



Centering Environmental and Climate Justice in Education (70 minutes of instruction)

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Learning Goals

Educators will:

- Develop an understanding of climate justice as a multifaceted set of priorities.
- Learn strategies for engaging learners with justice-centered phenomena, including addressing issues of social controversy and politics that can arise when teaching about climate change.
- Explore case studies of environmental and climate justice phenomena that can be used for engaging students in societally relevant science learning.
- Identify what climate justice phenomena are most appropriate for use in their own teaching contexts.

Assigned Readings & Resources

- International Climate Justice Network. (2002). Bali principles of climate justice. Created by delegates to the preparatory meeting for the Earth Summit held in Bali, Indonesia, August, 2002. Retrieved from <https://corpwatch.org/article/bali-principles-climate-justice>.
- Olúfẹmí O. Táíwò (2021). [Climate Colonialism and Reparations](#), *For the Wild Podcast*.
- Dr. Kyle Powys Whyte (2018, January 17). [S2E8 Indigenous Perspectives on Just Transitions](#). *Climate Conversations: A Climate Change Podcast*.
- Morrison, D. L. & Bell, P. L. (2021). [Editorial: Exploring Climate Justice Learning: Visions, Challenges, and Opportunities](#). *Connected Science Learning (Special Issue on Climate Learning)*, 3(5): National Science Teaching Association.
- Morrison, D., Bell, P., & Rhinehart, A. (2020). Focusing science and engineering learning on justice-centered phenomena across PK-12. STEM Teaching Tools Initiative, Institute for Science + Math Education. Seattle, WA: University of Washington. Retrieved from <https://stemteachingtools.org/brief/67>.
- Morrison, D. L., McNevin, B. & Bell, P. (2021). Navigating the Political Dimensions of Climate Change Teaching and Learning. STEM Teaching Tools Initiative, Institute for Science + Math Education. Seattle, WA: University of Washington. Retrieved from <https://stemteachingtools.org/brief/78>.
- Bell, P., & Morrison, D. (2020). Social justice-centered science teaching and learning. In “Social Justice in the Science Classroom”, May 2020 *Next Gen Navigator*, National Science Teacher Association. Guest editor for issue. Retrieved from <https://www.nsta.org/blog/social-justice-science-classroom>.
- Bell, P., Morrison, D. L., Arada, K., Garcia, M., & members of the Council of State Science Supervisors (CSSS). (2021). How can you advance equity and justice through science teaching? STEM Teaching Tools Initiative, Institute for Science + Math Education. Seattle, WA: University of Washington. Retrieved from <https://stemteachingtools.org/brief/71>.

Activities

A. Explore group understanding of climate justice (20 min)

- How do climate change, educational justice, and environmental justice issues intersect? What might be an example of such a climate justice issue? What issues of justice are present? (5 minutes free write)
- Now consider justice specifically within educational settings. How does your definition of climate justice impact ways to improve educational justice through teaching and learning? How do climate change, social justice, and environmental justice issues intersect? What might be an example of such a climate justice issue? What issues of justice are present? (5 minutes free write)

When considering different aspects of climate, environmental, social, and educational justice:

- Climate justice is a relatively new term growing out of work in the early 2000s across the world that sits on the longer work of environmental justice. [See this editorial for more information.](#)
- Environmental justice is a broader term which encompasses the climate justice framing but is not exclusively about climate. For example, this would include chemical pollution issues.
- Educational justice involves both the equitable opportunities for learning, the diversity of knowledge systems learned, and the outcomes of educational efforts - all of which are known to have bias and unjust aspects.

- Show this 10 min video: [Episode 4 of The Breakdown: Climate Justice is Social Justice](#).
 - *Whole group discussion:* How does your personal thinking about climate justice connect to this overview of climate justice? How does climate justice appear across different scales and contexts and across different subjects and topics?

Many things will likely come up including:

- How climate justice occurs in the Global North, within wealthy countries as well.
- Climate justice also includes caring and action for more-than-human organisms without specific benefit to humans. The video does not mention multispecies justice.

B. Develop a broad definition of climate justice (20 min)

- Read [Editorial: Exploring Climate Justice Learning: Visions, Challenges, and Opportunities](#).
- Personal Reflection:
 - Ask individuals to brainstorm everyday activities from their own life that relate to this broad view of climate justice (e.g., local efforts, political action, learning about equity). What about the everyday activities for young people that they work with?
 - Where does climate justice sit inside the NRC *Framework for K-12 Science Education*, your own state standards, and other standards / commitments you hold as an educator?.

You might help students consider:

- human impacts of science, engineering, and technology
- how science works
- social justice educational standards
- relevant funds of cultural knowledge held by specific communities

- different content area standards in your context [e.g., critical analysis of texts in ELA standards])

Whole group discussion:

Ask people to provide a range of examples from their and their students' everyday lives and how they connect to educational goals and commitments.

You should highlight:

- Local nature of climate (in)justice issues (e.g., routine flooding, coastal erosion, mega fires, etc.)
- Connections to place-based ecological caring, restoration, bioremediation, etc.
- Intersectionality of justice issues

This [web site](#), [this presentation](#), and the climate justice video above may provide you with other ideas to bring into the conversation.

- Discuss: How does the broad definition for climate justice above relate to the examples you are generating from your everyday lives and/or the everyday lives of young people you work with?
- Discuss: What are some characteristics of everyday issues of climate justice?

C. Selecting Climate Justice Phenomena for Learning (30 min)

- Read: [Focusing science and engineering learning on justice-centered phenomena across PK-12.](#)
- Highlight the recommendations section of the resource.
 - Whole group discussion: How might these recommendations support teaching and learning with respect to climate justice specifically?

Many things will likely come up including:

- The non-explicit nature of climate justice as an instructional topic within science learning standards—although many dozen performance expectations can be meaningfully connected to climate justice across K-12.
- Ideas about it being controversial or involving political actions. There may be concerns about bringing justice issues into seemingly “neutral” science learning settings. Draw on these STEM Teaching Tools to resource this issue:
 - [#44: Addressing controversial science topics in the K-12 classroom](#)

- [#78: Navigating the political dimensions of climate change teaching and learning](#)
- Why is it important to focus on the environmental and climate issues and responses of Indigenous, Black and Brown Communities and other frontline communities? Why can it be problematic to center dominant community responses (e.g., those of white, middle and upper class communities) given the disproportionate impacts of a changing climate? Here is a resource to leverage:
 - [#10: Teaching STEM in ways that respect and build upon Indigenous People' rights](#)

- If you decided to assign any of these multimedia resources, discuss them as a group:
 - International Climate Justice Network. (2002). Bali principles of climate justice. Created by delegates to the preparatory meeting for the Earth Summit held in Bali, Indonesia, August, 2002. Retrieved from <https://corpwatch.org/article/bali-principles-climate-justice>.
 - Olúfẹmí O. Táíwò (2021). [Climate Colonialism and Reparations](#), *For the Wild Podcast*.
 - Dr. Kyle Powys Whyte (2018, January 17). [S2E8 Indigenous Perspectives on Just Transitions](#). *Climate Conversations: A Climate Change Podcast*.
- Continue the whole group discussion: What are the implications of the perspectives and insights from these pieces on our responsibilities to teach climate justice in specific educational contexts (e.g., science or social studies classes)?
- On a Jamboard (or equivalent) ask: “How can your curriculum highlight how science has helped create many social inequities over time and how various scientific knowledges and practices can promote justice with respect to climate change?”
 - Explore examples of environmental and climate justice instruction in science contexts:
 - Different articles in the [Special Issue on Climate Learning](#) of NSTA's *Connected Science Learning*
 - [ClimeTime Portraits of Projects](#)
 - [Classroom Storyline Resources](#) from the [Learning in Places](#) project
 - Zinn Education Project's [Teach Climate Justice campaign](#)
 - San Mateo County's curated resources on [Environmental and Climate Justice](#) such as the [Environmental and Climate Justice WebQuest](#).
 - North Seattle College's resources on [Climate Science, Justice, & Civic Engagement in Chemistry](#) as well as their [Discipline-Specific C-Justice Idea Tables](#)
 - On the [California Coastal Commission's EJ Resources](#) page:
 - A [story map](#) created by the CalEPA racial equity team about the impacts of redlining, in which climate change is mentioned

- a climate video [challenge](#) for middle and high school students to create a video answering the question "What does climate justice look like to me?" (crowdsourcing phenomena, I guess)
- [EcoRise's 'Introduction to Environmental Justice' curriculum](#) (free Canvas course, K-12 units by grade band)
- UC San Diego's [Climate Champions](#), specifically some of the [Climate Change Humanities Resources](#).
- Subject to Climate has a few [justice-oriented lessons](#), including [youth climate justice activism stories](#).
- [Climate Generations' Minnesota-specific modules](#) on biomes, weather, rainfall, and phenology can be used as a model to develop modules on phenomena local to your area.
- Consider:
 - How could a particular resource/approach be adapted to your context?
 - How could a justice framing be deepened in your own context?
 - Who might you collaborate around a project like this? In Tribal, local, state, national, governments? In non-profit or business organizations?
 - What networks might help you locate those organizations or people most active in your area?
 - Climate Action Network - [International](#) or in the [United States](#)
 - [Climate Justice Alliance](#)

To Learn More...

1. What readings could you draw in from the [All We Can Save](#) or [Regeneration](#) initiatives that might connect to local phenomena you are exploring to help make broader connections?
2. Explore the [Zinn Education Project's Teach Climate Justice Campaign](#) and consider how science learning could be woven into this work.
3. Dig into STEM Teaching Tool to support people in talking about climate justice: [Let's Talk Climate! Bridging Climate Justice Learning and Action Across School, Home, and Community](#).
4. Explore 26,000 Climate Conversations' [How to Talk About Climate Justice](#) tool.
5. Explore this [Graduate Seminar on Climate & Environmental Justice in Education](#).

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