Lesson Eight Intentions:

- Students explore connections between music, art, storytelling, and activism
- Students consider activism and action across generations
- Students investigate the role of storytelling in change-making
- Students examine decision-making in local community

Lesson Eight Overview:

This lesson invites students to explore the ripple effects/impacts of actions (felt, heard, seen, noticed, and unnoticed impacts), the human capacity for listening, and the quality of the air we all breathe and share. If every sound we make is patterning the air we all breathe, how do we want to speak of/to the Earth, and each other? Further, what is happening to the atmosphere; what about conflicting priorities over land and new building, or light pollution and impacts on health in local and global communities?

Through stories, science, considerations of change over time, advocacy, and music, students are given opportunities to consider how the health and priorities of a community are determined, expressed, challenged, changed, and expanded. When a disagreement arises in a community, who speaks for the “community,” and whose voices are not heard? Students are also given the opportunity to outline a story they might tell about an issue directly impacting their local community.

Key Themes:

- Reflection, observation and dialogue
- Human impact on the natural world and human communities
- Scientific investigation and the development of new technology
- Understanding diverse needs and priorities in community
- Participating in local issues and decision-making

**Duration:** This lesson is designed for 30 mins., but can be done in 15-20, or expanded to 45-80 mins.

Lesson Components:

- Slides (in Google slides format; adaptable for educator needs/preferences)
- VIDEO: “Xiuhtezcatl Martinez”; “Inventing Tomorrow”; “Youth V Gov”
- WRITING/REFLECTION: understanding/engaging local community
- Resources and extension ideas (see end of lesson)

Materials:

- Educators: Lesson PDF, access to online media (for video viewing), slide deck (customizable)
- Students: pencil/pen and paper

Connections (see extensions/resources and standards below; full standards for this project [here]):

Justice, Environment; Film, Reading/Writing; History; STEM
Mini-challenge (can be used as a way of assignment/assessment); Further Reading; Watching; Exercises
Invite a student to read the quotes on this slide from Leah Thomas:

“When scrolling through your social media feed, share and amplify the messages you believe the world needs to hear. Who knows—maybe it’ll surge like a waterfall and change the hearts and minds of enough people to positively alter the future. That’s an incredible responsibility. I hope we use it wisely.”

Whether students are on social media at this time or not, you might consider questions like:

- What do you think Leah Thomas means when she uses the word “amplify” here to refer to amplifying “the messages you believe the world needs to hear”?
- What are some of the messages you see or hear, in social media or otherwise, that inspire you? What is it about these messages that affects you?
- If you’re on social media, are people talking what’s happening in the world – in what ways?
  - Do you see/hear stories about being outdoors, or about what’s happening to neighborhoods, or to communities, or to people that challenges their quality of life?
  - Are the majority of things you see representative of many peoples’ experiences?
- What do you feel like Leah Thomas is referring to as “an incredible responsibility”?
- If you think of something as “a responsibility,” how did you come to see it that way?
- If you could invent a technology right now that changed a problem you see (without even knowing to how), what would it address? What inspired you to choose this problem?
  - Does anything like this exist? How could you find out?

Leah Thomas Bio: “Leah Thomas is an eco-communicator, aka an environmentalist with a love for writing + creativity, based in Ventura, CA. She’s passionate about advocating for and exploring the relationship between social justice and environmentalism.”

Yale Climate Connections: Interview with Leah Thomas
National Geographic: Broadening the Face of the Environmental Movement

Last year, student Eloise Sent encouraged young people to raise their voices as part of the environmental movement in her Challenge film, Youth Activism. Throughout this lesson, we’ll explore several examples of youth activism.

Inventing Tomorrow (possible video)

Inventing Tomorrow follows young scientists from Indonesia, Hawai‘i, India, and Mexico who propose innovative solutions to fix some of the most complex environmental issues facing humanity today - right in their own backyards. The students are preparing original scientific research projects they will defend at ISEF, the Intel International Science and Engineering Fair, a program of the Society for Science & the Public. The students travel to Los Angeles from all corners of the world to participate in ISEF 2017. The film follows them as they participate in social activities, field trips, and judging. No matter who wins a prize, the students all make connections many call life changing. These young scientists invite a worldwide role reversal, where the youth show the way towards a more sustainable future.


Share the above clip from Inventing Tomorrow with students. Let students know that in this clip they will hear a small part of the story of Fernando, Jesus, and José, a team from Mexico preparing to attend ISEF. As they watch the clip, can they catch what Fernando, Jesus and José are working on; and why?

Inventing Tomorrow website: https://www.inventingtomorrowmovie.com
Note from filmmaker Laura Nix: this full film can be made available to interested teachers/schools.
Some questions you might explore after watching the clip of Fernando, Jesus, and José.

- This is a small clip from a larger story that follows students from Indonesia, Hawaii, India, and Mexico to an international science and engineering fair. Even in this clip, how is the story narrated?
  - What do you learn/feel about Fernando, Jesus, and José?
- Why do you think this film was made? Just based on this clip, what are some of the impacts you can imagine that director Laura Nix was/is interested to inspire?

Creating Solutions

Slide 5

Laura Nix, the director of Inventing Tomorrow, recalls: “When we were casting for the film...we discovered that in developing countries, approximately 60-70% of student projects we reviewed were intended to have an environmental impact in their own communities. But when we dug into the projects in the United States, that number fell to around 10%.” Why do you think this is?

She goes on to say: “We interviewed over 100 ISEF finalists around the world, and learned that most of the students who were focusing their research on environmental solutions were motivated by an issue that was facing their local community. Over time, we realized young people who live in American frontline communities, mostly urban and rural students who are directly impacted by environmental injustice, don’t have access to the type of advanced STEM education that trains students to qualify for the top science fairs.

...Our [film] and program is designed to inspire young people to create solutions that lead to cleaner air, potable water, reducing industrial contamination, renewable energy, and improved quality of life for their families and communities.”

Frontline Youth

(video)

Slide 6

While Laura Nix’s research in casting for Inventing Tomorrow surfaced a significant underlying cause of an observable difference in the orientation of science projects (explicitly concerned with environmental impact or not), “frontline youth” across the world, and in the United States, have been increasingly active in calling for environmental justice, and for greater understanding of the social impact of climate change; as well as for innovative, community-inspired and/or community-based solutions.

Watch Frontline Youth: Fighting for Climate Justice.

You might consider some of the following questions:

- Reflections on this video? What feeling(s) did you experience watching it?
- What does it mean to be in a “frontline community”?
  - How do you think the pandemic continues to impact communities disproportionately facing challenges like fossil-fuel pollution, reduced/lack of access to clean air or clean water?
- Did you recognize issues of concern in this video that are also impacting your local community?
  - How do you think about the notion of “your community” (where does it start/end?)
- What do you think is meant by the phrase “just recovery”? (*also see film included in Slide 7)
  - Recovery from what? Toward what?
  - What could have “recovery” be “just”?
- Community gardens and food growing were mentioned multiple times in this video, why?
  - What are some possible connections between community organizing, food systems and environmental justice?
- How were young people portrayed in this video?
  - Were they talked about? Speaking for themselves?
  - What priorities did the young people in this video express?
REDFORD CENTER STORIES

- How are youth and older adults/elders shown working together in this video?
- Why do young people in this video reference “climate justice” as being part of “a movement”?
- What makes something “a movement”?
- How can more “frontline communities” speak up for their own needs, and also feel empowered to share their knowledge, ideas, innovations, and creative solutions?

**Youth Activism: BESE Meets: Xiuhtezcatl Martinez (video)**

Slide 7

In the film, she states that young people do not need to wait until they are older to have an impact. At the age of 9, Xiuhtezcatl (“shoo-TEZ-kawt”) Martinez worked to ban the use of pesticides in Colorado parks. Today, he’s a hip-hop artist fighting for environmental justice, largely through the medium of his music… **What’s the connection for him between music, art, storytelling, and activism?** Show the Xiuhtezcatl Martinez video.

- Reflections on this video?
- Xiuhtezcatl’s activism extends forth from/through his love for music - how is this reflected in the video?
  - What’s the connection for him between music, art, storytelling, and activism?
  - What could it be? How could the connection be further developed?
- What different elements come into this video?
  - Sound? Images?
  - Historical references?
  - Narration?
  - Types of shots - groups, individual, action?

The Power of Collective Community

Slide 8

**How closely, and how often, do we consider the ripple (impact) of a word or action?**

And when a decision is made – whether for a family, neighborhood, city, county, state, country, of beyond – what is done to ensure that the needs, rights, concerns, priorities, and health and wellbeing of all people are understood and given fair voice and consideration?

Watch this clip from Youth v Gov, a film about youth suing the U.S. government for their failure to take action on climate change. Consider the following:

- How does taking action in a group differ from taking individual action? (consider power relations, comfort, accessibility, etc)
- Who gets to speak for a “community”, and for the interests of a community? What if there is a dispute?...How do...
Lesson Eight Challenge Prep: Using Film for Impact

Slide 9

Introduction:
If you were going to make a film about an issue impacting your local community, or an area in your county, involving land, water, or air, how would you research the issue and develop the story? How would you find out what is happening in your community, and the history of the issue you choose? If there is a dispute surrounding this issue in some way, what caused/is causing a dispute? More broadly, who makes decisions that impact your neighborhood, city, county? How does a citizen make their experience, voice, opinion heard/understood? What if that citizen is too young to vote - how else can young people participate in their local communities? How have citizens engaged with the issue you are researching?

Challenge:
After conducting some initial research, create a short one-page outline of the film you would make. Remember that stories should include an introduction, supporting statements and research, and a conclusion or a call to action. In your outline be sure to include the following:

1. What is the issue at the heart of your story?
2. Who is involved – Who is impacted? Who are the decision-makers? Who is actively participating?
3. Whose point of view/voices would you include in this story? How (interview, narrator)?
4. What shots/images would you want to collect to help you tell this story?
5. Who would your intended audience be for this film?
6. What action(s) would you want your audience to take after viewing your film?

Additional Video/Discussion: Light Pollution

National Geographic video you might explore: HERE

Ever since the light bulb was invented some 150 years ago, artificial light has illuminated homes, streets, and skies -- but with some unintended consequences. Learn about the major types of light pollution, their impact on human health, and how the worldwide glow from artificial light may continue to grow.

● Who do you think is most impacted by light pollution?
● What can communities and individuals do to decrease light pollution and its impacts?
● Is this a type of pollution you’ve thought about/hear about?
● What actions can change the presence of so much artificial light in communities?
What’s the impact on natural systems and wildlife?

**Environmental Justice and Youth Advocacy**
(possible video)

Explore this short video about Vic Barrett.

- What is the issue that especially inspires Vic’s advocacy/activism?
- How did awareness of this issue begin?
- What are some of the capacities/skills/qualities Vic identifies as important in advocacy?
- How has environmental advocacy work impacted Vic’s life – just from the little bit shared here?

Optional Activity:

Invite students to find/share a news story (maybe within the last 10 years; or last 3-5 years) that highlights a youth-led innovation or initiative, or a community-based solution.

You might do this on a Jamboard, or other shared space (electronic or otherwise).
Suggested Standards: Language Arts and History/Social Studies

This lesson gives students multiple opportunities to engage with language, images and text, with particular focus on how point of view impacts the story one tells. Students also have a chance to reflect on their own experience and point of view in conversation and writing.

**CCSS.ELA-LITERACY.CCRA.R.7**
Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

**CCSS.ELA-LITERACY.CCRA.SL.2**
Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

**CCSS.ELA-LITERACY.CCRA.L.3**
Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

**CCSS.ELA-LITERACY.CCRA.W.6**
Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

**CCSS.ELA-LITERACY.CCRA.W.7**
Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

**CCSS.ELA-LITERACY.CCRA.W.9**
Draw evidence from literary or informational texts to support analysis, reflection, and research.

**CCSS.ELA-LITERACY.CCRA.SL.1**
Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others’ ideas and expressing their own clearly and persuasively.

**CCSS.ELA-LITERACY.CCRA.SL.2**
Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

**CCSS.ELA-LITERACY.CCRA.SL.4**
Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

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Suggested Standards: STEM (Science, Technology, Engineering, Math)
Throughout this lesson students are encouraged to understand the primacy of **observation**, and the need to attend closely to **patterns and relationships**, and to be able to envision **the impact of actions**.

- Patterns and relationships
- Precision and depth in observation
- Inference and probability
- Ratios and proportional relationships

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Suggested Connections: NGSS/Environment
Students are encouraged to make connections between the health of natural systems and the health of human beings and human communities. In addition, phenomena and change may be observable at one scale and not another, or
may require a different way of inquiry and attention to detect and understand.

- Health of human lives and health of natural systems
- Flow of energy and matter at the scale of the entire planet
- Exchange of matter between natural systems and human societies affects long-term functioning of both
- Phenomena that can be observed at one scale may not be noticed/observable at another scale
- Systems interact with other systems
- Stability might be disturbed either by sudden events or gradual changes that accumulate over time

### Suggested Connections: Social Justice

The integration of perspectives and voices in this lesson is intended to encourage greater appreciation for the depth of one’s own identity, and respectful curiosity about others’ lived experience.

**Diversity.** Students will respectfully express curiosity about the history and lived experiences of others and will exchange ideas and beliefs in an open-minded way.

**Action.** Students will recognize their own responsibility to stand up to... injustice.

### Suggested Connections: Social Emotional Learning Competencies

Components of this lesson are meant to support students’ sense of confidence and agency, as well as their social-awareness and sense for relationships; as well as how much relationships need tending, both with respect to our relationship with the natural world and each other.

- Self-awareness (confidence, self-efficacy)
- Social-awareness (perspective-taking, appreciating diversity, respect for others)
- Social skills (communication, relationship building)
- Responsible decision-making (evaluating, reflecting)

### Suggested Connections: UN Sustainability Goals

(*Click the images to go to pages on the UN’s website that detail the goals and intentions behind each.*)