebirth?
- How does the illustrator, Nikkolas Smith, support the themes in his illustrations, especially in his depiction of movements?
- How do the authors develop the theme of resilience in the verses?
- How does the illustrator show the resilience of Africans in the way he paints their faces, their clothing, their jewelry, and shows the movement of their bodies?

Lesson Materials & Resources

- Born on the Water Comprehension Chart Packet - Student Copy [[.pdf](#)][[.docx](#)]
- Born on the Water Comprehension Chart - Answer Key [[.pdf](#)] [[.docx](#)]
- [Born on the Water by Nikole Hannah-Jones, Renée Watson, Nikkolas Smith](#)
- [“Hope” photo essay by Djeneba Aduayom and Nikole Hannah-Jones](#)
- Teacher Copy Vocabulary Words [[.pdf](#)][[.docx](#)]

\*\*\*Educator note: Post the themes in [Born on the Water](#) and vocabulary in your classroom somewhere that is visible to all students. It should stay posted for the duration of the unit.

- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Warm up:

1. Review the essential questions and craft learning objectives.
2. Review vocabulary words with students.

Lesson Steps:

1. Prepare to read [Born on the Water](#).
  - a. Say, “Born on the Water” is written in poetry. There are 15 total poems that tell us the story of slavery in America. As you listen to the verses, we will pay attention to the themes of despair, hopelessness, theft of culture, and theft of heritage. But also, of love, hope, belief in one another, support of one another and rebirth.
  - b. Say The collection of poems opens with a scene of a girl, her mother, and her grandmother. The authors’ goal is that Black American children feel no shame in descending from



*American slavery and that they understand that they come from resilient people who loved, resisted, and persevered.*

2. Introduce [“Hope” photo essay by Djeneba Aduayom and Nikole Hannah-Jones](#).
  - a. Show a picture of Septembra LeSane, her mother, Debra, and grandmother Leola from *The 1619 Project* photo essay [“Hope”](#).
  - b. Ask students, *what do you think LeSane is thinking of in this photograph?*
  - c. Read this quote: “It gave me chills,” LeSane said. “Chills to know that slavery was not that long ago, to feel the connection. My grandmother knew her grandmother, and her grandmother was the daughter of slaves.”
  - d. Tell students that LeSane is a law student that is training to become a lawyer and wants to focus on environmental civil rights.
  - e. SAY: *As we read the book, think about LeSane’s quote and how connected she felt with slavery.*
3. Read [Born on the Water](#) aloud to students.
  - a. Share the Born on the Water Comprehension Chart Packet - Student Copy [[.pdf](#)][[.docx](#)] as a guide to students, stopping the appropriate amount of time for students to take notes with the chart. Students can complete the chart individually, in dyads, triads, or as a whole group
  - b. Refer to the appropriate themes and vocabulary words as they arise.

**\*\*\*Differentiation notes:** The combinations for differentiating the activity are innumerable.

- Students receive the chart with only the page numbers and the column headings
  - Students receive the chart with the majority of boxes already filled in
  - Students receive the chart with page numbers, all the texts, with blanks in a few of the columns filled in
  - Students receive the chart with only the page numbers and not text
  - Any other combination to support students. *You can choose to highlight all 20 pages or select a few.*
  - **Enrichment Differentiation:** Students analyze several illustrations on their own. What do they notice about the illustration? What mood does the illustrator paint? What does the illustrator want to convey? What else would they have added to the illustration? (Have these questions available)
4. **Formative assessment** - Have the Born on the Water Comprehension Chart - Answer Key [[.pdf](#)][[.docx](#)] printed out and hand them to students once they have finished to check their work. They can do so in groups.

#### Closing:

Facilitate a group discussion on *Born on the Water* and next steps in this unit.

1. SAY: *The past two days, we read [Born on the Water](#) twice. Yesterday, we conducted an illustration reading. Today, we read the words. You used a chart to review and analyze the themes of the book.*
2. Discuss the following questions:
  - What should you be looking forward to these next few days?

- What do you think of the themes and of the book in general? What questions do you have?
3. Write down questions and answer either today or tomorrow. Assess students' understanding through the discussions and the questions they ask.

Day 5 and Day 6

Essential Questions

Essential Questions:

- In *Born on the Water*, how do the authors, Nikole Hannah-Jones and Renée Jackson, develop the themes of despair, hopelessness, theft of a culture and theft of heritage?
- In *Born on the Water*, how do the authors develop the themes of hope, love, belief in one another, support of one another and rebirth?
- How does the illustrator, Nikkolos Smith, support the themes in his illustrations, especially in his depiction of movements?
- How do the authors develop the theme of resilience in the verses?
- How does the illustrator show the resilience of Africans in the way he paints their faces, their clothing, their jewelry, and shows the movement of their bodies?

Lesson Materials & Resources

- [Born on the Water by Nikole Hannah-Jones, Renée Watson, Nikkolos Smith](#)
- Unit Slides [[.pdf](#)] [[.docx](#)] (slides 12 & 14)
- Teacher Copy Vocabulary Words [[.pdf](#)][[.docx](#)]

\*\*\*Educator note: Post the themes in [Born on the Water](#) and vocabulary in your classroom somewhere that is visible to all students. It should stay posted for the duration of the unit.

- Week 1 Final Activities: The Artwork in *Born on the Water* worksheet [[.pdf](#)][[.docx](#)]
- Final Presentation Instructions [[.pdf](#)][[.docx](#)]
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Lesson Steps:

1. Explore artist Nikkolos Smith's artistic choices and contributions to *Born on the Water*.
  - a. Read Smith's quote on slide 12 of the Unit Slides [[.pdf](#)] [[.docx](#)]. "Some illustrations have a more vibrant energy, some chaotic and messy, some more peaceful, with smooth strokes: a visual representation of the infectious joy, heartbreaking struggles, and triumphant legacy of my ancestors. I decided to illustrate a broad range of Central West African details, from architecture to hairstyles, instruments, and clothing. I have also filled the book with African scarification pattern motifs, where Life, Death, and Rebirth are present."
  - b. Use slide 13 to discuss a definition of *scarification*.
  - c. Show and discuss the video interview of Mr. Smith on slide 14.

2. **Independent Art Activity** - Review the Week 1 Final Activities: The Artwork in *Born on the Water* worksheet [[.pdf](#)][[.docx](#)] with students. Hold space for students to complete a total of three activities outlined in the worksheet.

Closing Activity/Statements:

1. SAY: *These past few days, we have learned about environmental racism. Through the work of Hannah-Jones and Watson, we learned about the history of slavery. That was a fundamental or important part of our unit because it helps us understand that the legacy - here is that word again, something passed down, positive or negative - the legacy of slavery is environmental racism.*
2. *Next lesson, we will examine the following examples of environmental racism:*
  - *People who live in richer neighborhoods are healthier than people who live in poorer neighborhoods*
  - *Environmental laws that are not strict allow for people to make bad choices and cause damage such as flooding and polluted water in communities*
  - *When people of color are not part of research groups in universities, the problems people of color face do not get any attention*
  - *Business leaders who put money ahead of the health of people cause harm to these families*
3. *In the final week of the unit, we will have a fair where you will present what you have created and what you have learned. You will read **the expectations for the final presentation** [[.pdf](#)][[.docx](#)] for homework so that you can keep it in the back of your mind through every week. We begin with a case study of New York.*

Week 2: New York City, NY

Days 1 and 2

Lesson Objectives & Essential Questions

Essential Questions:

- How have certain factors contributed to NYC having neighborhoods that have good quality air environments, health outcomes, and living conditions, and some neighborhoods that have the opposite?
- How do maps, like population and political maps, help us understand who gets to live where?
- Why does wealth differ by neighborhood?
- What are social, economic, housing, and neighborhood conditions?

Lesson Objectives:

Students will...

- Analyze community health profiles of the Bronx and Manhattan
- Compare and contrast the social and economic conditions of a section of the Bronx with a section of Manhattan
- Compare and contrast the housing and neighborhood conditions of a section of the Bronx with a section of Manhattan
- Investigate why there are differences in the health outcomes of certain communities in Manhattan and the Bronx
- Examine the role urban planners have in addressing the problem

Lesson Materials & Resources

- [Image of Ben Chavis](#)
- [“Why does health differ by neighborhoods,” NYC Health](#)
- [“About NYC Health Data”](#)

\*\*\*Educator note: The preceding two pages capture the health of 59 community districts and highlight disparities among neighborhoods (*The Community Health Profiles*). They are “used by policymakers, community groups, health professionals, researchers and residents to encourage community engagement and action.”

- Who Am I? Key Community Players Worksheet [[.pdf](#)][[.docx](#)]
- Image of Ben Chavis projected on board
- Week 2 - NYC slides [[.pdf](#)] [[.pptx](#)]
- [Blank student T-charts](#)
- Maps the United States, New York, and New York City that outline the five boroughs
- [www.polley.com](http://www.polley.com)
- 8 Chart sheets with the following titles:

- Housing conditions - Bronx
- Neighborhood conditions - Bronx
- Social conditions - Bronx
- Economic conditions - Bronx
- Housing conditions - Manhattan
- Neighborhood conditions - Manhattan
- Social conditions - Manhattan
- Economic conditions - Manhattan
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

### Lesson Activities

*\*\*\*Educator note: preview the materials and take note of vocabulary words you may need to teach students before this lesson. Some of these words are underlined for you throughout the lesson.*

#### Warm up:

Have students sketch a picture of Ben Chavis and craft two thought bubbles next to his face.

#### Lesson Steps:

1. **Discussing disproportionality** - Facilitate a discussion on the term disproportionality and how it relates to environmental impacts on unique communities and environmental sustainability.
  - a. *SAY: we will begin our unit by examining several community players who are trying to make our environment sustainable. These individuals recognize that because of climate change and because we have not been making the best decisions to keep our air, water, and land clean, people are getting sick. Not only are people getting sick, but the homes and buildings where we live are in danger because of storms and other weather-related events.*

*We learned in the past few days that climate change impacts or affects people differently. What do we mean by that? Let us review. We know that families who do not make as much money tend to live in communities where the water may not be as clean and where the air quality may be bad. Also, they may be exposed to pollutants.*

*When one group is affected in a more negative way than another group, we call that disproportionality.*

*Let's give an example of disproportionality in schools. If more groups of students who identify as boys get much higher grades in math than students who identify as girls, we refer to that as disproportionality in math grades.*

*If more groups of students who identify as girls get much higher grades in reading than students who identify as boys, we refer to that as disproportionality in reading grades.*

*We might want to dig deep and find out why the numbers are different for each group. We may ask, why does one group (students who identify as girls) get better grades than another group (students who identify as boys)?*

*If we keep letting it happen (where one group gets better grades than another group), is that fair? Is that just?*

- b. Have students discuss the question with an elbow partner. Listen to students' answers.
- c. SAY: *some people say that there is no justice in that. That it is an example of injustice if we don't address disproportionality. Address means to learn why a problem happens and then fix it.*

*Our unit is about disproportionality in environmental outcomes. Another word for outcomes is consequences. Environmental consequences. There is disproportionality in how the environment affects groups of people. There are some groups who are healthier than other groups, groups whose communities have cleaner water and cleaner air than other groups.*

- 2. **Activity: Prior Knowledge** - Encourage students to use a t-chart to describe what they know about the impact of environmental problems on residents in the Bronx.
  - a. SAY: *At each of your tables or around the room, you each have a T-chart. On the left side, list all you know about the Bronx, NY. On the right, list all you know about environmental problems that you know impact families in the Bronx. Work with your group and come up with as many answers for each section. Remember that there are no right or wrong answers. If you do not know, that is okay as well. (5-7 minutes).*
  - b. SAY: *now I would like you to stop where you presently are in your list and walk around to see what your classmates have come up with. How are their answers similar to or different from your answers?*
  - c. Walk around and review student answers. Note some correct answers and make your own T-Chart at the board.
  - d. Review with students what you observed. You may choose to correct misconceptions at this time or at a later time. Discuss with them their answers from your notes on the board.

*\*\*\*Educator Note: You may choose to skip this activity if you know that the majority of students do not have any concept of the NYC brought, the Bronx. For classes where students know or have heard about the Bronx, this is an appropriate activity as you, the educator, can gather information to help correct misconceptions or affirm accurate knowledge.*

- 3. Present general videos or images of Manhattan and the Bronx using the Week 2 - NYC slides [[.pdf](#)] [[.pptx](#)] or any resources of your choosing.
- 4. Have students guess which community player the class will focus on in the next few days. Remind them that a community player (a term we are using) describes individual(s) who are fixing the problem of environmental injustice(s).
  - a. Share the Who Am I? Key Community Players Worksheet [[.pdf](#)] [[.docx](#)]. Individually, in pairs, or small groups have students propose guesses as to the job's title. Use [www.polley.com](http://www.polley.com) or something similar to capture students' guesses. Project their ideas on a digital whiteboard.

5. Share the following learning objectives:
  - a. Students investigate why there are differences in the health outcomes of certain communities in Manhattan and the Bronx.
  - b. Students examine the role urban planners have in addressing the problem.
6. **Discuss the problem** - Use maps to outline different boroughs in New York City that students will be exploring.
  - a. *SAY: When we compare the health outcomes of neighborhoods in the Bronx and the neighborhoods in certain parts of Manhattan, we notice that families who live in Manhattan are healthier. Why? How are urban planners working to help solve the problem of disproportionality in health outcomes? Today we begin with groups of families living in the Bronx and groups of families living in Manhattan.*
  - b. Show a map of the United States.
    - i. Point out the following elements of the map:
      - Point to New York State
      - NYC City
  - c. Show another map of the five boroughs.
    - i. Note that people refer to Manhattan, one of the five boroughs as Manhattan. The other four boroughs are Brooklyn, Bronx, Queens and Staten Island.
    - ii. Tell students that sometimes it may be confusing since Manhattan is also referred to as “New York” and New York City is often the name we use to describe all five boroughs. In our lessons, we will say Manhattan.
7. Review vocabulary term “conditions.” Conditions are the circumstances affecting the way in which people live or work, especially with regard to their safety or well-being. Explain economic and social conditions.
8. **Activity** - Students use digital devices to document social and economic conditions in Manhattan and The Bronx.
  - a. As a class, explore social and economic conditions in The Bronx. You can do this through a large screen, teacher-led device or encourage students to use their own devices.
  - b. Split students into three groups, assign them a unique borough, and have them explore social and economic conditions. Students should note their findings in their notebooks.
    - Group 1 - Manhattan: social and economic conditions
    - Group 2 - The Bronx: housing and neighborhood conditions
    - Group 3 - Manhattan: housing and neighborhood
  - c. Have students transfer their data points onto post-it notes. Place the notes on eight chart sheets at the front of the room:
    - Housing conditions - Bronx
    - Neighborhood conditions - Bronx
    - Social conditions - Bronx
    - Economic conditions - Bronx
    - Housing conditions - Manhattan
    - Neighborhood conditions - Manhattan
    - Social conditions - Manhattan
    - Economic conditions - Manhattan



- d. Conduct a gallery walk of the chart sheets. Have students craft questions as they learn new information. Share the following sentence starters and prompts to support student inquiry:
- “I wonder why . . .”
  - “I was surprised to see . . .”
  - “I don’t understand . . .”
  - “I used to think \_\_\_\_\_, but now I think \_\_\_\_\_”
  - “A new idea I have is . . .”
  - “On the surface, this seems to suggest \_\_\_\_\_, but below the surface, it seems to also suggest \_\_\_\_\_”
- e. Facilitate a discussion time when students can share their takeaways.

Closing:

*SAY: Today we investigated why there are differences in the health outcomes of certain communities in Manhattan and the Bronx. We examined the role urban planners have in addressing the problem. Tomorrow, we will look at how urban planners themselves unwittingly or willingly contribute to disparities and unfair conditions in our neighborhoods. We will take a look at one very interesting case study.*

Day 3

Lesson Objectives & Essential Questions

Lesson Objective:

Students will examine the role of urban planners and complete a **PDQR** as a first step for their project

Essential Questions:

- How do urban planners unwittingly or wittingly contribute to disparities and unfair conditions in our neighborhoods?
- How did the urban planner, Robert Moses, contribute to the building and to the destruction of neighborhoods in the Bronx and Manhattan?
- How can urban planners include community members in gathering information that informs planning decisions?
- How can urban planners propose changes that will improve the environment?

Lesson Materials & Resources

- Photos to present to students of the following:
  - Robert Moses
  - Lincoln Center
  - West Side Highway
  - Show pictures of the Cross-Bronx Expressway
- [“Ralph Fiennes, Master of Monsters” by Maureen Dowd, \*The New York Times\*](#)
- Case Study: Dr. Christian Braneon [[.pdf](#)][[.docx](#)]
- Unit Slides [[.pdf](#)] [[.docx](#)], Week 2, beginning on slide 15
- Background and Demographic Information Worksheet [[.pdf](#)] [[.docx](#)]
- PDQR Graphic Organizer [[.pdf](#)][[.docx](#)]
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Related 1619 Project resources

- [“Traffic” by Kevin Kruse](#) An essay that uses traffic congestion in Atlanta as a lens to explore the intertwined histories of infrastructure and racial inequality in the United States.
- [“The Wealth Gap” by Trymaine Lee](#) An essay outlining some of the systemic causes behind the vast wealth gap between Black and white Americans today.

Further reading - urban planners:

- ["Urban Planning," \*National Geographic\*](#)
- ["Urban Planning," \*Britannica Kids\*](#)

Lesson Activities

*\*\*\*Educator note: preview the materials and take note of vocabulary words you may need to teach students before this lesson. Some of these words are underlined for you throughout the lesson.*

Lesson Steps:

1. Introduce urban planner Robert Moses.
  - a. *SAY: urban planners can do great things for a city. Or they can make decisions that have a terrible impact on people. One such urban planner was Robert Moses. Many people love what he did for NYC. Many people hate what he did for NYC. He was responsible for designing parks, roads, famous buildings, bridges, and tunnels. But when he built many of these things, he made decisions that affected in a very negative way people who lived in the areas that he wanted to develop.*
  - b. Present pictures of the following people and landmarks:
    - Robert Moses
    - Lincoln Center
    - West Side Highway
    - Cross-Bronx Expressway
  - c. *As you show the above list of photos, SAY: Robert Moses worked under six governors. He worked as an urban planner for a long time. He oversaw the building of Lincoln Center, the New York Coliseum and Shea Stadium. He expanded the city's green space and constructed 673 baseball diamonds, 658 playgrounds and 288 tennis courts. But, from 1946 to 1953, he approved evicting hundreds of thousands of New Yorkers. Many of them were minority residents. He removed them from their homes and tore down their homes. He built the Cross-Bronx Expressway, between 1948 and 1972. It is an expressway or road, which helped connect the Bronx and Manhattan. But some people say he destroyed the borough of the Bronx. He uprooted neighborhoods. Many blame the Cross-Bronx Expressway for negatively affecting a number of poor neighborhoods in the South Bronx. And they said, it created an eyesore. They say the expressway made their neighborhoods ugly. [Information based on [The New York Times](#) article, "[Ralph Fiennes, Master of Monsters](#)" by [Maureen Dowd, October 22, 2022](#)].*

*Robert Moses is one example of a complicated urban planner. Let us look at another urban planner.*

2. **Case Study Analysis** - Students will use the PDQR graphic organizer [[.pdf](#)][[.docx](#)] and the Case Study: Dr. Christian Braneon [[.pdf](#)][[.docx](#)] to analyze the role that urban planning has in amplifying environmental impacts on communities in NYC.
  - a. Tell students they will use PDQR graphic organizer to capture the environmental problem outlined in the Case Study, information on how it developed, questions that are raised, and responses or solutions to these questions
  - b. Encourage students to work individually, in pairs, or in groups
  - c. Give students the remainder of the time period to conduct this investigation and record their findings in the graphic organizer.

*\*\*\*Educator note: Another option is to enlarge the PDQR on chart sheets so that students can work on them collaboratively and easily present them.*

Day 4

Lesson Objectives & Essential Questions

Lesson Objective:

Students will complete a **FCSP** to propose final solutions to the issue outlined in the case study

Essential Questions:

- How do urban planners unwittingly or wittingly contribute to disparities and unfair conditions in our neighborhoods?
- How did the urban planner, Robert Moses, contribute to the building and to the destruction of neighborhoods in the Bronx and Manhattan?
- How can urban planners include community members in gathering information that informs planning decisions?
- How can urban planners propose changes that will improve the environment?

Lesson Materials & Resources

- Completed PDQR from Day 3
- Final Conclusions and Proposed Solutions Worksheet [[.pdf](#)][[.docx](#)]
- Student notebooks
- Writing utensils

Lesson Activities

Lesson Steps:

1. **Present:** Have students present to each other what they found when completing the PDQR.
2. **Discuss:** Using a discussion protocol, allow students time to discuss their PDQRs, asking questions and making connections. Students should also brainstorm proposed solutions.
3. **Final Conclusions:** Using the Final Conclusions and Proposed Solutions Worksheet [[.pdf](#)][[.docx](#)], have students record their final conclusions and proposed solutions on the issue presented in the case study.

Day 5

Lesson Objective & Essential Questions

Lesson Objective:

Students will...

- complete a **PDQR** as a first step for their project using their findings on the roles of urban planners

Essential Questions:

- How do urban planners unwittingly and wittingly contribute to disparities and unfair conditions in our neighborhoods?
- How did the urban planner, Robert Moses, contribute to the building and to the destruction of neighborhoods in the Bronx and Manhattan?
- How can urban planners include community members in gathering information that informs planning decisions?
- How can urban planners propose changes that will improve the environment?

Lesson Materials & Resources

- Chart sheets or poster board
- Devices with cameras and access to Flip and/or PowerPoint or Google Slides
- Completed PDQR and FCPS documents from previous lesson plans
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Lesson Steps:

1. Introduce the following activities to students as opportunities to demonstrate their learning and spread awareness about the impact of environmental choices in New York City and its disproportionate impact on different boroughs. Remind students they will be completing these tasks at the end of each unique case study.
  - a. **Infographic:** On a large piece of paper or poster board, create an infographic that visualizes the themes you have learned from the case study. Be sure to include:
    - the name of the community player
    - the location of the case study
    - state the problem
    - discuss what the community player does and how they try to fix the problem
    - state what questions you still have
  - b. **Tik Tok News Clip:** Using Flip, create a short clip that covers the points A through E outlined

above.

- c. **PowerPoint:** Present points A through E outlined above.
  - d. **Final Conclusions and Proposed Solutions (Differentiated option):** Individually, in pairs, or in groups of three to four, students can use a new Final Conclusions and Proposed Solutions Worksheet to recapture their notes and document their ideas to propose additional changes.
2. Closing. SAY: *We studied urban planners and examined one case study in NYC. We learned how urban planners unwittingly and wittingly contribute to disparities and unfair conditions in our neighborhoods. We also learned how urban planners can propose changes that will improve the environment. You proposed some solutions. Next, we will leave NY and turn our attention to East Austin, Texas.*

Week 3: East Austin, Texas

*Days 1-2*

Lesson Objectives & Essential Questions

Lesson Objectives:

Students will...

- Activate prior knowledge about Texas
- Investigate historical decision-making by local officials that led to segregation and environmental racism
- Complete a PDQR to analyze the power of elected officials to address environmental racism

Essential Questions:

- How can local officials' actions **restrict** or stop development so there can be positive environmental outcomes?  
How can local officials' inactions result in negative environmental outcomes?
- How do local officials persevere even though things may get difficult?

Lesson Materials & Resources

- Who Am I? Key Community Players [[.pdf](#)][[.docx](#)]
- [Blank student T-Charts](#)
- Unit Slides [[.pdf](#)] [[.docx](#)], slides 42 - 45
- [Environmental resolution developed by the city Austin](#)
- ["What are wetlands?" WWT \(2:14\)](#)
- ["Ever wondered where the rain goes? Sustainable drainage animation," CIRIA's Susdrain Project \(3:34\)](#)
- ["Urban Heat & Cool Spaces," austintexas.gov](#)
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Enrichment Activity

- T-Chart Actions vs. Inactions by local officials [[.pdf](#)][[.docx](#)]  
*Educator note: Students make a T-Chart regarding the consequences of the Drinking Water Protection Zone (located in Austin's west side) and the consequences of the Desired Development Zone (located in Central and East Austin)*

Further reading:

["Municipal Government," Britannica Kids](#)

## Lesson Activities

*\*\*\*Educator note: preview the materials and take note of vocabulary words you may need to teach students before this lesson. Some of these words are underlined for you throughout the lesson.*

### Warm up:

1. Warm-up Activity 1: Show a physical map of the United States and ask students to sketch New York State in their notebooks.
2. Warm up Activity 2: Have students create a 3-frame comic strip of an urban planner working on an environmental problem.

### Lesson Steps:

1. Introduce students to the next environmental problem and community player.
  - a. *SAY: Before this, we studied the role of urban planners in coming up with solutions to an environmental problem. The area that we studied was New York City, particularly neighborhoods in the Bronx or Manhattan. The community players we examined were urban planners. For the next couple of days, we will be focusing on neighborhoods in Texas, East Austin.*
  - b. Show map of Texas and of East Austin, Texas.
  - c. *SAY: Here is Texas. We left NYC and have traveled west and south to Texas. Let's take a look at some facts about Texas.*
2. **Activity** - What do you know about Texas?
  - a. *SAY: At each of your tables or around the room, you each have a chart sheet. We have made a T-chart for you. On the left side, list all you know about Texas. On the right, list all you know about environmental problems that you know Texans experience. Work with your group and come up with as many answers for each section. Remember that there are no right or wrong answers. (5-7 minutes)*
  - b. Walk around and review student answers. Note some correct answers and make your own T-Chart at the board.
  - c. *SAY: now stop where you presently are in your list and walk around to see what your classmates have come up with. How are their answers similar to or different from your answers?*
  - d. Review with students what you observed. You may choose to correct misconceptions at this time or at a later time.
  - e. Discuss with them their answers from your notes on the board.
3. Using the Who Am I? Key Community Players [[.pdf](#)][[.docx](#)] worksheet, encourage students to guess which community player you will focus on for the next few days.
  - a. Review their responses
  - b. Using slides 42 - 45 of the Unit Slides, present general videos and pictures of Texas, particularly East Austin, Texas.



4. Share the objective for the next couple of days: Students will...
  - a. Investigate the growing threat of industrial discharges, flooding and the heat island effect in East Austin
  - b. Examine the role local officials have in addressing the problem
5. **Present the Problem**
  - a. *SAY: In East and Central Austin, environmental rules were not strict. The rules that existed did not do a good job of protecting the environment. As a result, a third of the creeks in Austin were not safe for swimming or cooling off during the hot weather.*  
  
*Another problem was the heat island effect. This resulted in uncomfortable conditions for families who lived in certain neighborhoods.*
  - b. Ask, how did local government officials help solve the problem? What were their solutions?
6. **Activity** - Analyze environmental issues presented in a resolution.
  - a. Present a draft of an environmental resolution developed by the city Austin. Analyze three of the points/problems discussed in the resolution by Council Members Kathie Tovo, Vanessa Fuentes, Ann Kitchen, and Pio Renteria:
    - i. WHEREAS, wetlands help to stabilize the shoreline against heavy rains and floods; WHEREAS, current City Code provisions do not protect wetlands bounded by Interstate 35, Riverside Drive, Barton Springs Road, Lamar Boulevard, and 15th Street,
    - ii. WHEREAS, buildings, roads, and parking lots absorb and retain heat causing a “heat island effect” that can pose serious problems for our health and environment;
    - iii. WHEREAS, one result of the historically high rates of development is a rise in the amount of runoff that flows off-site from developed properties and into older, undersized stormwater drain systems, creeks, rivers, and lakes [This contributes to increases in flooding severity, damage to private property, loss of life, and water pollution]
7. **Explore examples of environmental issues in Texas** - Present videos to explore the problems described in the resolution.
  - a. Screen "What are wetlands?" WWT.
    - i. Show the video once without stopping.
    - ii. Show the video for a second time, stopping periodically to discuss main ideas.
  - b. *Discuss the heat island effect and the solutions for it.*
    - i. *Heat island effect definition: Temperatures get hotter in the city than in rural areas, because the built environment (highways, buildings, parking lots, etc.) absorbs and retains far more heat than materials in the natural environment.*
    - ii. *Make sure to connect the heat island effect with what was studied in New York City.*
  - c. Screen "Ever wondered where the rain goes? Sustainable drainage animation." CIRIA's Susdrain Project.
    - i. Show it once without stopping. Show it a second time, stopping the video on several occasions to discuss aspects of how developments can cause pollution in our waterways (creeks, rivers, lakes.)
  - d. Through discussion, help students draw conclusions.
    - i. The council members saw the need to create rain gardens, tree pits, basins, ponds, green roofs, and build permeable surfaces to fix the problem of stormwater runoff.

- ii. The resolution by the council members in East Austin, Texas will try to do many of those things. Two of the actions will be to:
  - Allow rainwater harvesting on all commercial projects as a method of green stormwater infrastructure and water reuse onsite.
  - Provide wetland protections and buffers equally along Lady Bird Lake to help stabilize and prevent erosion along the shoreline.

Closing:

Review the big ideas and main environmental problems in Texas.

- a. *SAY: In East and Central Austin, environmental rules were not strict. The rules that existed did not do a good job of protecting the environment. As a result, a third of the creeks in Austin were not safe for swimming or cooling off during the hot weather. Another problem was the heat island effect. This resulted in uncomfortable conditions for families who lived in certain neighborhoods.*
- b. *Solution: In June 2022, the Council passed a resolution by Council Member Kathie Tovo to prevent water pollution and flooding. Kathie Tovo sponsored the resolution with Council Members Vanessa Fuentes, Pio Renteria, Ann Kitchen, and Leslie Pool.*
- c. *To fix problems that were around for a long time, the Council Members made a resolution (decision): A “functional green program” – green roofs, landscaping, and work to control stormwater runoff – were just some of the items they came up with.*

Day 3

Lesson Objective & Essential Questions

Lesson Objective:

Students will complete a **PDQR** as a first step for their project

Essential Questions:

- How can the power of the City Council affect people?
- Why can that power be used in negative and positive ways?
- How does historical segregation contribute to environmental racism?

Lesson Materials & Resources

- Case Study: Kathie Tovo, Vanessa Fuentes, Ann Kitchen, and Pio Renteria [[.pdf](#)][[.docx](#)]
- Unit Slides [[.pdf](#)] [[.docx](#)], slides 42 - 45
- T-Chart Actions vs. Inactions by local officials [[.pdf](#)][[.docx](#)]
- East Austin Demographic Information [[.pdf](#)] [[.docx](#)]
- PDQR Graphic Organizer [[.pdf](#)][[.docx](#)]
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Lesson Steps:

Students evaluate the case study for Austin, Texas. Students use the class period to analyze a case study and report their findings.

1. Distribute and review the PDQR Graphic Organizer and the Case Study: Kathie Tovo, Vanessa Fuentes, Ann Kitchen, and Pio Renteria [[.pdf](#)][[.docx](#)].
  - a. Students can work individually, in pairs, or in groups of three to four.

*\*\*\*Educator note: Another option is to enlarge the PDQR on chart sheets so that students can work on them collaboratively and easily present them.*

Day 4

Lesson Objectives or Essential Questions

Lesson Objective:

Students will complete a FCSP to propose final solutions

Essential Questions:

- How can the power of the City Council affect people?
- Why can that power be used in negative and positive ways?
- How does historical segregation contribute to environmental racism?

Lesson Materials & Resources

- Completed PDQR from Day 3
- PDQR Graphic Organizer [[.pdf](#)][[.docx](#)]
- Final Conclusions and Proposed Solutions Worksheet [[.pdf](#)][[.docx](#)]
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Lesson Steps:

1. **Present** - Have students present to each other what they found when completing the PDQR [[.pdf](#)][[.docx](#)].
2. **Discuss** - Using a discussion protocol, allow students time to discuss their PDQRs, asking questions and making connections. Students should also brainstorm proposed solutions.
3. **Final Conclusions** - Using the Final Conclusions and Proposed Solutions Worksheet, have students record their final conclusions and proposed solutions on the issue presented in the case study.

Day 5

Lesson Objective & Essential Questions

**Lesson Objective:**

Students will present their learning and new understandings in a collaborative setting.

**Essential Questions**

How can the power of the City Council affect people?

Why can that power be used in negative and positive ways?

How does historical segregation contribute to environmental racism?

Lesson Materials & Resources

- Chart sheets or poster board
- Devices with cameras and access to Flip and/or PowerPoint or Google Slides
- Completed PDQR and FCPS documents
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

**Lesson Steps:**

1. Introduce the following activities to students as opportunities to demonstrate their learning and spread awareness about the impact of environmental choices in New York City and its disproportionate impact on different boroughs. Remind students they will be completing these tasks at the end of each unique case study.
  - a. **Infographic:** On a large piece of paper or poster board, create an infographic that visualizes the themes you have learned from the case study. Be sure to include:
    - the name of the community player
    - the location of the case study
    - state the problem
    - discuss what the community player does and how they try to fix the problem
    - state what questions you still have
  - b. **Tik Tok News Clip:** Using Flip, create a short clip that covers the points A through E outlined above.
  - c. **PowerPoint:** Present points A through E outlined above.
  - d. **Final Conclusions and Proposed Solutions (Differentiated option):** Individually, in pairs, or in groups of three to four, students can use a new Final Conclusions and Proposed Solutions Worksheet to recapture their notes and document their ideas to propose additional changes.
2. Closing. SAY: *We studied urban planners and examined one case study in NYC. We also learned how resolution and regulations affect the environment in our study of Texas. Next week, we'll travel further west to California.*

Week 4: Compton, California and Long Beach, California

*Days 1 - 2*

Lesson Objectives & Essential Questions

Lesson Objectives:

Students will...

- Establish understanding of the geographical locations of issues studied in Weeks 2 and 3 and now Week 4
- Leverage their prior knowledge of California and the roles researchers play to add to their knowledge of community players' impact on neighborhoods

Essential Question:

How does the work of researchers impact a community?

Lesson Materials & Resources

- [Blank student T-Charts](#)
- Who Am I? Key Community Players Worksheet [[.pdf](#)][[.docx](#)]
- Physical and/or digital maps of the United States, California, Compton, and Long Beach
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Warm up:

1. Present a physical map of the United States. Ask students to sketch the state of California.
2. Have students write a response to the following question: How do urban planners and local officials help with issues of environmental justice?

Lesson Steps:

1. Review the last two case studies.
  - a. SAY: *We studied the role of urban planners in NYC and local officials in Texas. Both addressed an environmental problem.*
  - b. Instruct students to turn and discuss the following question with their elbow partner and/or tablemates:
    - *What problems did they address?*
    - *How did they address them?*
    - *What else would you have done?*
  - c. As a formative assessment through observation, take note of students who are able to recall and make connections
2. Introduce students to the next environmental problem and community player.

- a. *SAY: For the next couple of days, we will be focusing on neighborhoods in California and we will focus on a third community player.*
  - b. Show map of United States; of California; of Compton and Long Beach.
  - c. *SAY: California is in the western part of our country. We left Texas and we are now traveling north to California. Texas is in the South and in the West. Let us take a look at some facts about California.*
3. Activity: What do you know about California?
- a. *SAY: At each of your tables or around the room, you each have a chart sheet. We have made a [T-chart](#) for you. On the left side, list all you know about California. On the right, list all you know about environmental problems that you know Californians experience. Work with your group and come up with as many answers for each section. Remember that there are no right or wrong answers. (5-7 minutes)*  
  
[Educator note: students can also make a T-Chart in their notebooks]
  - b. Walk around and review student answers. Note some correct answers and make your own T-Chart at the board.
  - c. *SAY: now stop where you presently are in your list and walk around to see what your classmates have come up with. How are their answers similar to or different from your answers?*
  - d. Review with students what you observed. You may choose to correct misconceptions at this time or at a later time.
  - e. Discuss with them their answers from your notes on the board.
4. Use the Who Am I? Key Community Players worksheet, encourage students to guess which community player you will focus on for the next few days.
5. Briefly describe community players Professors Dr. Veronica Vieira and Dr. Julian Agyeman.

Day 3

Lesson Objectives & Essential Questions

Lesson Objectives:

Students will...

- Investigate environmental contamination that negatively affects the neighborhoods in Compton and Long Beach
- Investigate why there is not enough information in official reports to explain what is happening and Why these neighborhoods experience environmental contamination examine the role researchers have in addressing the problem

Essential Questions:

- How does the work of researchers impact a community?
- How do researchers provide information that helps government officials make decisions about communities?
- Why is it important for research to be done by people who look like the people in the neighborhoods being studied?

Lesson Materials & Resources

- Case Study: Professors Dr. Veronica Vieira and Dr. Julian Agyeman [[.pdf](#)][[.docx](#)]
- Unit Slides [[.pdf](#)] [[.docx](#)], slides 65 - 72
  - [Questions for a Resilient Future: Julian Agyeman](#) (play from 5:17 to 6:10)
  - Prepared quote from Dr. Vieira on Chart Paper (slide 68)
- Compton and Long Beach Demographic Information[[.pdf](#)][[.docx](#)]
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Additional Resources:

- [“Addressing environmental health disparities in southern California’s Black communities,” UCI School of Social Sciences](#)
- [“Los Angeles County’s Black Residents Are Most at Risk in Major Floods,” By Audra D. S. Burch and Eileen Guo, The New York Times](#)
- ["What is Research?" Ann & Robert H. Lurie Children's Hospital of Chicago](#) (4:44)
- ["Research Facts for Kids," Kiddle](#)

Lesson Activities



Lesson Steps:

1. Discuss the problem(s). Not many researchers are trying to understand how Black families are exposed to environmental contamination. What then happens? The impact that contamination has on these families do not make it into official reports. Since they are not in reports, urban planners and local officials - two community players we studied previously - cannot begin to fix the problem.
  - a. Read this quote with students and begin a conversation where you, the teacher, assist in understanding the problem. “Communities like Compton and Long Beach, for example, have long been known to be disproportionately impacted by environmental contamination. There’s already a lot of community energy there, and we hope we can support that by providing knowledge, offering solutions, figuring out who in power is accountable, and whether they are paying attention.” - Verónica Vieira, researcher at University of California, Irving. She studies the health effects of both air and water pollution. She works at the University of California in Irving, California.
  - b. Circle the problem: “Communities like Compton and Long Beach, for example, have long been known to be disproportionately impacted by environmental contamination.”
  - c. Circle or highlight the solution: “We hope we can support that by providing knowledge, offering solutions, figuring out who in power is accountable, and whether they are paying attention.”

\*\*\*Educator Note: Post the quote and circles identifying “problem” and “solution.”

- d. SAY: *Ms. Vieira is a researcher. She studies an important subject and then publishes what she has learned in magazines or newspapers. Ms. Vieira studies the health effects of both air and water pollution. She works at the University of California in Irving, California.*

*People like urban planners and local officials learn from the research of Ms. Vieira. When they read her research, they take action. They act. We saw this in past lessons.*

*Ms. Vieira has recognized that people of color, African-Americans, should be hired in universities where they could do research on the way bad environmental rules impact their own families in a negative way. The University of California made the decision to hire more researchers and staff who are Black.*

*This is what Ms. Vieira and the University came up with as a solution.*

- e. *“By hiring additional faculty, UCI seeks to build on existing research strengths focused on other marginalized populations, while expanding to include experts focused on how environmental health disparities shape Black communities’ daily experience. The research and outreach will also integrate the expertise and lived experiences of residents of the affected Southern California neighborhoods.*

*University of California at Irvine or UCI hired African Americans as researchers. They did so that Black staff members can share their experiences and knowledge of how African Americans families are affected. They can do more research on why their communities are impacted negatively. They then publish what they find and share it with everyone. After they share, local officials, urban planners, business leaders, and all of us try to make changes. We work to change the disproportionality.*

\*\*\*Educator note: The quote from "[Addressing environmental health disparities in southern California's Black communities.](#)" [UCI School of Social Sciences](#) has been simplified in order to be accessible to students.

f. SAY: *Ms. Vieira is a researcher. She studies an important subject and then publishes what she has learned in magazines or newspapers. People like urban planners and local officials then learn from her research. When they find out the truth of what is taking place, they act. Just as we saw in past lessons.*

2. In groups of three, have students respond to the following question: How do researchers like Verónica Vieira do the following? (answers below):

- a. provide knowledge
- b. offer solutions
- c. figure out who in power is accountable, and whether they are paying attention

3. The Work of Researchers: Julian Agyeman

4. **Explore the work of Researchers** - Watch and analyze an excerpt from Questions for a Resilient Future: Julian Agyeman.

a. SAY: *Mr. Agyeman is a professor at Tufts University in Massachusetts. He is a researcher. He researches or studies environmental sustainability and social justice. One way to think of social justice is something we talked about earlier. Social justice is to look at what is fair or just for people. To get rid of disproportionality - where one group gets to live better and healthier lives than another group simply because of what they look like.*

*We will look at one aspect that he researched: How we design streets has a positive or negative impact on people's lives.*

b. Screen Questions for a Resilient Future: Julian Agyeman in its entirety.

- i. Rewind and pause the picture and listen to the question that Mr. Agyeman poses.
- ii. Analyze the picture. Spotlight the street on the left and the street on the right; The street on the left makes more room for public transportation and bicyclists. There is a barrier. On the other side of the barrier is a small space of cars. On the picture on the right, big cars emit pollutants.

c. Write the question on the board: *How would you feel growing up near a street that looks like the one on the left side? How would life be different for you if you grew up on a street like the one on the right side? How do you think the work of Mr. Agyeman will be helpful to urban planners and local officials?*

d. In groups of three, have students write down their answers while looking at the pictures.

- i. Allow students to journal their thoughts in their notebooks.
- ii. Allow students time to present their thoughts.

Day 4

Lesson Objectives & Essential Questions

Lesson Objective:

Students will complete a **PDQR** as a first step for their project.

Essential Questions:

- How is research useful for creating change?
- How do researchers provide information that helps government officials make decisions about communities?
- Why is it important for research to be done by people who look like the people in the neighborhoods being studied?

Lesson Materials & Resources

- Case Study: Professors Dr. Veronica Vieira and Dr. Julian Agyeman [[.pdf](#)][[.docx](#)]
- PDQR Graphic Organizer [[.pdf](#)][[.docx](#)]
- Final Conclusions and Proposed Solutions Worksheet [[.pdf](#)][[.docx](#)]
- Chart paper
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Lesson Steps:

1. Students evaluate the case study for Compton and Long Beach, CA.. Students use the class period to analyze a case study and report their findings.
  - a. Distribute and review the PDQR Graphic Organizer [[.pdf](#)][[.docx](#)] and the Case Study: Professors Dr. Veronica Vieira and Dr. Julian Agyeman [[.pdf](#)][[.docx](#)]
  - a. Students can work individually, in pairs, or in groups of three to four.

*Educator note: Another option is to enlarge the PDQR on chart sheets so that students can work on them collaboratively and easily present them.*

Day 5

**Lesson Objectives & Essential Questions**

Lesson Objective:

Students will choose an activity to present their learning and new understandings

Essential Question:

- How is research useful for creating change?
- How do researchers provide information that helps government officials make decisions about communities?
- Why is it important for research to be done by people who look like the people in the neighborhoods being studied?

**Lesson Materials & Resources**

- Chart sheets or poster board
- Devices with cameras and access to Flip and/or PowerPoint or Google Slides
- Completed PDQR documents
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

**Lesson Activities**

Lesson Steps:

1. Introduce the following activities to students as opportunities to demonstrate their learning and spread awareness about the impact of environmental choices in New York City and its disproportionate impact on different boroughs. Remind students they will be completing these tasks at the end of each unique case study.
  - a. Infographic: On a large piece of paper or poster board, create an infographic that visualizes the themes you have learned from the case study. Be sure to include:
    - the name of the community player
    - the location of the case study
    - state the problem
    - discuss what the community player does and how they try to fix the problem
    - state what questions you still have
  - b. Tik Tok News Clip: Using Flip, create a short clip that covers the points A through E outlined above.
  - c. PowerPoint: Present points A through E outlined above.
  - d. Final Conclusions and Proposed Solutions (Differentiated option): Individually, in pairs, or in groups of three to four, students can use a new Final Conclusions and Proposed Solutions

Worksheet to recapture their notes and document their ideas to propose additional changes.

2. Closing. SAY: *We studied urban planners and examined one case study in NYC. We also learned how resolution and regulations affect the environment in our study of Texas. This week, we focused on the importance of research in driving change for sustainability. Next week, we'll travel to Florida.*

Weeks 5 and 6: Lake Okeechobee Region, Florida

*Days 1-2*

Lesson Objectives & Essential Questions

Lesson Objectives:

Students will...

- Use prior knowledge of Florida and the roles business leaders play to add to their knowledge of community players' impact on neighborhoods
- Describe where sugar comes from

Essential Questions:

- How does the burning of sugar result in disastrous environmental health outcomes?
- How are the negative environmental health effects felt disproportionately in different communities?
- How do business interests influence business leaders in how they make decisions?

Lesson Materials & Resources

- Physical map of the U.S., Florida, and the Lake Okeechobee Regions
- Who Am I? Community Players worksheet [[.pdf](#)][[.docx](#)]
- Student journals
- Blank T-charts
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Further reading:

- "[Sugar](#)" by Khalil Gibran Muhammad
- "[How to Become a Successful Business Leader](#)," Masterclass
- "[2\) Pahokee, Florida \(1909- \)](#)," contributed by Sumaya Addish, [Blackpast.org](#)

Lesson Activities

Warm up:

1. Present a physical map of the United States. Ask students to sketch the state of Florida.
2. Ask students to journal about how they think researchers help urban planners, and local officials fight environmental injustice.

Lesson Steps:

1. Introduce students to the next environmental problem and community player.
  - a. *SAY: We studied the role of urban planners in NYC, local officials in Texas, and researchers in California and Massachusetts. All three addressed an environmental problem.*
  - b. Instruct students to *discuss a response to the following questions:*
    - i. *What problems did they address?*
    - ii. *How did they address them?*
    - iii. *What else would you have done?*
  - c. Take note of students who are able to recall and make connections as an informal assessment.
  - d. *SAY: For the next couple of days, we will be focusing on neighborhoods in Florida and we will focus on a fourth community player.*
    - i. Show map of the United States, Florida and the Lake Okeechobee Region.
  - e. *SAY: Florida is in the southern part of our country. We left California and we are traveling back to the eastern side of the United States. This time we are going south. Florida is the southern tip of the United States. Let us take a look at some facts about Florida.*
2. Activity: What do you know about Florida?
  - a. *SAY: At each of your tables or around the room, you each have a chart sheet. We have made a [T-chart](#) for you. On the left side, list all you know about Florida. On the right, list all you know about environmental problems that you know Floridians experience. Work with your group and come up with as many answers for each section. Remember that there are no right or wrong answers. (5-7 minutes)*

\*\*\*Educator note: students can also make a T-Chart in their notebooks

- b. Walk around and review student answers. Note some correct answers and make your own T-Chart at the board.
  - c. *SAY: now stop where you presently are in your list and walk around to see what your classmates have come up with. How are their answers similar to or different from your answers?*
  - d. Review with students what you observed. You may choose to correct misconceptions at this time or at a later time.
  - e. Discuss their answers with them from your notes on the board.
3. Use the Who Am I? Key Community Players worksheet, encourage students to guess which community player you will focus on for the next few days.
4. Review the answer (business leaders) and reference the case study to guide you

*Days 3-5*

Lesson Objectives & Essential Questions

Lesson Objectives:

Students will...

- Investigate the effects of burning sugar cane on the health of nearby residents
- Describe where sugar comes from and compare and contrast sugar cane farming in Florida and in Brazil

Essential Questions:

- How does the burning of sugar result in disastrous environmental health outcomes?
- How are the negative environmental health effects felt disproportionately in different communities?
- How do business interests influence business leaders in how they make decisions?

Lesson Materials & Resources

- Unit Slides [[.pdf](#)] [[.docx](#)] (slides 74 - to end)
- "[The Burning Problem of America's Sugar Cane Growers,](#)" by Paul Tullis, *Claims Journal*

Lesson Activities

Lesson Steps:

1. Ask students: *do you know where sugar comes from? How do we get our sugar?* Use lesson slides to support the conversation.
  - a. Explain that most of our sugar comes from harvesting sugar cane.
  - b. Ask: *has anyone ever tasted or eaten a sugar cane?*
  - c. Explain that most of our sugar cane in the United States is grown in Florida.

*\*\*\*Educator note: Research ahead of time if any of your students have families who come from regions in the US or from countries that grow sugar cane. Acknowledge this in your lesson.*

2. Describe the problem: *Business owners who own large farms and/or who own businesses that process sugar canes to make sugar do not want to change their practices. Their practices consist of burning sugar cane crops. Burning sugar cane makes it easier to harvest the sugar cane. Burning gets rid of all the very tall leaves (straw) that are around the cane stalk.*
  - a. Screen the two videos on slides 77 and 78 of the Unit Slides which show burning sugar cane fields.
3. Compare sugar cane practices in Brazil and Florida. Use the resources in the unit slides to support the discussion.
  - a. Ask if any of your students are from Brazil or have ever visited Brazil. Perhaps their families are from a country near Brazil. Ask them to share their thoughts about the country.



- b. Display the following quotes on slide 79 of the Unit Slides.
- “The practice of burning is very rudimentary. It’s a practice that I would call lazy.” – Ricardo Viegas, Sao Paulo State Government (Brazil)
  - “We think of it (America) as a developed country. We never thought they would burn sugar there.” – Jose Rodolfo Penatti, Piracicaba Sugar Cane Suppliers Association (Brazil)
- b. Tell students to look out for the following quotes in the subtitles because the speakers will be speaking Portuguese. We are going to watch a video where a local official and one business leader from Brazil are interviewed.
- c. Ask students to think about these two quotes as they watch the video on slide 80 describing the difference between the way sugar cane is harvested in parts of Florida and the way it is harvested in Brazil.
- i. After the 6:00 minute mark, stop to ask: Why would farmers burn the sugar cane crop?  
  
[To prevent workers from getting cut from the sharp leaves and from getting bit from animals who lived or hid in the tall leaves.]
  - ii. But burning has its problems. What were they?  
  
[Pollutants from the black smoke caused cancer in workers and communities who lived near the sugar cane farms. It also ruined the land and the soil.]
  - iii. Why did business leaders not want to stop the burning of the crop?  
  
[They would need to spend a lot of money to change their practices. They would have to buy heavy machinery. It was cheaper to have people cut the stalks by hand with a machete.]
  - iv. Stop the video at the 10:20 mark. Ask about the advantages to the environment when farmers do not practice burning.  
  
[Leaf trash does not go up in smoke; instead it is valuable; it goes back to the ground and enriches the soil; some are sold to mills which then generate electricity. This makes a profit for business leaders.]  
  
End video at 10:27
4. Read “[The Burning Problem of America’s Sugar Cane Growers,](#)” by Paul Tullis. *Claims Journal* Aloud as a class.

*Days 6-7*

Lesson Objectives & Essential Questions

Lesson Objectives:

Students will...

- investigate the effects of burning sugar cane on the health of nearby residents
- describe where sugar comes from and compare and contrast sugar cane farming in Florida and in Brazil
- will complete a **PDQR** as a first step for their project

Essential Questions:

- How does the burning of sugar result in disastrous environmental health outcomes?
- How are the negative environmental health effects felt disproportionately in different communities?
- How do business interests influence business leaders in how they make decisions?

Lesson Materials & Resources

- Case Study: Lake Okeechobee Region [[.pdf](#)][[.docx](#)]
- PDQR Graphic Organizer [[.pdf](#)][[.docx](#)]
- Palm Beach, FL Demographic Information [[.pdf](#)][[.docx](#)]
- Final Conclusions and Proposed Solutions Worksheet [[.pdf](#)][[.docx](#)]
- Unit Slides [[.pdf](#)] [[.docx](#)] (slides 74 - to end)
- Chart paper
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Lesson Steps:

Students evaluate the Case Study: Lake Okeechobee Region [[.pdf](#)][[.docx](#)]. Students use the class period to analyze a case study and report their findings.

2. Distribute and review the PDQR Graphic Organizer [[.pdf](#)][[.docx](#)], the Case Study: Lake Okeechobee Region, and the Palm Beach, FL Demographic Information [[.pdf](#)][[.docx](#)].
  - a. Students can work individually, in pairs, or in groups of three to four.

*\*\*\*Educator note: Another option is to enlarge the PDQR on chart sheets so that students can work on them collaboratively and easily present them.*

Days 8-9

Lesson Objectives & Essential Questions

Lesson Objectives:

Students will be...

- Describe where sugar comes from and compare and contrast sugar cane farming in Florida and in Brazil
- Choose an activity to present their learning and new understandings

Essential Questions:

How does the burning of sugar result in disastrous environmental health outcomes?

How are the negative environmental health effects felt disproportionately in different communities?

How do business interests influence business leaders in how they make decisions?

Lesson Materials & Resources

- Chart sheets or poster board
- Devices with cameras and access to Flip and/or PowerPoint or Google Slides
- Completed PDQR documents
- Student notebooks
- Writing utensils
- Technology to screen videos and project presentation slides

Lesson Activities

Lesson Steps:

Introduce the following activities to students as opportunities to demonstrate their learning and spread awareness about the impact of environmental choices in New York City and its disproportionate impact on different boroughs. Remind students they will be completing these tasks at the end of each unique case study.

1. **Infographic:** On a large piece of paper or poster board, create an infographic that visualizes the themes you have learned from the case study. Be sure to include:
  - the name of the community player
  - the location of the case study
  - state the problem
  - discuss what the community player does and how they try to fix the problem
  - state what questions you still have
2. **Tik Tok News Clip:** Using Flip, create a short clip that covers the points A through E outlined above.
  - a. **PowerPoint:** Present points A through E outlined above.
  - b. **Final Conclusions and Proposed Solutions (Differentiated option):** Individually, in pairs, or in groups of three to four, students can use a new Final Conclusions and Proposed Solutions

Worksheet to recapture their notes and document their ideas to propose additional changes.

3. Closing. SAY: *We studied urban planners and examined one case study in NYC. We also learned how resolution and regulations affect the environment in our study of Texas. This week, we focused on the importance of research in driving change for sustainability. Next week, we'll travel to Florida.*

Students can choose to work with a partner or in groups of three to four to capture their learning.

Week 7: Culminating Presentation

*Days 1-5*

Lesson Objectives & Essential Questions

Lesson Objective:

Students will revise and edit their cumulative documents and materials from the unit to prepare for a final presentation of their work.

Essential Question:

How does the legacy of slavery manifest in environmental racism across the United States?

Lesson Materials & Resources

- Final Presentation - Environmental Justice Fair [[.pdf](#)][[.docx](#)]
- Checklist and Rubric [[.pdf](#)][[.docx](#)]

Final Presentation or Fair

Lesson Steps:

1. Review the cities and connected community players explored throughout the unit:
  - Cities and Community Players:
  - Manhattan/Bronx, NY - Urban Planners
  - East and Central Austin, TX - Local Officials
  - Compton and Long Beach, CA - Researchers
  - Lake Okeechobee Region, FL and Sao Paulo, Brazil - Business Leaders
2. Review the four key environmental injustices explored throughout the unit:
  - People who live in richer neighborhoods are healthier than people who live in poorer neighborhoods
  - Environmental laws that are not strict allow for people to make bad choices and cause damage such as flooding and polluted water in communities
  - When people of color are not part of research groups in universities, the problems people of color have do not get any attention
  - Business leaders who put money ahead of the health of people cause harm to these families
3. Introduce the culminating performance task. Students will present one of the case studies from the preceding weeks in a community fair.
  - a. Review the Final Presentation - Environmental Justice Fair [[.pdf](#)][[.docx](#)]
  - b. Checklist and Rubric [[.pdf](#)][[.docx](#)]

*\*\*\*Note for Educators: Create a time this week for students to make their final presentations. Consider inviting members of the school community (including other classes), family members, and even local community decision-makers.*