



Fight the Power!
Using Civic Engagement to Combat Environmental Injustices

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This curriculum unit is recommended for:
American History: Founding Principles, Civics, and Economics

Keywords: civic engagement, environmental justice, epigenetics, environmental racism, equal justice, fair treatment

Teaching Standards: See [Appendix 1](#) for teaching standards addressed in this unit.

Synopsis: The goal of this curriculum unit is to have students become aware of their surroundings and how it affects them now, in the future, and their future offspring. This CU aims help students know how to combat environmental injustice in their community. This curriculum unit was created with a certain demographic of students in mind: the minority and the economically disenfranchised. Statistically, environmental injustices tend to occur mostly to these groups and according to the National Center for Children in Poverty, children that are living in poverty are also more likely to live in environments that are deemed hazardous and unhealthy to live in. These places can include living in older homes with asbestos, lead paint, and limited access to healthy food. Children living in these conditions are more likely to develop asthma, obesity, lead poisoning, and hyperactivity, causing a hindrance to their emotional, academic, and physical development.

I plan to teach this unit for the 2019 Spring semester in American History: Founding Principles, Civics, and Economics.

I give permission for Charlotte Teachers Institute to publish my curriculum unit in print and online. I understand that I will be credited as the author of my work.

Introduction

The curriculum will begin by having the students analyze the stories of Henrietta Lacks and John Moore to evaluate the authority federal government has over individuals' rights and privileges when it comes to our bodies and compare how the government responds to minorities' individual rights over time in American history. This will prepare the students for the following steps within the curriculum by comparing public and governmental responses for environmental injustices through the following case studies: Warren County, NC, Uniontown, AL, Flint, MI, and the effects of the Hog Farms after Hurricane Florence in NC.

Demographics of Students Completing Curriculum Unit

At Harding University High School, the students are a part of the statistic of children living in poverty. Harding serves over 1,600 students in a Title I setting, where every student receives free lunch. 95% of students that attend Harding are considered to be a minority, with a high concentration of Black and Latino students. 70% of students are below reading level and 18% are considered to be proficient in math, falling behind the district and state. And for the 2017-2018 school year, the school only graduated 59% of their students, causing the school to be ranked as one of the lowest graduation rates in Charlotte-Mecklenburg and for the school to be categorized as "low-performing". These numbers can seem daunting to anyone when it comes to ensuring the students are presented with rigorous curriculum, while achieving academic and personal milestones. This curriculum was crafted with these types of students in mind because statistically, my students are likely to experience environmental and racial injustice. This curriculum is designed to give the students a voice and power in their community and to prevent it from happening in the future.

Exploring the Effects of Our Environment and Epigenetics

To begin the lesson, students will be placed into groups of four to determine what they would consider to be a responsible citizen of the US. Within their groups, the students will be given a large poster paper and designate one student to trace their body on the poster paper. Each student will then choose a colored marker that is not the same as someone else in their group to decipher between the different contributions. With their colored marker, the students will write words, phrases, or draw images on the inside of the body outline to represent what they consider to be a civically responsible person. Students can consider things such as voting, obeying the law, and serving a jury to serve as their examples. Once each student has had an opportunity to write or draw as many examples as they can think of, the teacher will then instruct the students to each choose one word or example that they thought of to be placed in a word cloud so students can visually see the words that were most present within their discussion. Afterwards, the teacher will lead a discussion with the students regarding their words and ask questions such as: If we do or don't do these things, how could it affect a community? Who is responsible for making sure these things are done? How are these things regulated? The teacher will then instruct the students to consider the outside area of their human body and inform them that the area will represent the environment. The teacher will instruct the students to take their colored marker and write down words, phrases, or drawings that represent things that affect us in our environment. Some things that could be considered are: pollution, waste, number of trees, etc. Once the students are done,

the teacher will have the students choose another word to be placed in a different word cloud. The students will then be asked to compare the two word clouds and determine what word generated the most response for both sides. The students will then take the information and respond to the following writing prompt:

How can your environment affect you as a person? As a citizen?

The students will then share their response with one other person around the room or nearest to them. This could be an opportunity for the teacher to promote movement within the classroom by playing music and having the students move around until the music stops and whomever they end up next to, they will have to share their answer with. The teacher will then call on at least 3-4 students and record their responses so that students can compare it with what they learned after the lesson.

For students to understand the impact that their environment will have on them, students will be exploring the term, epigenetics. Students will be presented with the word and be told to guess what they believe this word to mean and its connection with the environment. The teacher will record the student's responses on a KWL chart (what do I know, what do I want to know, what did I learn). The teacher will ask the students what they would like to learn about the term epigenetics and record their answer on the chart. The students will then watch a short TED Talk video on epigenetics and answer the provided questions on key points from the video. To incorporate technology, the teacher may choose format the questions onto a discussion board through the Q&A features on Google Slides or through another web 2.0 source such as padlet ® or nearpod ®:

Video Link: https://youtu.be/_aAhcNjmvhc¹

- What is the definition of epigenetics?
 - The study of how DNA interacts with multitude of smaller molecules found within cells which can activate and deactivate genes
- How are genes read?
 - They are read when they are expressed and transcribed into RNA
- What gives our cells characteristics and functions?
 - Proteins
- How does epigenetics affect our genes?
 - It can enhance or inhibit the transcription of specific genes.
- What environmental factors can affect your epigenome?
 - Diet, chemical exposure, medication, and social experiences
- Can environmental factors affect future generations' epigenome?
 - Some social experiences or exposures to chemicals, medications, or diet can be passed down to future generations even if they were never exposed it themselves
- Are the effects of epigenetics permanent? Why or why not?
 - No because you can develop a healthy epigenome through a balanced diet, exercise and by avoiding exposure to chemical contaminants.

¹ Guerra-Bosagna

After the video and discussion of the answers to the provided questions, students will then be able to fill in their last portion of the KWL chart about what they learned about epigenetics.

Activity 1: Exploring the Role of the EPA and its Connection to Epigenetics

To transition to the next phase, students will review the term: environmental justice. The teacher will ask the students what they believe this term to mean and its connection to epigenetics. The teacher can have a student volunteer to scribe the class responses on chart paper so that they may refer back to it and/or add to it as they learn more about the connections between the two ideas. Once students have come up with their own definition, the teacher will ask the students to think about the different government agencies that are responsible for executing our goals and missions from the government. The teacher will question the students to see if they know which government agency is responsible for protecting our environment. Some students may be aware of the Environmental Protection Agency which will then lead the teacher to direct the students to explore the EPA's website through the attached webquest. Once the students have completed the webquest, they should develop a better understanding of the following:

- The roles of the EPA
- EPA's goals on the environment and the definition of environmental justice
- How does the EPA's role and goals involve epigenetics?
- How the environmental justice movement arise?

Once students have explored the EPA's webpage, the teacher will direct students back to their definition of environmental justice and have them compare their definition with the EPA's definition. The teacher will ask the students if their definition discusses something that the EPA should be responsible for, but is not listed on their website and discuss why they believe the EPA should be responsible for it. To transition to the following activity, the teacher will ask the students to predict how they believe environmental justice began. Students should state answers such as:

- Grassroots movements
- When a massive wrongdoing was committed

The teacher will then split the students into 4 different groups to explore different case studies that involve environmental justice.

Activity 2: Analyzing Cases of Environmental Injustices

To present the provided case studies, the students will be required to create a public service announcement on their assigned case study. To prepare the students, the teacher will provide details about the assignment through the attached rubric. This rubric can also be used as a means to grade their final product. First, the students will need to assign different roles to members within their groups. These groups will be fairly large (about 7-8 students), therefore there will be numerous roles to ensure that each student plays a part in their group's presentation. The students will assign the following roles to each other:

- Scribe: This person is responsible for writing down necessary facts as needed to be presented in the group's PSA. This person will work closely with the script writer to ensure that all the information is presented in a factual manner.
- Artists (2 Students): These people will be responsible for creating at least 4 posters that contain information about their case study and meets the requirements listed on the rubric.
- Presenters (2 Students): These people will be responsible for presenting the information about their case study to the class. These people will present after their group's short skit to clarify or elaborate on information about their case study.
- Data Analysts (2 Students): These students will be responsible for collecting data from at least 40 people within the school. These people cannot currently be taking the class. The data that is to be collected will pertain to the following question: What environmental issues do you believe to be the biggest factor in our community/state/world? These students will follow the guidelines within the rubric on how to collect, display, and present the data.
- Script Writer: This person is responsible for creating a short skit on their provided case study. This person will work closely with the scribe to ensure that they present the information in a creative and factual manner. The script will follow the guidelines provided on the rubric.
- Director: This person is responsible for the layout of the PSA announcement. This person will also be responsible for recording the PSA as well as editing the video to make sure that it fits within the allotted time frame referenced in the rubric.
- Actors (2-3 Students): These people will be responsible for reading and acting out the scenes provided by the script writer.

The students will use the provided information about the four areas to complete their case study worksheet. The worksheet is provided to serve as a measure for understanding for the assigned case. The students will later use this information to formulate a letter to their local representative about the information they found and a viable solution to prevent this from happening in our community.

Environmental Justice Case Studies

Exploring Warren County, NC

To connect the last point of the webquest, students will analyze the environmental justice movement of Warren County, NC and explore how their movement helped combat environmental injustices. The students will collect information using the case study worksheet about Warren County's environmental justice movement and use it to help compare it with the other environmental case studies.

Warren County, NC began the movement for environmental justice in 1982 due to the opening of a dump site for PCB (Polychlorinated Biphenyls) contaminated soil. PCB has numerous adverse health effects such as liver damage, respiratory problems, reproductive and developmental toxicity². In 1978, the Ward Transformer Company began dumping toxic waste alongside the roads of different counties in North Carolina in wake of the environmental disaster in Love Canal, New York where an entire community fell ill due to a chemical dump site underneath their community. Because of this, President Jimmy Carter declared it a disaster area. This encouraged the EPA to crack down on toxic dumping by seeking legal restitution for companies who participated in the illegal dumping of toxic wastes, making it more expensive for companies to dispose of their chemical wastes under the Toxic Substance Control Act. This same act would make it a requirement for all chemical-contaminated soil to be placed in a landfill. The state of North Carolina chose to have Warren County host the landfill for the PCB soil. Warren County's community demographics in 1978 were 65% black and the average household income was at or below poverty level. In January 1979, eight hundred people attended the meeting regarding the new dump site and to protest the building of the landfill. The people were concerned over the possible and inevitable adverse effects of the toxic chemicals being seeped into the soil. However, the NC government, under the administration of Governor James B. Hunt, decided through the large amount of local protest to continue with the building of the landfill.³

Once the site was completed in May 1982, a lawsuit to stop the dumping of the toxic chemicals, was brought up by the county's local chapter of the National Advancement of Colored People (NAACP), a black Baptist church, and a biracial group of 26 people living near the landfill. It charged that the Federal EPA and the NC government practiced racial discrimination and disregarded the alternative options in favor of the citizens of Warren County's well-being. Unfortunately, Judge W. Earl Britt ruled against the community's lawsuit, claiming that there was not substantial evidence of racial discrimination⁴. This motivated the local residents to form an on-site protest as a last resort to stop the filling of the landfill. In the late summer, 10,000 truck-loads were scheduled to dump the PCB soil into the landfill, and as a first form of protest, a vandalizer sliced into the plastic liner of the soil. The state of NC took this as a form of a threat and assigned 200 patrol officers to the area and put the National Guard on alert. But, the protesters were mostly peaceful by holding signs and laying on the roads to prevent the dump trucks from dumping the soil. During the six-week protest, 500 people were

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³ Carolinians Angry Over PCB Landfill

⁴ Chavis

arrested, including Dr. Benjamin F. Chavis Jr., from the United Church of Christ and Delegate Walter Fauntroy from the US House of Representatives. Even though the protests did not stop the dumping of PCB, it did lead to the election of local Black officials and began the movement for environmental justice. This protest also led to the discovery of the certain communities that were affected by environmental injustices. In 1987, the United Church of Christ released a report revealing that minority communities are usually the hosts of toxic waste dumps. Their report revealed that three out of five Black and Hispanic communities live in a community with toxic waste and that the government was most likely to dispose of dangerous materials in poor and politically marginalized communities. In 1994, President Bill Clinton signed an executive order, requiring the federal government to account for the environmental injustices placed upon the affected communities.⁵ The executive order directed federal agencies to comply with the following:

- Make achieving environmental justice part of their mission and identifying and addressing adverse health of environmental effects of its program on minority, low-income, and tribal communities
- Develop an environmental justice strategy that lists programs, policies, planning, and public participation processes, enforcement, and/or rule making related to human health or the environment
- A timetable for revising identified economic and social implications

Exploring Flint, MI

Ever since the 1960s, the city of Flint, MI received their water from Lake Huron through the Detroit Water and Sewerage Department. However, the rate for water were among the country's highest rates for water because of its decreasing population due to the shut down of major plants. With its few taxpayers and a water system designed for a large population, individual water bills soared. This caused the city to set their own provider for water. A financial crisis in 2011 prompted Michigan to appoint an emergency manager, Jerry Ambrose, to run the city, leading accountability unknown and budget cuts caused environmental agencies unfit to respond. First it would take the water from the Flint River and upgrade an old treatment plant and in April 2014, Flint mayor Dayne Walling gave the go-ahead to switch on the city's water supply to Flint River. Within a few weeks, the residents of Flint began to taste metallic and smell rotten due to the lead pipes that was connected to thousands of houses in Flint. This broke federal law and caused the city government to retaliate by adding ferric chloride to remove contaminants. This only worsened the situation because there were high levels of chloride in the river that caused the corrosion of lead in the pipes. The lead in the water then lead to the water to become tainted with bacteria, which then caused an outbreak of Legionnaires disease.

For the next eighteen months, city officials insisted that the water met federal standards, hid evidence, and manipulated data to bring the average lead levels below the regulatory limit of fifteen parts per billion. Journalist Anna Clark and local resident LeeAnne Walters began to test the water. Walters' family began to experience a multitude of health problems in mid-2014 such as skin rashes, lost clumps of hair, mysterious aches, and even one of Walters' three-year-old twins stopped growing. In January 2015, residents of Flint toted jugs of discolored water to a community forum and in April 2015, when Walters' home water was tested by an EPA

⁵ Reimann

environmental engineer, Marc Edwards, the lead levels was hundreds of times those deemed acceptable. This probed Edwards to arrange locals to begin collecting samples of their water by distributing sampling kits, making an instructional video, and setting up a blog to report developments. When the team unveiled its finding in September 2015, the city officials dismissed the scientists, citizens, and activists. What caused the city to switch back to DWSD water in October of the same year was when proof that the water supply was harming the children. The report on the children of Flint's health came from the Dr. Mona Hanna-Attisha's founding of increased lead levels in children's blood since the switching of the water supply to Flint River. Her report found that the proportion of children under five with levels of high lead in their blood had gone from 2.1% to 4%, with 6% being reported in the poorest areas of Flint. The latter results revealed that Flint's Black residents, who were mostly in the poorly maintained water networks, were affected the most.

In March 2015, the Flint City Council members voted 7-1 to stop using river water and to reconnect with Detroit, but the emergency manager overruled the vote, calling it "incomprehensible", stating that the costs would increase dramatically and that "water from Detroit is no safer than water from Flint". By June 2015, a group of clergymen and activists filed a lawsuit against the city, claiming the river water was a health risk. The city attorney later stated that the lawsuit was "baseless" and caused the case to be dismissed in September of the same year, even though the EPA manager issued a memo titled "High Lead Levels in Flint" that warned that the city is not providing corrosion control treatment to review the presence of lead in drinking water. This provokes LeeAnne Walters to share the memo with an investigative reporter from the ACLU named Curt Guyette. Guyette then posts a video about the lead in Walters' home water and Flint Mayor Dayne Walling drinks a cup of the tap water on a local television report to ensure residents that it is safe to drink and the Michigan Department of Environmental Quality supports the mayor by stating that the issue is not widespread due to their testing of 170 homes but later orders Flint to conduct corrosion control treatment in the water supply after testing from the first six months of 2015 revealed elevated lead levels. Then in September, the EPA announced it would assist Flint in developing a corrosion control treatment for their water and in November the residents filed a federal class action lawsuit that claimed 14 state and city officials, which included the state's governor, knowingly exposed Flint residents to toxic water and in December, Flint declares a state of emergency. In April 2016, criminal charges are filed against the district water engineer, the supervisor for the MDEQ, and the laboratory and water quality supervisor were charged with tampering with evidence and willful neglect of duty. Also, a \$722 million class action lawsuit is filed against the EPA on behalf of more than 1,700 residents impacted by the water crisis and awarded \$100 million to Flint for drinking water infrastructure upgrades and \$97 million settlement where the state of Michigan will agree to replace lead or galvanized steel water lines in the City of Flint. And in April 2018, the governor of Michigan announced the end of a free bottled water program in Flint, claiming the water quality has been restored.⁶

⁶ Flint Water Crisis Fast Facts

Exploring Uniontown, AL

In Uniontown, Alabama, residents have been complaining about the quality of their air. 90% of the residents in this town are Black and the total average income for the town is a little bit under \$11,000. For years, the town's local dump, Arrowhead Landfill, has been used a site for coal ash dumping, right near a historical Black cemetery. In 2016, the company in charge of dumping the coal ash promised to work with the local community by maintaining the cemetery, but have not upheld their end of the deal. In fact, the company ended up owning the cemetery without the resident's knowledge. Besides the fact that 30 states use this landfill to dispose of their garbage, in 2008, a pipeline was constructed to take the coal ash from Harriman, Tennessee, a majority white community, to Uniontown. Chemicals such as mercury, cadmium, and arsenic are found in coal ash, however the EPA has assured the local residents that coal ash is not harmful, even though ten people within a five mile radius have died of kidney failure after the introduction of the pipeline. The landfill company claims they are dumping coal ash appropriately and safely and have sued local residents for \$30 million for trying to ruin their reputation. Fortunately the lawsuit was dropped. On the other side of town resides another problem: an antiquated sewage system. On this side of town, residents are dealing with human waste not being properly disposed of. Human waste collected from the city are dumped into a local lagoon and then sprayed through a sprinkler system onto a barren field to alleviate the lagoon. Technically, this system should work because the ground would soak up the water and filter out the wastes. But, the ground where the sprinkler system is, is hard clay. This causes the water to run off right into a local stream, where residents reside downstream are catching the contaminants. Thus far, no known actions have taken place to reclaim the cemetery or to discontinue the environmental injustices placed upon Uniontown, AL.⁷

Exploring Charlotte, NC

In June 2017, reported cases of rare eye cancer in Huntersville, NC. In April 2017, the town of Huntersville signed a contract to study the reasoning behind the eye cancer spike. The case found 12 cases of ocular melanoma, which then quickly grew to 18. The eye cancer was reduced to about a 15-mile radius of downtown Huntersville. Ocular melanoma is diagnosed in about 2,500 adults a year and the victims tend to be mostly male. However, nine of the first twelve victims identified in Huntersville were female, and six were younger than 30. Three of the victims had attended Hopewell High School and four had died since their diagnosis in April 2017. The Charlotte Cancer Center is currently conducting research behind the rare forms of cancer.⁸

In Charlotte-Mecklenburg Schools, officials have begun testing the water quality of 58 schools, finding 27 schools to be above the lead levels recommended. Five schools water sources were forced to be out of commission until further notice. CMS officials are actively looking to resolve all the issues pertaining to water safety in the schools.⁹

⁷ Uniontown, Alabama: Victims of Environmental Justice

⁸ Henderson

⁹ Gillis

Activity 3: Writing a Letter to Local Representative

After the students have found the necessary information for their case studies, students will write a letter to their local representative that discusses solutions for Uniontown and Charlotte. The letter must address the following aspects:

- Explanation of the impact of the environment on a human's epigenome
- Definition of epigenetics
- 6-7 sentences briefly explaining the case study of Warren County OR Flint and their environmental issues and its effects and how environmental justice was established
- 4-5 sentences briefly explaining an environmental issue in Charlotte, such as eye cancer or CMS drinking water (Students may be allowed to research other environmental injustices that match the EPA's definition they believe to be in their community)
- 4-5 sentences explaining a solution to the environmental injustice in Charlotte and the importance of finding a viable solution to the problem using their research on one of the case studies and what they learned about epigenetics.

Appendix 1

FP.C&G.2.6: Evaluate the authority federal, state, and local governments have over individuals' rights and privileges.

FP.C&G.2.7: Analyze contemporary issues and governmental responses at the local, state, and national levels in terms of how they promote the public interest and/or general welfare.

FP.C&G.3.1: Analyze how the rule of law establishes limits on both the governed and those who govern while holding true to the ideal of equal protection under the law.

FP.C&G.3.5: Compare jurisdictions and methods of law enforcement applied at each level of government, the consequences of noncompliance to laws at each level and how each reflects equal protection under the law.

FP.C&G.4.4: Analyze the obligations of citizens by determining when their personal desires, interests, and involvement are subordinate.

FP.C&G.5.5: Analyze the development and implementation of domestic and foreign policy by outlining opposing arguments on major issues and their efforts toward resolutions.

Appendix 2: Worksheets

What is Epigenetics? Video Discussion Questions

1. What is the definition of epigenetics?
2. How are genes read?
3. What gives our cells characteristics and functions?
4. How does epigenetics affect our genes?
5. What environmental factors can affect your epigenome?
6. Can environmental factors affect future generations' epigenome?
7. Are the effects of epigenetics permanent? Why or why not?

EPA Environmental Justice Webquest

Use the following website to complete the webquest regarding the EPA:

<https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>

Definition of Environmental Justice

Definition of Fair Treatment

Choose one (1) bullet point to write under “Meaningful Involvement” and how it can prevent negative effects to a person’s epigenome. Explain in 3-4 sentences

Environmental Justice Case Studies

Location and Demographics of Affected Area

Environmental Issues That Affected the Area

Ways the Environmental Issues Impact the Community

**Ways Environmental Injustices Were Resolved/Ways That
Environmental Injustices Can be Resolved**

Appendix 3: PSA Rubric

This rubric is to provide the students with information regarding how to create their PSA for their assigned case study. The rubric uses a scale of 0-3 to elaborate on how the students will be graded on their presentation of the information.

Item	3-Mastery	2-Near Mastery	1-Remediation	0-No Evidence
PSA Posters	4 posters containing the following information: --Demographics of town --Environmental Issues and its effect on a person's epigenome --2 ways to resolve the issues OR how the issue(s) were resolved	Has all 4 or 2-3 posters, is missing at least 1 of the following details: --Demographics of town --Environmental Issues and its effect on a person's epigenome --2 ways to resolve the issues OR how the issue(s) were resolved	Has 1-2 posters and is missing at least 2 of the following details: -- Demographics of town -- Environmental Issues and its effect on a person's epigenome --2 ways to resolve the issues OR how the issue(s) were resolved	No Posters
Script	--Provided a written or typed script --Follows sequential order --Provides adequate details about the following: <ul style="list-style-type: none"> ● Location ● Demographics of the community ● Environmental Issue ● Key Players ● How the environmental issue(s) 	Is missing at least 1 of the following details: --Provided a written or typed script --Follows sequential order --Provides adequate details about the following: <ul style="list-style-type: none"> ● Location ● Demographics of the community ● Environmental Issue ● Key Players 	Is missing at least 2 of the following details: --Provided a written or typed script --Follows sequential order --Provides adequate details about the following: <ul style="list-style-type: none"> ● Location ● Demogr 	No script provided

	affected the community	<ul style="list-style-type: none"> How the environmental issue(s) affected the community 	aphics of the community <ul style="list-style-type: none"> Environmental Issue Key Players How the environmental issue(s) affected the community 	
PSA Video	--Video is at least 3-4 minutes long --Follows the provided script --Actors can be heard --Provides a brief elaboration on case study after skit with data analysis results	Is missing at 1-2 of the following: --Video is at least 3-4 minutes long --Follows the provided script --Actors can be heard --Provides a brief elaboration on case study after skit with data analysis results	Is missing at least 3 of the following details: --Video is at least 3-4 minutes long --Follows the provided script --Actors can be heard --Provides a brief elaboration on case study after skit with data analysis results	No video Provided
Data Analysis	Presented data analysis on the following: --Collected data using Google Forms --40 responses to the following question: What environmental	Is missing at least 1 of the following details: --Collected data using Google Forms --40 responses to the following question: What	Is missing at least 2 of the following details: --Collected data using Google Forms --40 responses to the	No Data Analysis

	<p>issues do you believe to be the biggest factor in our community/state/world? --Displays the data in the form of a bar graph or a pie chart</p>	<p>environmental issues do you believe to be the biggest factor in our community/state/world? --Displays the data in the form of a bar graph or a pie chart</p>	<p>following question: What environmental issues do you believe to be the biggest factor in our community/state/world? --Displays the data in the form of a bar graph or a pie chart</p>	
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Endnotes

- 1 Guerrero-Bosagna, "What is Epigenetics?"
- 2 Yu, "Environmental Health and Medicine Education: Polychlorinated Biphenyls (PCBs) Toxicity"
- 3 "Carolinians Angry Over PCB Landfill."
- 4 Chavis, "Toxic Wastes and Race in the United States: A National Report on the Racial and Socio-Economic Characteristics of Communities with Hazardous Waste Sites"
- 5 Reimann, "The EPA Chose This County for a Toxic Dump Because Its Residents Were 'few, Black, and Poor': Warren County Mobilized a Remarkable Resistance Movement."
- 6 "Flint Water Crisis Fast Facts."
- 7 "Uniontown, Alabama: Victims of Environmental Injustice"
- 8 Henderson, "Waiting for Answers as Rare Eye Cancer in Small NC Town Continue to Grow."
- 9 Gillis, "CMS lead in water: 4 Sinks on CMS Properties Tested Positive for High Levels of Lead."