



# Environmental Justice Lesson

## 1

### Introduction:

- ▶ Write the word “justice” on the board.

*Ask students, what comes to mind when you see this word?*

*What does it mean to you?*

*What does it mean for all others around you?*

After students explore this concept write the words “environmental justice” on the board.

*Ask students to explore what this means?*

*What would they expect/want to have in terms of the environment around them and its impact on their life?*



After discussion provide a definition of environmental justice:

The U.S. Environmental Protection Agency defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. EPA states, “this goal will be achieved when everyone enjoys:

- The same degree of protection from environmental and health hazards, and
- Equal access to the decision-making process to have a healthy environment in which to live, learn, and work.”<sup>1</sup>

To learn more, play the video interview between high school student, Emma and Professor David Pellow, Dehlsen Chair and Professor of Environmental Studies and Director of the Global Environmental Justice Project at the University of California, Santa Barbara.

- ▶ **Introduce Flint, Michigan as a case study.** Most students have probably heard about Flint in the news; this is an opportunity for them to see it from the viewpoint of environmental justice. A series of technical errors caused the high levels of lead in drinking water, but what are some of the other factors (including social, political, legal) that exacerbated the problem?

Here are some links to help them explore and research what happened in Flint:

- [www.nrdc.org/stories/flint-water-crisis-everything-you-need-know](http://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know)
- [www.globalonenessproject.org/library/photo-essays/fall-flint](http://www.globalonenessproject.org/library/photo-essays/fall-flint)

- ▶ **Ask students to reflect on the impact of the water crisis on the people of Flint.**  
*Why is this an example of environmental injustice?*  
*Have them write a short response.*  
*What should have happened?*

<sup>1</sup> See [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice).



# Environmental Justice Lesson

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## Exploration of Environmental Justice issues:

*What are the issues people face in our society concerning environmental justice?*

Provide each student group with a research statement concerning environmental justice.

[See *Selected Research Related to Environmental Justice Handout* on page 4 of this lesson.]

Students will discuss the statement and explore the issue using the following prompt questions:

- *Would you consider this an issue of environmental justice? Why or why not?*
- *What might be the impacts of this on the people affected in this situation?*
- *Why might it be difficult for the people affected in this situation to relocate to another area?*

Each group will share their statement and responses to the class.

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## Break the class into three working groups.

### Assign each group to the following three categories.

Have the students discuss the questions under their category and then come back to the group and share their thoughts.

#### STATUS AND LOCALITY

- *How is environmental justice related to socioeconomic status?*
- *How does environmental justice differ in an upper-class neighborhood versus a high poverty neighborhood?*
- *How might it differ in urban versus rural areas?*

#### GOVERNMENT

- *Are individuals or corporations responsible for regulating environmental justice or should government be responsible?*
- *What are the actions that individuals can take to promote environmental justice?*
- *What are actions that local, state, and federal government agencies can take to promote environmental justice?*



#### YOUR COMMUNITY

- *What sources of pollution exist in your community?*
- *Are there parks, trails, and other green spaces in your community?*
- *Where are these located in terms of the neighborhoods in your community?*
- *Are there highways/roadways that transverse certain neighborhoods?*
- *Are there ways your community can be more environmentally just?*
- *What would that entail?*

#### REMOTE LEARNING SUGGESTIONS

This can be used as an assignment for a one-page response paper



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## 4

### Challenges and Solutions:

- *How can we ensure environmental justice for all?*
- *How can members of society work together to do this?*

Students will explore these issues using an example based on real events.

#### Background:

Oxnard is the largest city along California's Central Coast. The population is 85% people of color with nearly half of all adults having less than a high school education.

This low-income community ranks in the top 20% of the most environmentally burdened communities in the state because it is the location of many of the Central Coast's most polluting industries. There are three gas-fired power plants and an EPA Superfund hazardous waste site on the beaches of Oxnard.

In 2014, the largest power generation company in the United States proposed using Oxnard as a site for another gas-fired power plant.



Student groups should be divided into the following roles:

- ▶ Environmental Engineers
- ▶ Oxnard Residents (possible cohorts - students, business owners, property owners, farmers)
- ▶ Lawmakers
- ▶ Power company representatives

In these roles students should discuss:

- *What are the benefits and the risks of locating this plant in Oxnard?*
- *Are there other, more equitable solutions to this problem?*
- *What should each group, individually, do in response to this proposal?*
- *How can each group work with the other groups to create the best possible scenario for all the people in Oxnard?*



# Select Research Related to Environmental Justice

## 1. AIR POLLUTION

Researchers at the EPA's National Center for Environmental Assessment looked at facilities emitting air pollution, as well as at the racial and economic profiles of surrounding communities. They found that black Americans were exposed to significantly more of the small pollution particles known as PM 2.5, which have been associated with lung disease, heart disease, and premature death. Most such sooty pollution comes from burning fossil fuels. "Blacks were exposed to 1.54 times more of this form of pollution—particles no larger than 2.5 microns, that lodge in lung tissue—than the population at large. Poor people were exposed to 1.35 times more, and all non-whites to 1.28 times more, according to the study."

Source of quote: [www.insideclimatenews.org/news/01032018/air-pollution-data-african-american-race-health-epa-research](http://www.insideclimatenews.org/news/01032018/air-pollution-data-african-american-race-health-epa-research)

Learn more about the research: Mikati, I., Benson, A.F., Luben, T.J., Sacks, J.D. and Richmond-Bryant, J., 2018. Disparities in distribution of particulate matter emission sources by race and poverty status. *American journal of public health*, 108(4), pp.480-485. Available at: [www.ajph.aphapublications.org/doi/pdfplus/10.2105/AJPH.2017.304297](http://www.ajph.aphapublications.org/doi/pdfplus/10.2105/AJPH.2017.304297).

## 2. HAZARDOUS WASTE

Researchers analyzed data about the placement of U.S. hazardous waste facilities and "found 'a consistent pattern over a 30-year period of placing hazardous waste facilities in neighborhoods where poor people and people of color live.' Racial discrimination in zoning and the housing market, along with siting decisions based on following the path of least resistance, may best explain present-day inequities, they concluded." This research challenges a common assumption and mis-perception regarding environmental racism: the "minority move in hypothesis"—the idea that people of color tend to move to neighborhoods that are polluted since the rents and cost of living are cheaper.

Source of quote: [www.phys.org/news/2016-01-minority-low-income-neighborhoods-hazardous-sites.html](http://www.phys.org/news/2016-01-minority-low-income-neighborhoods-hazardous-sites.html)

Learn more about this research: Mohai, P. and Saha, R., 2015. Which came first, people or pollution? Assessing the disparate siting and post-siting demographic change hypotheses of environmental injustice. *Environmental Research Letters*, 10(11), p.115008. Available at: [www.iopscience.iop.org/article/10.1088/1748-9326/10/11/115008/pdf](http://www.iopscience.iop.org/article/10.1088/1748-9326/10/11/115008/pdf).

Mohai, P. and Saha, R., 2015. Which came first, people or pollution? A review of theory and evidence from longitudinal environmental justice studies. *Environmental Research Letters*, 10(12), p.125011. Available at [www.iopscience.iop.org/article/10.1088/1748-9326/10/12/125011/pdf](http://www.iopscience.iop.org/article/10.1088/1748-9326/10/12/125011/pdf).

## 3. LEAD POISONING

Using publicly available data collected by the CDC, a study published in 2020 found that "black children living below the US federal poverty level are four times as likely to have elevated levels of lead in their blood than poor white or Hispanic children. ...The social condition of being African American is a bigger risk than living in an old house. In other words, black children living in buildings built between 1950-1977 are six times more likely to have elevated levels of lead in their blood than white children living in a building of that era." Lead poisoning is strongly associated with poor performance in educational settings, suggesting that environmental racism impacts many young people's ability to do well in school.

Source of quote: [www.dw.com/en/lead-poisoning-reveals-environmental-racism-in-the-us/a-53335395](http://www.dw.com/en/lead-poisoning-reveals-environmental-racism-in-the-us/a-53335395).



# Select Research Related to Environmental Justice

Learn more about this research: Yeter, D., Banks, E.C. and Aschner, M., 2020. Disparity in Risk Factor Severity for Early Childhood Blood Lead among Predominantly African-American Black Children: The 1999 to 2010 US NHANES. International journal of environmental research and public health, 17(5), p.1552. Available at [www.mdpi.com/1660-4601/17/5/1552/pdf](http://www.mdpi.com/1660-4601/17/5/1552/pdf).

## 4. CLIMATE CHANGE ISSUES

Climate change and sea-level rise pose risks to coastal communities in the United States, and many of those most at risk are the most socially vulnerable. African Americans comprise 20% of the population in coastal counties extending from Virginia to Texas, which is considerably higher than the percentage of African Americans nationally at 13.6% (US Census, 2010).

Learn more about this research: Martinich, J., Neumann, J., Ludwig, L. et al. Risks of sea level rise to disadvantaged communities in the United States. Mitig Adapt Strateg Glob Change 18, 169–185 (2013). Available at [www.doi.org/10.1007/s11027-011-9356-0](https://doi.org/10.1007/s11027-011-9356-0).

## 5. DRINKING WATER QUALITY

Drinking water systems that constantly violated the law for years were 40 percent more likely to occur in places with higher percentages of residents who were people of color, according to EPA data from 2016-2019 analyzed in a recent report. Even when actions were taken to compel systems to fix their violations, it took longer for water systems in communities of color to come back into compliance.

Learn more about this research: [www.nrdc.org/sites/default/files/watered-down-justice-report.pdf](http://www.nrdc.org/sites/default/files/watered-down-justice-report.pdf)

## 6. ACCESS TO WATER

Anecdotal evidence suggests that historically African American communities on the fringes of cities and towns in North Carolina have been systematically denied access to municipal drinking water service. In Wake County, North Carolina researchers found that every 10% increase in the African American population proportion within a census block increases the odds of exclusion from municipal water service by 3.8%.

Learn more about this research: MacDonald Gibson, J., DeFelice, N., Sebastian, D. and Leker, H., 2014. Racial disparities in access to community water supply service in Wake County, North Carolina. Frontiers in Public Health Services and Systems Research, 3(3), p.6. Available at [www.ncbi.nlm.nih.gov/pmc/articles/PMC4232129/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4232129/).

## 7. ACCESS TO DRINKING WATER AND SANITATION

More than two million people in the United States live without running water or modern plumbing. Although socioeconomic status correlates with water and wastewater services access, race is the single strongest predictor: African-American and Latinx households are almost twice as likely as white households to not have full indoor plumbing, while Native American households are about 19 times as likely. The study found that 58 out of every 1,000 Native American households lack complete plumbing, as opposed to three out of every 1,000 white households.

Learn more about this research: [www.closetthewatergap.org/wp-content/uploads/2019/11/Dig-Deep\\_Closing-the-Water-Access-Gap-in-the-United-States\\_DIGITAL\\_compressed.pdf](http://www.closetthewatergap.org/wp-content/uploads/2019/11/Dig-Deep_Closing-the-Water-Access-Gap-in-the-United-States_DIGITAL_compressed.pdf)