Curriculum Guide

JOURNEYS IN FILM™
educating for global understanding

YOUTH v. GOV

Curriculum Guide

Barrelmaker Productions would like to express its gratitude to Far Star Action Fund
for their generous funding of this endeavor.

Copyright © Barrelmaker Productions, 2023
All rights reserved.

JOURNEYS IN FILM™
educating for global understanding

Educating for Global Understanding

www.journeysinfilm.org

JOURNEYS IN FILM **STAFF**
Joanne Strahl Ashe, Founder
Jennifer Fischer, Executive Director
Eileen Mattingly, Director of Education
Randy Testa, Associate Director, Pre-k–16 Programs,
Professional Education, Harvard Graduate School of Education
Jamor Gaffney, Diversity and Curriculum Specialist
Jonathan Freeman-Coppadge, Editor

JOURNEYS IN FILM **BOARD OF DIRECTORS**
Joanne Strahl Ashe, Founder and Chairman
Elizabeth Gifford
Julie Lee
Junko Nagao

AUTHORS OF THIS CURRICULUM GUIDE
Miguel Moravec
Tonya Montgomery
Lara Tukarski
Anthony Whitten

EDITOR
Jonathan Freeman-Coppadge

LAYOUT
Tiffany McCormick

NATIONAL ADVISORY BOARD
Liam Neeson, Founding Spokesperson
Kristin Wiig, Spokesperson
Brooke Adams
Sharon Bialy
Ted Danson
Sara Jo Fischer
Gary Foster
Scott Frank
Professor Henry Louis Gates, Jr.
Daniel Goleman
Tara Bennett-Goleman
Piper Hendricks
Jill Iscol, Ed.D., *In Memoriam*
Professor Rosabeth Moss Kanter
Alexi Ashe Meyers
William Nix
Harold Ramis, *In Memoriam*
Emily Shagley
Tony Shalhoub
Professor Richard A. Shweder
Mary Steenburgen
Walter Teller
Randy Michael Testa
Loung Ung
Elizabeth Clark Zoia

Table of Contents

INTRODUCTION ***Click the lesson title to be taken to that page***

About ***Journeys in Film*** 6
A Letter from Levi 8
Introducing *YOUTH v. GOV* 9
To the Teacher 11

LESSONS

Lesson 1: Court Procedures 12
(U.S. Government)

Lesson 2: Fossil Fuels and the Environment 25
(Environmental Science)

Lesson 3: The U.S. Government and the Fossil Fuel Industry 40
(U.S. Government, U.S. History, Economics)

Lesson 4: Climate Close to Home 57
(Environmental Science, Government, English Language Arts)

About Journeys in Film

Journeys in Film is a 501(c)(3) nonprofit organization that amplifies the storytelling power of film to educate the most visually literate generation in history. We believe that teaching with film has the power to help educate our next generation with a richer understanding of the diverse and complex world in which we live.

We transform entertainment media into educational media by designing and publishing cost-free, educational resources for teachers to accompany carefully chosen feature films and documentaries while meeting mandated standards in all core subjects. Selected films are used as springboards for lesson plans in subjects like math, science, language arts, social studies, and more. Our resources support various learning styles, promote literacy, transport students around the globe, and foster learning that meets core academic objectives.

In addition to general subject areas, Journeys in Film's programs engage students in meaningful examinations of human rights, poverty and hunger, stereotyping and racism, environmental issues, global health, immigration, and gender roles. Our teaching methods are successful in broadening perspectives, teaching for global competency, encouraging empathy, and building new paradigms for best practices in education. We seek to inspire educators, school administrators, community members, and home-schooling parents to capture the imagination and curiosity of their students by using our innovative curriculum.

We also develop discussion guides for films that don't necessarily lend themselves to academic standards but cover topics and themes that are valuable for classroom discussions and in other settings, such as after-school clubs, community screenings, and college classes.

Why use this program?

In an age when literacy means familiarity with images as much as text and a screen has become a new kind of page, 21st-century students are more connected to media than any previous generation. This offers educators unprecedented opportunities to engage students in learning about a variety of subjects and issues of global significance. Films, television, documentaries, and other media platforms can provide an immediate, immersive window to a better understanding of the world and matters affecting all of us.

We teach our students literature that originated from all around the world, but we tend to forget that what often spurs the imagination is both visual and auditory. Films evoke emotion and can liven up the classroom, bringing energy to a course. We believe in the power of films to open our minds, inspire us to learn more, provide a bridge to better understanding the key issues of 21st-century concern, and compel us to make a difference.

When properly used, films can be a powerful educational tool in developing critical thinking skills and exposure to different perspectives. Students travel through these characters and their stories: They drink tea with an Iranian family in *Children of Heaven*, play soccer in a Tibetan monastery in *The Cup*, find themselves in the conflict between urban grandson and rural grandmother in South Korea in *The Way Home*, and watch the ways modernity challenges Maori traditions in New Zealand in *Whale Rider*. Journeys in Film brings outstanding and socially relevant documentaries to the classroom that teach about a broad range of social issues in real-life settings, such as famine-stricken and war-torn Somalia, a maximum-security prison in Alabama, and a World War II concentration camp near Prague.

They explore complex and important topics like race and gender. Students tour an African school with a Nobel Prize–winning teenager in *He Named Me Malala* and experience the transformative power of music in *The Music of Strangers: Yo-Yo Ma & the Silk Road Ensemble* and *Landfill Harmonic*.

Our hope is that this generation of youth will contribute to the betterment of humankind through kindness and understanding, together with scientific knowledge, to help solve some of the world's most pressing issues.

Our goal is to create relevant and engaging curricula and programming around media that encourages cross-cultural understanding, empathy, and knowledge of the people and environments around the world. We aim to prepare today's youth to live and work as globally informed, media-literate, and competent citizens.

A Letter from Levi

I'm excited to see that you are engaging with *YOUTH v. GOV* and hope that using this guide will help you better understand climate change and why it matters so much to young people like me. Maybe this will inspire you to take action on things that are important to you.

Many people think that climate change is an adult problem that kids and youth either don't understand or can't affect, but that is not true at all. While climate change is a complex issue, it affects everyone on the planet, so it is very important to learn about. Throughout the course of history, youth have fought for what is important to them by coming together, taking action, and getting adults to lend their support. Climate change disproportionately affects young people because we will see more negative effects throughout our lifetimes than previous generations. That means it is even more important that we connect with one another to fight for our future and for future generations.

For over 50 years, the government has known about climate change. Their actions have violated our constitutional rights to life, liberty, and property, as well as failed to protect essential public trust resources. Scientists agree that climate change is catastrophic and will eventually get to the point of no return. It affects everyone in so many ways, including droughts, fires, hurricanes and other extreme weather; flooding and sea level rise; negative effects on health; and social and cultural impacts. You'll see these in the film and learn more about them.

The U.S. government has a long history of supporting the fossil fuel industry. We have developed a reliance on fossil fuels, even though they cause great damage to our planet. Moving away from that reliance is the only way to make lasting change. This is one of the reasons why we chose to go through the court system to ask the courts to recognize and protect our constitutional rights and tell the government to end the reliance on fossil fuels and move to clean energy instead. This is both technically and economically feasible. Despite having the best scientists and legal team on our side, navigating the court system is both time consuming and challenging, with lots of ups and downs along the way.

In my lifetime, I have seen the effects of climate change, such as sea level rise, flooding, and damage to my local beaches. I've had to evacuate my home due to hurricanes. We even chose to move off the island I grew up on to try and escape some of these impacts. My friends in the film have also experienced different effects of climate change as have so many people around the world. Maybe climate change has even affected your own life and the lives of people in your community.

Adults don't always listen to kids, but being involved in this case helped me see the importance of speaking up and using my voice. Being educated on what you care about will help you convince others to support you and help build connections. It is important to use your voice to fight for what matters to you. I hope this film and guide help empower you to take action.

Levi
@connectwithlevi

Introducing *YOUTH v. GOV*

Any student who has taken a course on United States history has heard Thomas Jefferson's words about our inalienable rights to life, liberty, and the pursuit of happiness. What makes them inalienable? Jefferson believed they are part of our very nature as human beings. Today, we are facing a climate crisis that scientists and government leaders have known was coming for a long time; it is only now, in an age of growing and more frequent wildfires, droughts, stronger hurricanes, and rising sea level, that many Americans and others have become aware of the dangers. Some are still in denial, but their numbers are inevitably shrinking as conditions worsen.

The Constitution of the United States includes the Bill of Rights and other amendments that delineate and protect the rights of citizens. If citizens perceive that their rights are being violated by the government, they have the ability to bring a constitutional case to the courts to protect those rights, suing local, state, or even the federal government if necessary, alleging that their constitutionally protected rights are threatened or abridged. (The well-known case of *Brown* v. *Board of Education* is an example.) *Juliana* v. *United States* is the first constitutional case pertaining to climate change to win a favorable ruling, and it was brought by a group of youths who contend that the Constitution guarantees an unenumerated fundamental right to a "stable climate system."

Young people are particularly aware of this accelerating emergency, both because they are disproportionately harmed by the climate crisis and because the changes in climate will become ever more pronounced in their lifetimes. Young people around the world have stepped forward to demand that adults — from government leaders to oil and gas company executives — stop their actions that make the climate crisis worse. We see images of Greta Thunberg and others of her generation leading protests and speaking out. And even before this youth climate movement began, a group of 21 youths decided to use the law to protect their constitutional rights, in essence challenging the ways that the U.S. federal government has supported policies that, while perhaps useful to certain industries like fossil fuels in the short term, spell climate disaster for all. Coming from ten different states around the country and representing different ethnicities, geographical diversity, and social groups, these young people initiated a lawsuit with the help of the nonprofit legal organization Our Children's Trust. *Juliana* v. *United States* was filed in 2015, and in the year 2023, it is still making its way through the court system. Today Our Children's Trust continues to assist young people in U.S. states and in countries around the world who are also trying to stop actions taken by their governments that actively make the climate crisis worse and lead to even further climate degradation.

In the documentary *YOUTH v. GOV,* your students will learn how young people like themselves have taken a stand against climate change and persisted in the fight to protect their legal right to a safe climate for years. They will meet the individual students involved and get to know their stories. They will learn more about their constitutional rights and the American judicial system. They will also discover more about the alarming changes in the environment that are already causing significant harm to young people across the United States and around the world, affecting all our lives until both legal and scientific recourses are finally implemented.

"Climate anxiety" is very real, and, combined with the COVID-19 pandemic, young people are suffering from depression, anxiety, and, for some, even suicidal ideation at an alarming rate. Sharing this documentary with your students will help them understand that there are known solutions to address the climate crisis — and ways that they as young people can fight the sense of helplessness and engage in collective action to make a better world. Our Children's Trust and their young clients in *YOUTH v. GOV* show there is active hope for a better world.

Film Credits

DIRECTOR: Christi Cooper

PRODUCERS: Olivia Ahnemann, Christi Cooper

CO-PRODUCERS: Liz Smith, Dennis Aig

EXECUTIVE PRODUCERS: Jody Allen, Ruth Johnston, Rocky Collings, Jannat Gargi, David J. Cornfield, Linda A. Cornfield, Tiffany Schauer, Heather Smith

CO-EXECUTIVE PRODUCER: James Balog

WRITERS: Christi Cooper, with additional writing by Lyman Smith

To the Teacher

This curriculum guide, like other Journeys in Film resources, is based on these fundamental beliefs:

- That a well-made, relevant film is an excellent way to convey information and teach students important critical thinking skills.
- That talented teachers interacting with real students on a daily basis are best positioned to write good lesson plans.

There are four lessons in this guide. Although it is possible to use all of these lessons, most teachers will select just one or several to use with their classes.

Lesson 1 is a pre-viewing lesson to help students understand the complexities of a major court case, in particular a constitutional lawsuit, which includes vocabulary for participants in a lawsuit and for the actions they take. Students receive a handout that contains a judicial glossary to learn terms that are unfamiliar to them; they then play a memory game to help them retain the information. They also learn to distinguish between a civil case, a criminal case, and a constitutional case. Finally, they follow a map of a court case to learn about various motions that may be filed, the appeals process, and other legal procedures. A suggested extension activity is a field trip to a local court-house to observe a trial.

Lesson 2 answers the question "What are the young plaintiffs so worried about?" It is primarily a research lesson, using the National Climate Assessment as a starting point to find up-to-date information about the factors causing climate change. The second part of the lesson focuses student attention more closely and they read more extensively on one particular climate change factor. In the third part of the lesson, the focus narrows even further as they look at the harm climate change has caused to human health, from heat stroke in young athletes to more Lyme disease due to an increase in the tick population.

Students might also ask why it is necessary for the plaintiffs to sue the government. Does the government have the obligation under the Constitution to protect "our Posterity," i.e., future generations' right to life and liberty? Lesson 3 surveys the speeches and actions of U.S. administrations from Richard Nixon to Joe Biden, showing that promises to protect the climate often fell short or even increased fossil fuel use, due to industry pressures, laws passed by Congress, or other reasons. After learning about an individual president, student groups create a media presentation to share their research. Extension activities include a focus on the experiences of young people who suffered from trauma resulting from wildfires and hurricanes.

Lesson 4 brings the subject of climate change from the national stage to the local. Students examine their own feelings and worries about climate change and come to realize that they are far from alone when they read about a survey of young people on the subject. They look at the impact of climate change in their own community and learn what the future holds if the planet continues to get hotter and we don't reduce carbon dioxide levels in the atmosphere. They examine the work of local and state agencies to protect the environment and write a letter to a local legislator expressing their views, thus learning how to express their opinions on many topics in the future.

For additional free materials for teaching and learning with films, see : www.journeysinfilm.org

An Introduction to Court Procedures

Enduring Understandings

- There are three major types of cases that are tried in the U.S. federal judicial system: civil, criminal, and constitutional. Constitutional cases are meant to force an interpretation and protection of rights according to the U.S. Constitution.
- Judicial language is unique. It is necessary to understand it in order to understand court processes.
- Different kinds of cases follow different paths through the judicial system. Constitutional cases can occur within the federal court system or the state court system and can end up in the U.S. Supreme Court. Some cases are brought to protect rights under the U.S. Constitution, like the *Juliana* v. *United States* case. Other cases are brought in state courts to protect rights under state constitutions.

Essential Questions

- In what ways is a constitutional case different from a civil or criminal case?
- What are the essential factors needed to file a constitutional suit against the U.S. government?
- How does a plaintiff prove standing?
- How does a case with a constitutional question reach the Supreme Court?

Notes to the Teacher

This pre-viewing lesson will prepare students to understand who the parties in a court case are and how a typical case proceeds so that they can better understand *YOUTH v. GOV* when they view the film. Beginning with an explanation of the kinds of cases that can come to court, students will learn vocabulary needed to help them understand the judicial proceedings in the film. Students will also follow the path a case takes from preliminary hearings to a trial in the trial court (called a U.S. district court in the federal system), and then subsequent appeals. An extension activity encourages students to visit a local court to view a trial or a hearing.

This lesson introduces students to a number of concepts related to the federal court system. It is helpful to remind students that the U.S. system of government creates two court systems (state courts and federal courts), both of which can ultimately result in a case being heard by the Supreme Court. Where the case originates has to do with which court has jurisdiction — that is, which court has been given the power to hear and decide a case that comes before it. After a trial court decides a case, the losing side can appeal to the appellate courts.

This lesson focuses on the judicial vocabulary that students will encounter in *YOUTH v. GOV* and the path that *Juliana* v. *United States*, the case featured in the movie, has followed and might still follow. The case has not yet made it to trial due to various delay tactics by the government that have impeded the normal process of a case. (It is important for students to understand that cases that deal with constitutional issues can be quite lengthy, sometimes taking years.) After completing this lesson, and before viewing the film, note that students should pay attention to the timeline of the case in the documentary to understand the time commitment that has been required by the young people and their families,

as well as Our Children's Trust, the organization that represents them. The case began in 2015 and is ongoing as of this publication (2023). (A detailed timeline can be found at https://www.ourchildrenstrust.org/juliana-v-us.)

The goal of Part 1 of the lesson is to familiarize students with judicial vocabulary and the kinds of cases that occur in the judicial system. Before the lesson, copy **Teacher Resource 1: Glossary Cards** on cardstock paper so that one side is printed and one side is blank. Make a set for each student group you plan to have. Cut the cards out so that there is one complete set of terms and definitions for each small group. After students have had a chance to become familiar with court terms using **Handout 1**, they will play the card game, similar to a Pelmanism, to reinforce their memory of the terms. Once they understand these terms, they will use **Handout 2** to identify civil, criminal, and constitutional cases.

The definition of "standing to sue" is critically important to this case and it is worthwhile to spend time discussing it with students. The following paragraphs will give you some background information on the issue of standing as it was applied in this case in order to help you answer students' questions as they arise during the lesson and film viewing.

> "Standing" is the legal term for saying that someone can bring their case to court. It doesn't mean they will win, but they have shown they are harmed by someone and should be heard. When a person sues the federal government in federal court, including suits alleging a violation of that person's rights under the U.S. Constitution, that person must also establish *standing to sue.* The U.S. Supreme Court over time has developed rules for standing under Article III of the U.S. Constitution. A majority opinion issued by the Ninth Circuit Court in the *Juliana* case in 2020 summarized the Article III standing rules for constitutional claims as follows: "the plaintiff must have (1) a concrete and particularized injury that (2) is caused by the challenged conduct and (3) is likely redressable by a favorable judicial decision."

In the Ninth Circuit Court ruling, the plaintiffs in *Juliana* were found to have alleged sufficient facts to satisfy the first prong of the standing rule. For example, the fact that one of the plaintiffs had been forced to evacuate from his home multiple times because of flooding resulting from climate change was deemed by the court to be a "concrete and particularized injury." The plaintiffs also satisfied the second prong of the standing rule by alleging not that the federal government had failed to act to address climate change, but that the federal government had actively contributed to greenhouse gas emissions through things like subsidies and federal land leases promoting fossil fuel production, extraction, and transportation. (You can only have a constitutional claim against the government if it is actively harming someone, not purely because of inaction. Some claim the U.S. government has "not acted on climate," but this is not the claim of the *Juliana* plaintiffs. Instead, they hold that the government is *actively* engaging in actions that are creating harm.)

Unfortunately for the plaintiffs in *Juliana*, in a 2–1 decision, the Ninth Circuit's majority opinion in 2020 determined that the plaintiffs lacked standing because it was beyond the power of the federal courts to redress their injuries. The core reason the Ninth Circuit Court of Appeals reversed the district court and ordered the district court to dismiss the case was because it was "beyond the power of an Article III court to order, design, supervise, or implement the plaintiffs' requested remedial plan." The two-judge majority was concerned that the district court would become involved in complex policymaking better left to the executive and legislative branches of government and would have to supervise the federal government's compliance with any remedial climate plan for decades without any constitutional directive or legal standards to guide the court's exercise of equitable power.

There was a vigorous dissent from the majority opinion of the Ninth Circuit in *Juliana.* The dissenting judge, Josephine L. Staton, took particular issue with the majority shying away from involving the federal courts in complex structural reform or programmatic changes in federal government activities alleged to violate a person's constitutional rights. For support, she discussed the school desegregation cases following *Brown* v. *Board of Education* as an example of how the federal courts were able to craft effective remedies, no matter the complexity, over many years to vindicate constitutional interests while not invading the political realm.

In response to the Ninth Circuit majority opinion concerns about standing, the *Juliana* youth filed to amend their complaint in the district court, changing the requested remedy in their lawsuit to seek declaratory judgment from the court (and dropping a secondary remedy that had requested for the court to order the government to create a climate recovery plan.) This change addresses the standing concerns cited by the Ninth Circuit Court majority opinion and would thus allow the case to proceed to trial. It is important to note that declaratory judgment is a substantial and lasting remedy to resolve the claims in their lawsuit. (For comparison, the plaintiffs in *Brown* v. *Board of Education* also received a declaratory judgment that segregated schools were unconstitutional, and that set the stage for integration across the United States.) The *Juliana* youth are now awaiting a ruling from the district court on this motion to amend their complaint. If they receive a favorable ruling from the judge, they will be back on the path to trial!

The goal of Part 2 is for students to move a constitutional case through the court system. Before class, decide the best way to share **Handout 3** with your students. You may simply wish to show it directly using your computer and a projector, or you may wish to copy it onto transparencies and show them on an overhead projector. If the latter, you should use wet-erase markers. If needed, more information about the Federal court system can be found here: https://www.uscourts.gov/about-federal-courts/court-role-and-structure.

It is important to note, and this might be rather confusing for students, that the *Juliana* case has NOT taken the normal path through the court system. This is because the Trump administration took extraordinary legal measures to try to delay and get the case dismissed. For example, they filed an extreme legal tool called a "Petition for Writ of Mandamus" against the district court judge six times in this case, more than have been filed in any other case in U.S. history. The use of this legal tool is extremely rare, and they used it to bump the case up to the Supreme Court (through what is called the "shadow docket") in the hopes that it would be dismissed before evidence was heard at trial. Each of the times the case went up to the Supreme Court, an unusual measure was taken to get it there. It is important for the students to understand that a case does not necessarily have to go to trial and then to appeal in order to go up to the Supreme Court. The *Juliana* case has been all over the district, appellate, and Supreme Court systems throughout the seven years of this case….and not once has it gone to trial. This would be interesting for students to analyze.

Additional Resources

An explanation of the federal court system of district, appeals, and Supreme Court
https://www.uscourts.gov/about-federal-courts/court-role-and-structure

A comparison of the federal and state court systems
https://www.uscourts.gov/about-federal-courts/court-role-and-structure/comparing-federal-state-courts

The geographic boundaries of the U.S. courts of appeals and U.S. district courts
https://www.uscourts.gov/sites/default/files/u.s._federal_courts_circuit_map_1.pdf

A helpful map of the dual court system
https://pressbooks.online.ucf.edu/americangovernment2e/chapter/the-dual-court-system/

Common Core Standards addressed by this lesson

CCSS.ELA-LITERACY.RH.9-10.4
Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

CCSS.ELA-LITERACY.RH.11-12.7
Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

Duration of Lesson

This lesson has two parts: group work and full-class instruction. The lesson is designed to require two hours of class time.

Assessments

Completion of **Handout 2**
Matching game
Small-group discussions
Class discussion

Materials

Teacher Resource 1: Glossary Cards
Handout 1: Judicial System Glossary
Cardstock copies of terms and definitions — one set per small group
Handout 2: What Kind of Case Is It?
Handout 3: The Path of a Constitutional Case
Teacher Resource 2: The Path of a Constitutional Case (Answer Key)
Computer and projector for teacher, OR **Handout 3** copied on transparencies with wet-erase marker and means of projection

Procedure

Part 1: Mastering the Lingo

1. Tell your students that they are going to watch a documentary about a real court case brought by real students who are today in the process of suing the federal government over climate change. Explain that real court cases, unlike on television and in the movies, often are not presented and decided in the space of an hour or two. Rather, many cases, particularly ones involving the Constitution, may take years to decide. Tell them that they are now going to learn some vocabulary about the judicial system and study how a case moves through the court in order to help them understand the documentary.

2. Distribute copies of **Handout 1: Judicial System Glossary.** Using the handout, go over the terms with students. Students may be familiar with some terms from watching television, but you will have to explain other terms carefully. Pay particular attention to be sure that they understand the concept of standing to sue and the requirements it imposes on plaintiffs. Be sure to allow time for questions.

3. Put students in small groups to learn the terms through a memory game. Each group of students should be provided with one stack of cardstock squares. Have students shuffle the cards to mix them up and then turn them face down. Tell students to take turns turning over two cards at a time, attempting to match the term and the definition. When they find a match, they should leave the two matching cards facing up. Give the small groups time to play through the vocabulary matching game several times so that they are familiar with the terms.

4. Next, distribute **Handout 2: What Kind of Case Is It?** to students. Review the three kinds of cases on the handout and discuss what makes each kind of case unique and what characteristics the cases share. Finally ask students to read the description of the three cases on the handout and decide together which kind of case each is. Discuss this aloud after students have completed the exercise and share the correct response. (Answers: 1. Constitutional. 2. Criminal. 3. Civil.) Ask each group to raise their hands if they got the correct answer and assist others who did not get the correct answer to understand why their answer was not correct. Be sure students understand the difference between the kinds of cases before proceeding.

Part 2: Understanding How Cases Move Through the Judicial System

1. Give the class access to **Handout 3: The Path of a Constitutional Case** by opening to the correct page on a computer hooked to a projector or by using transparencies and wet-erase markers. Provide each student with an individual copy.

2. Explain to students that you are going to talk through the process that a case will undergo on its way through the court system and that they should copy the path on their own copy of **Handout 3.**

3. Using **Teacher Resource 2** as a guide, route the students through the path of a case from filing to the Supreme Court.

4. Note that there are a few times where processes can repeat. The process of stay–hearing–opinion can repeat any number of times at each step. This is the reason the *Juliana* case has not made it to trial yet.

5. When you reach the end, explain to the class that the Supreme Court doesn't have to hear a case on appeal. It can just decide to let the lower court decision stand. Once the Supreme Court has issued a decision, there are no further options for appeal in that case.

6. Once the handout has been completed, encourage students to keep it handy to help track the progress of the case during the movie. After the film viewing, ask students to decide if *Juliana* v. *United States* has followed the usual course of a case moving through the system. (It has not. See more information under Notes to the Teacher.)

Extension Activity

Arrange a field trip to bring your students to your local courthouse to attend a trial or a hearing. In a class discussion the following day, give students the opportunity to ask questions and discuss what they learned by going to the courthouse. Then have students identify as many of the judicial terms used in the courtroom as they can; use the information they learned about the case to decide what kind of case it is. Then, determine where the case would travel in the judicial system after it is decided in your local court. If it is appealed, where would it go? Could it get to the Supreme Court? Why or why not? You may choose to use the questions about appeals as a basis for an additional assignment that traces the path the case would take if it were appealed after each decision.

NOTE: Carefully consider the nature of any trial you attend and avoid trials involving traumatic crimes. Also consider that students who have been victims of a crime may find a visit to a courtroom to be triggering in itself. It is advisable to make your school's counseling office part of your decision process, and to make students aware of the supports that office offers before and after the field trip. Students who would be overwhelmed by the field trip should be given the chance to opt out without academic or disciplinary repercussions.

Handout 1

Judicial System Glossary

The following terms will be used in the film and throughout this lesson. Use these terms and definitions in the course of your work in this lesson.

Claim: The arguments made by the plaintiff(s). In the *Juliana* case, the claim is that the United States government has caused the climate crisis and is actively making the climate crisis worse, violating the plaintiffs' right to life, liberty, and property, and failing to protect essential public trust resources like air and water, by promoting, permitting, and subsidizing the development and use of climate chaos-causing fossil fuels.

Declaratory judgment: A ruling by the courts that says who is right, who is wrong, and what the law requires. In *Juliana*, it would declare the rights of the plaintiffs and the defendant's violation of those rights, and set a constitutional standard to protect the plaintiffs. (An example of declaratory judgment would be the case of *Brown* v. *Board of Education*. In 1954, the Supreme Court first declared that segregation in schools was inherently unequal and therefore unconstitutional; a year later the Court ordered through injunctive relief for the schools to desegregate. Another example is *Loving* v. *Virginia*, in which the Supreme Court ruled that state laws against interracial marriage violated the Fourteenth Amendment to the Constitution.)

Defendant: The person(s) and/or entity(-ies) being sued in court.

Deposition: The official sworn testimony of a witness taken by an attorney live in front of a court reporter that can be used both in discovery and in court. This is not the same as testifying in a courtroom, but is rather the process by which both parties can prepare for trial.

Discovery: The pre-trial gathering and exchange of information from both parties in a lawsuit, which produces documents, photographs, and other types of information, such as expert reports, to develop the evidence in support of the facts of the case.

Expert witness: A person who has certain qualifications and specific knowledge and who can testify about their expert opinions in court to assist the court in understanding the facts of a case.

Hearing: A formal proceeding before a court, which is meant to answer a specific question regarding a case before a trial begins. There may be many hearings about different questions at different times prior to the beginning of a trial. Waiting for the outcome of hearings may delay the start of a trial significantly. In the *Juliana* case, all the court scenes that you saw from the film were hearings based on specific motions. The plaintiffs have fully prepared for trial but have not yet had their trial.

Intervenor: A third party who joins a lawsuit because the outcome has the potential to impact them. They are not parties who were originally named in the case, but who have chosen to "intervene." In the *Juliana* case, trade associations representing the entire fossil fuel industry and the National Association for Manufacturing intervened in the case shortly after it was filed. When the courts ordered them to present discovery prior to the scheduled trial in 2018 (which was then cancelled), the intervenors filed a motion with the courts to exit the case.

Mandamus: An extreme judicial solution that can be used by a higher court to force a lower court to rule differently. This is issued when a lower court has vastly exceeded its authority and the higher court has to step in early to reverse course to stop a harmful ruling, rather than waiting for the normal process of appeals to correct an incorrect ruling.

Plaintiff: The person or persons who bring a case to court.

Standing to sue: In order to sue, the plaintiff must have an injury in fact (to have suffered harm), causation (to show that the harm was caused by the defendant), and redressability (to have a remedy available via the courts).

Writ: A written command that forces a court to act.

Teacher Resource 1

Glossary Cards

Claim	The arguments made by the plaintiff(s). In the *Juliana* case, the claim is that the United States government has caused the climate crisis and is actively making the climate crisis worse, violating the plaintiffs' right to life, liberty, and property.
Declaratory judgment	A ruling by the courts that says who is right, who is wrong, and what the law requires. In *Juliana*, it would declare the rights of the plaintiffs and the defendant's violation of those rights, and set a constitutional standard to protect the plaintiffs.
Defendant	The person(s) and/or entity(-ies) being sued in court.
Deposition	The official sworn testimony of a witness taken by an attorney live in front of a court reporter that can be used both in discovery and in court. This is not the same as testifying in a courtroom, but is rather the process by which both parties can prepare for trial.
Discovery	The pre-trial gathering and exchange of information from both parties in a lawsuit, which produces documents, photographs, and other types of information, such as expert reports, to develop the evidence in support of the facts of the case.
Expert witness	A person who has certain qualifications and specific knowledge and who can testify about their expert opinions in court to assist the court in understanding the facts of a case.

Hearing	A formal proceeding before a court which is meant to answer a specific question regarding a case before a trial begins. There may be many hearings about different questions at different times prior to the beginning of a trial. Waiting for the outcome of hearings may delay the start of a trial significantly.
Intervenor	A third party who joins a lawsuit because the outcome has the potential to impact them. They are not parties who were originally named in the case, but who have chosen to "intervene."
Mandamus	An extreme judicial solution that can be used by a higher court to force a lower court to rule differently. This is issued when a lower court has vastly exceeded its authority and the higher court has to step in early to reverse course to stop a harmful ruling, rather than waiting for the normal process of appeals to correct an incorrect ruling.
Plaintiff	The person or persons who bring a case to court.
Standing to sue	In order to sue, the plaintiff must have an injury in fact (to have suffered harm), causation (to show that the harm was caused by the defendant), and redress-ability (to have a remedy available via the courts).
Writ	A written command that forces a court to act.

Handout 2

What Kind of Case Is It?

Civil Case	A legal dispute between two or more parties where a complaint alleges that the plaintiff has been harmed by the defendant and asks the court to order some kind of remedy, redress, or assistance.
Constitutional Case	A civil case in which the plaintiff claims laws, procedures, or acts by government or persons affiliated with governments directly violate their constitutional right(s).
Criminal Case	The government initiates a criminal case in coordination with a law enforcement agency. The defendant in a criminal case is accused of a crime and is innocent until proven guilty.

Using the information above, determine what kind of case each of the following is — civil, constitutional, or criminal — and write it in the blank provided. The U.S. government is a party in each case.

1. *New York Times* v. *U.S.* – Freedom of the Press

The U.S. government, on behalf of President Nixon, attempted to prevent the publication of information by the *New York Times* which was termed "classified" in relation to the history of U.S. actions in Vietnam. In its decision, the Court said that the government did not make a convincing argument that the information the *Times* sought to publish would endanger the U.S. or its armed forces, and therefore, the Supreme Court would not retract the right to freedom of the press as it is represented in the First Amendment in this case.

What kind of case is it? _____

2. *U.S.* v. *Aaron Burr* – Treason

In 1805, former Vice President Aaron Burr attempted to raise a volunteer army in the then-western territories of the United States. In the process, Burr encountered a general who believed that this army's goal was to separate the western territories from the U.S. This resulted in Burr being arrested for treason, a charge for which he was found not guilty.

What kind of case is it? _____

3. *U.S.* v. *Facebook, Inc.* – Violation of Agreement Regarding User Privacy

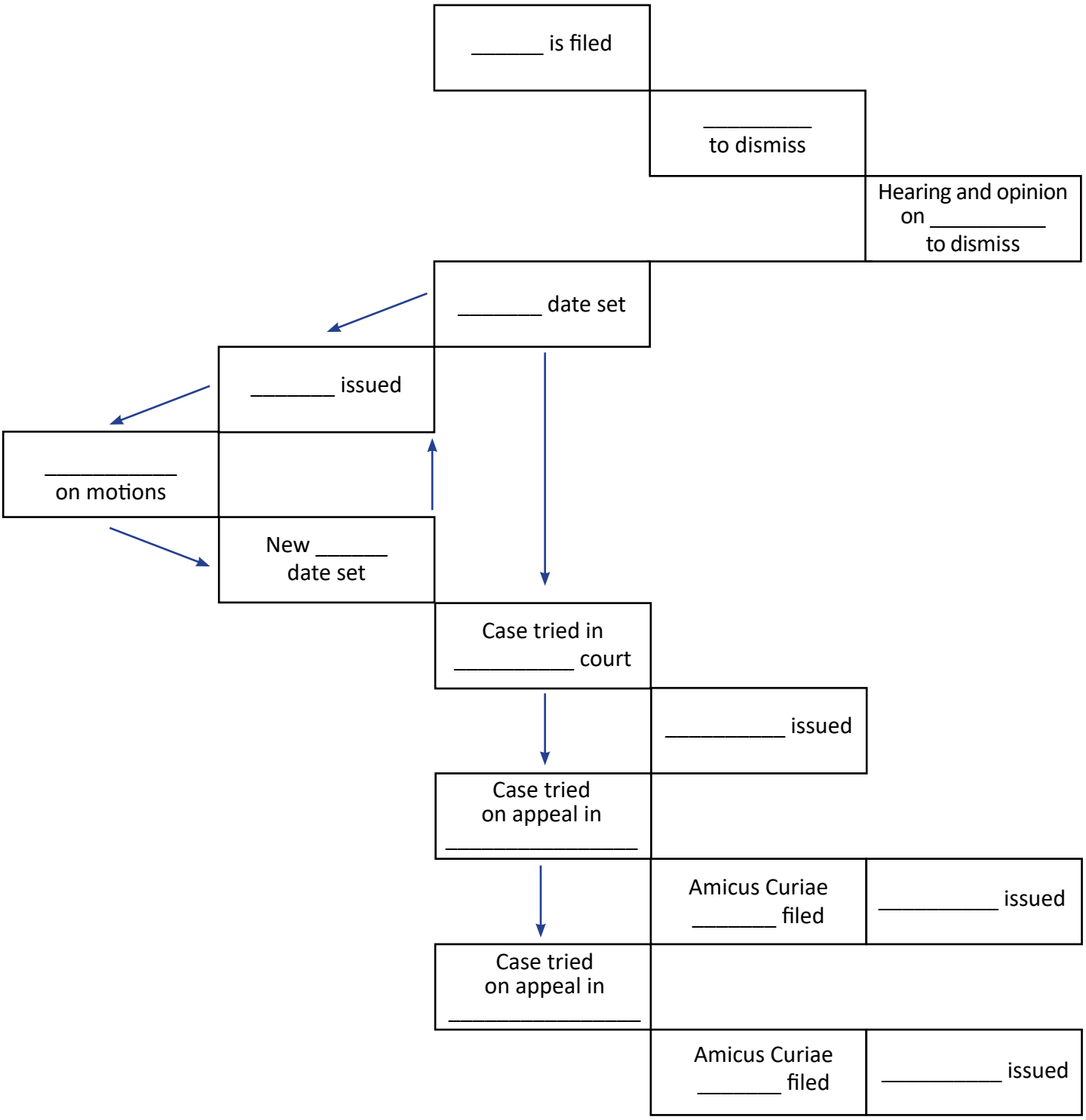
Previously, Facebook agreed to maintain a privacy program and to represent that program and its protections clearly to Facebook users. This case was brought because Facebook did not do so, and in fact, privacy-related violations persisted. As a result of this case, Facebook was required to pay a large monetary penalty and to take additional measures to protect the personal information of its users.

What kind of case is it? _____

Lesson 1 (U.S. Government)

Handout 3

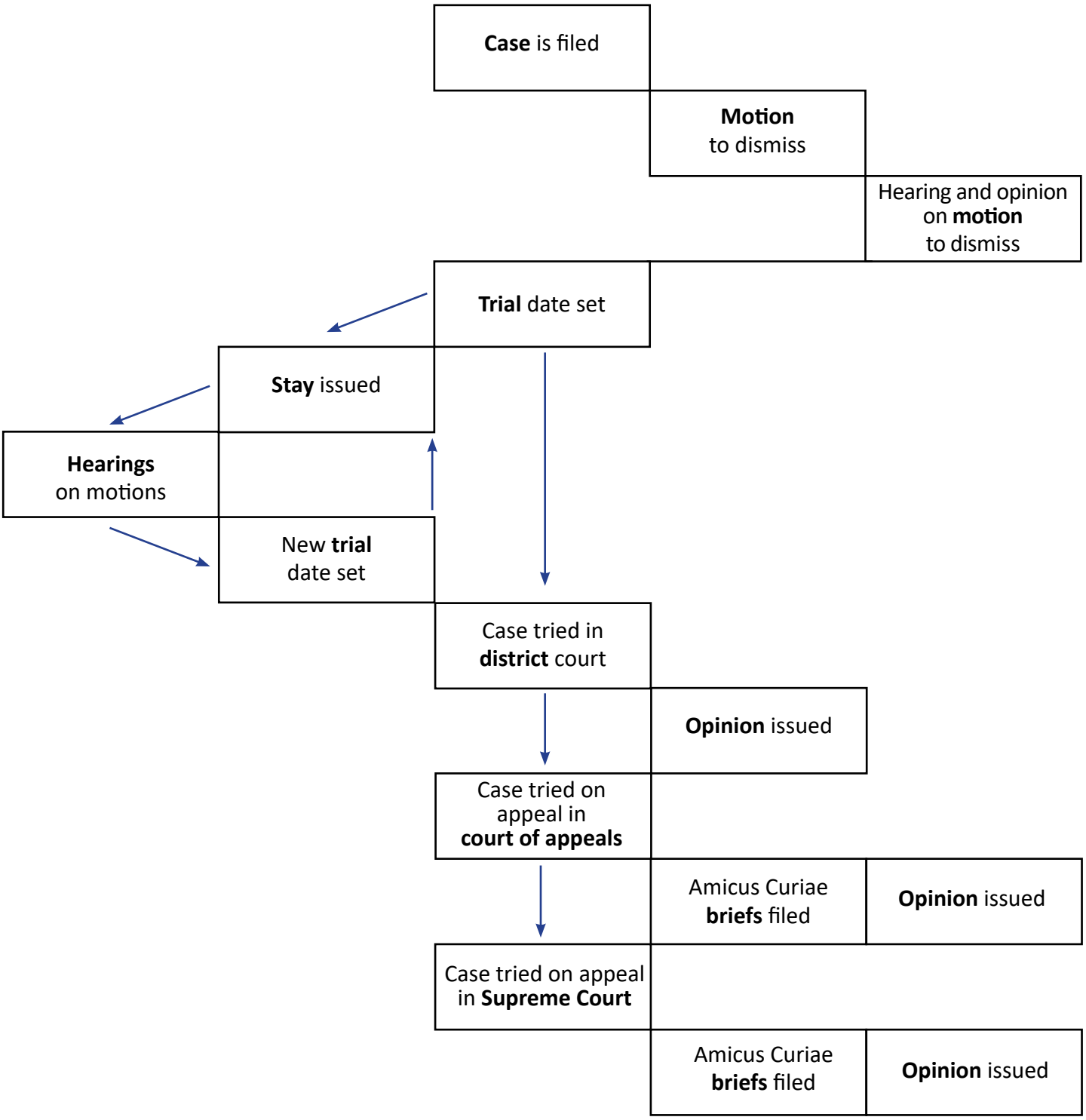
One Path a Constitutional Case Might Take



Lesson 1 (U.S. Government)

Teacher Resource 2

One Path a Constitutional Case Might Take (Answer Key)



Fossil Fuels and the Environment

Enduring Understandings

- Fossil fuels cause climate change because their extraction, transport, and combustion release greenhouse gases that trap heat.
- A hotter planet experiences changes in precipitation and weather events with adverse outcomes for human health and the environment.
- Pollution from extraction, transport, and combustion of fossil fuels causes additional adverse health outcomes for human health and the environment.

Essential Questions

- How do fossil fuel emissions heat up the planet?
- How does a hotter planet cause different climate changes and extreme weather events?
- How do these events impact human health and the environment?
- How does fossil fuel pollution impact human health and environment?

Notes to the Teacher

In the documentary *YOUTH v. GOV,* the plaintiffs experience firsthand the effects of a warming planet on their homes and communities. From hurricanes to forest fires, it is clear that climate change is a present threat that is already causing young people significant harm — and it will only grow for future generations. In this lesson, students will learn exactly how fossil fuels cause climate change, which in turn exacerbates natural disasters of all kinds. They will read from the primary sources that scientists submit to U.S. policy makers, such as the latest National Climate Assessment (NCA), and they will also refer to resources from energy authorities, such as the Energy Information Agency (EIA), to learn more about the exact pollution and emission impacts that fossil fuel resources cause as compared to renewable energy sources. Finally, the students will take the role of decision makers, designing an energy system using the Generate board game. This game affords students an interactive opportunity to evaluate why the grid exists in its present form and how it may be redesigned after considering the effects of pollution and greenhouse gas emissions.

The activities in this lesson have been designed for use as individual modules or as tiered instruction with each new lesson component building upon the last. A review of the activities prior to delivery is important to determine how much class time you wish to dedicate to each one and to plan appropriately for materials acquisition. While the suggested lesson duration is between two and five one-hour periods, the activities can easily be modified based on time available or the place where the lesson can best be integrated in the course curriculum. In addition to examining the causes of climate change as they relate to our energy system, the components of this lesson incorporate elements from *YOUTH v. GOV* to humanize the science presented and allow the students to connect with the people they have seen on the screen.

This lesson assumes students have some background on the fundamentals of climate change, basic infrastructure, and environmental justice. See the included Additional Resources section if review material is needed.

In Part 1, students will read portions of the National Climate Assessment report and answer questions. Depending on the maturity and ability of your students, you may assign this for homework or independent work; give it as a classroom assignment and circulate to help students who are struggling with it; or read it aloud in class and discuss it with your students, helping them answer the questions as you proceed. They will use both graphs and text to learn about various factors causing climate change.

When the Paris Agreement is discussed, it is important to state that the *Juliana* plaintiffs and their scientific experts, as well as the Intergovernmental Panel on Climate Change (IPCC), contend that the goals of the Paris Agreement are not sufficient to protect them and their futures. The scientific consensus is clear that we must limit carbon dioxide in our atmosphere to less than 350 parts per million (ppm) and limit global warming to less than an average of 1.0°C above pre-industrial temperatures. At the date of publication of this lesson (early 2023), CO_2 is at 419 ppm and rising. Temperatures have already risen 1.1–1.3°C .The Paris Agreement allows even more heating than we already have, of 1.5–2.0°C, which is dangerous for young people. (No scientist, including the IPCC consensus, has ever said that the Paris Agreement or other goals are safe.)

Part 2 continues readings from the National Climate Assessment report, again from Chapter 2. In small groups or pairs, the students will read about one particular climate change topic and prepare a one-minute presentation to the class on the topic. Then they will research on their own, finding three articles to read and summarize. You may have each student read one article and summarize it, or have all students in the group read the same articles. To differentiate for students who have more difficulty, consider just assigning one article for the group. (The research activity in Part 2 presents a good opportunity to discuss media literacy and how students should source accurate information.)

In Part 3, students are introduced to the Energy Information Administration website, and they research how to characterize the impacts of various sources of energy on the environment. An answer sheet is provided on **Teacher Resource 1**. They also read and summarize an article about a particular health impact on humans caused by pollution, such as heat stress, forest fire particulates (PM2.5), or nitrogen oxides or carbon monoxide from fossil fuel combustion in cars and stoves. The activities on **Handout 3** can be completed in groups or individually at the teacher's discretion.

NOTE: Climate science is always getting better, with new updates on the changes that are happening. Teachers should look for the most up-to-date NCA or IPCC summary to provide to their students.

There are several Extension Activities that your students may enjoy as well. Here are some additional resources that may be of help to you as you prepare for this lesson:

Additional Resources

Energy Production and Use:

Switch (2012 film)
https://www.youtube.com/watch?v=RvaE0PFna84&ab_channel=SwitchEnergyAlliance

Energy Information Agency
https://www.eia.gov/energyexplained/

Who Killed the Electric Car? (2006 documentary)
https://www.whokilledtheelectriccar.com/

Environmental Justice:

The Solutions Project
https://thesolutionsproject.org/

NRDC The Environmental Justice Movement History
https://www.nrdc.org/stories/environmental-justice-movement

White House Environmental Justice & the Justice40 Initiative
https://www.whitehouse.gov/environmentaljustice/justice40/

Climate Change:

EPA Climate Change
https://www.epa.gov/climate-change

UN Climate Change
https://www.un.org/en/climatechange/what-is-climate-change

ClimateTown (YouTube Channel)
https://www.youtube.com/c/ClimateTown/videos

Best Available Climate Science (350 ppm) by Our Children's Trust
https://www.ourchildrenstrust.org/the-science

How to Talk to Kids About Climate Change
https://www.npr.org/2019/10/22/772266241/how-to-talk-to-your-kids-about-climate-change

Common Core Standards addressed by this lesson

History/Social Studies

CCSS.ELA-LITERACY.RH.9-10.1
Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.

CCSS.ELA-LITERACY.RH.9-10.2
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.

CCSS.ELA-LITERACY.RH.9-10.3
Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

CCSS.ELA-LITERACY.RH.9-10.4
Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

CCSS.ELA-LITERACY.RH.9-10.5
Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.

CCSS.ELA-LITERACY.RH.9-10.8
Assess the extent to which the reasoning and evidence in a text support the author's claims.

Science and Technical Subjects

CCSS.ELA-LITERACY.RST.9-10.1
Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

CCSS.ELA-LITERACY.RST.9-10.2
Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

CCSS.ELA-LITERACY.RST.9-10.8
Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.

CCSS.ELA-LITERACY.RST.9-10.9
Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.

Writing

CCSS.ELA-LITERACY.WHST.9-10.1
Write arguments focused on discipline-specific content.

CCSS.ELA-LITERACY.WHST.9-10.5
Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

CCSS.ELA-LITERACY.WHST.9-10.6
Use technology, including the internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

CCSS.ELA-LITERACY.WHST.9-10.7
Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CCSS.ELA-LITERACY.WHST.9-10.8
Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

CCSS.ELA-LITERACY.WHST.9-10.9
Draw evidence from informational texts to support analysis, reflection, and research.

Alignment to Next Generation Science Standards for High School

Engineering, Technology, and Applications of Science

HS-ETS1-1
Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-2
Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-3
Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

HS-ETS1-4
Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

Human Impacts on Earth Systems

HS-ESS3-1
Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity. [Clarification Statement: Examples of key natural resources include access to fresh water (such as rivers, lakes, and groundwater), regions of fertile soil such as river deltas, and high concentrations of minerals and fossil fuels.]

HS-ESS3-2
Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios. [Clarification Statement: Emphasis is on the conservation, recycling, and reuse of resources (such as minerals and metals) where possible, and on minimizing impacts where it is not. Examples include developing best practice for mining (for coal, tar sands, and oil shales), and pumping (for petroleum and natural gas). Science knowledge indicates what can happen in natural systems, not what should happen.]

HS-ESS3-3
Create a computational simulation to illustrate the relationship among management of natural resources, the sustainability of human populations, and biodiversity. [Clarification Statement: Examples of factors that affect the management of natural resources include costs of resource extraction and waste-management, per-capita consumption, and the development of new technologies. Examples of factors that affect human sustainability include levels of conservation and urban planning.] [Assessment Boundary: assessment for computational simulations is limited to using provided multiparameter programs or constructing simplified spreadsheet calculations.]

HS-ESS3-4
Evaluate or refine a technological solution that reduces impacts of human activities on natural systems. [Clarification Statement: Examples of data on the impacts of human activities could include the quantities and types of pollutants released, changes to biomass and species diversity, or areal changes in land surface use (such as for urban development, agriculture and livestock, or surface mining). Examples for limiting future impacts could range from local efforts (such as reducing, reusing, and recycling resources) to large-scale geoengineering design solutions (such as altering global temperatures by making large changes to the atmosphere or ocean)].

Duration of Lesson

2–5 one-hour lessons

Assessments

Completion of **Handout 1: Climate 101**
Completion of **Handout 2: Energy Table**
Completion of **Generate board game**
Student presentations
Group discussion

Materials Needed

Writing utensils
Computers with internet access for research
Important websites:

- https://nca2018.globalchange.gov/
- https://www.eia.gov/
- https://www.epa.gov/air-research/air-quality-and-energy-choice-stem-activities-educators

Handout 1: Climate 101
Handout 2: Climate Impacts
Handout 3: Energy Pollution: Its Impacts on Human Health and the Environment
Teacher Resource 1: Energy Pollution Table (Answer Sheet)
Optional: Generate board game and cards (laminated if possible) from https://www.epa.gov/climate-research/generate-game-energy-choices

Procedure

Part 1: Climate 101: A Climate Overview

1. Tell students that they are going to read the latest report from scientists on climate change in the United States. Distribute copies of **Handout 1: Climate 101** and review it so that students understand the information they are to look for.

2. Provide computer access to the NCA Summary for policy makers, available at https://nca2018.globalchange.gov/chapter/1/. Have them read the Introduction to Chapter 1 on their own and answer the first four questions on the handout. (See Notes to the Teacher, above, for various ways you can approach this based on the ability and background of your class.)

3. Repeat this process. Have the students read Key Message 1, Chapter 2, available at https://nca2018.globalchange.gov/chapter/2#key-message-1 and then answer the remaining five questions. This activity can be completed as a homework assignment if you prefer to save class time. You may wish to refer students to https://www.ourchildrenstrust.org/the-science as a useful resource.

Part 2: Climate Impacts

1. Once students have completed the reading and answered the questions from **Handout 1**, split the class into seven groups. Distribute copies of **Handout 2: Climate Impacts**. Assign one of the seven Climate Impact Topics to each group and have them circle the assigned topic on their sheet.

2. Allow the students adequate time to read about their assigned climate impact in NCA chapter 2, available at https://nca2018.globalchange.gov/chapter/2/. Then, have the students present to the class and report out one-minute summaries of their assigned impact to the class, emphasizing both (1) what impacts have already occurred and (2) what impacts are expected to occur in the future.

3. Have the students use computers to complete the next three activities, which involve identifying and summarizing related articles about climate change impacts. This portion of the activity can be done independently or in groups at the teacher's discretion. If necessary, include a discussion of media literacy and how students should source accurate information before giving time for students to research.

4. If desired, have students report to the class orally about some interesting aspects of the readings they found.

Part 3: Energy Pollution and Human Health Impacts

1. Explain to students that they are going to evaluate the pros and cons of the energy sources used in the United States to generate power. Explain that the Energy Information Agency is a non-partisan, reliable government authority that provides data on pollution from energy sources.

2. Distribute **Handout 3: Energy Pollution: Its Impacts on Human Health and the Environment**. The activities in **Handout 3** can be completed in groups or individually at the teacher's discretion. [Note: If you have distributed the handout electronically, have students click on the links provided in the table to learn more about each energy source's pollution and environmental impacts. If they are working from a printed handout, you will find a list of these websites on the second page of **Teacher Resource 1**. They are set up so that you can run a few copies and cut the links apart to give to students.]

3. Have the students write brief notes in the first four empty columns in the table, summarizing what they've learned for each category of pollution (air, water, etc.) In some cases, the columns may not be applicable to certain energy sources; students should be able to evaluate when this is the case.

4. When students have completed Step 3, have them use search engines beyond the EIA website to find information on "Famous Disasters" for each energy source.

5. Hold a class discussion to share results so that students can check that they have the correct information. Clarify for students when necessary.

6. Tell the students they are now going to evaluate some energy pollution impacts on human health. Point out that this section will focus on pollution-related impacts for humans living near energy sites, which is different from the effects that emissions cause on climate change.

7. Have the students independently select one of the three human health topics, and then have the students use

a search engine to find a recent article on that topic from a reputable source. Have them summarize that article in a report to be completed on the last page of **Handout 3.**

8. To extend this lesson further, have the students present their articles to the class in one-minute summaries or lengthier PowerPoint presentations if desired.

Extension Activities

1. One useful activity would be for students to research and present a report on the costs of continuing on our current fossil fuel-based energy path, particularly the cost of NOT transitioning to clean energy. The cost of mitigation and damage control is so much greater than that of making the transition. Wind and solar energy are now the cheapest forms of energy in the world and cost less than fossil fuel energy. Recent events to study would be the costs in lives and property of recent severe hurricanes, the fires (e.g., the 2020 Oregon forest fires) and agricultural losses that occurred because of the Western drought, and the inundation of coastal properties, including cities, due to the melting of glaciers and ice sheets and the thermal expansion of the ocean with the attendant rise in sea level.

2. Have students identify a particular extreme weather event caused or made worse by climate change, which has negatively affected their own community or state, such as drought or hurricane. Have them invite a government official to class to discuss what steps might be taken to mitigate damages in the future and what such steps would cost.

3. The U.S. Environmental Protection Agency has produced several excellent STEM activities that will help students continue learning about fossil fuels and the environment. They can be found at https://www.epa.gov/air-research/air-quality-and-energy-choice-stem-activities-educators.

a. The first is instructions on how to build your own particulate matter sensor to teach students how air pollution, especially the presence of particulate matter, affects us. It includes a student handout and discussion questions. The EPA website also mentions that MIT scientists developed a particulate matter sensor for middle school students to build; instructions with illustrations can be found at https://edgerton-dev.mit.edu/sites/default/files/2021-07/Arduino%20Particle%20Meter.pdf.

b. The EPA also has a board game called Generate to help students grapple with the complexities of our energy challenges by creating their own energy grid. The game asks students to consider what type of energy generation to build to fill the grid, as well as the costs (financial and otherwise) involved in providing electricity. It examines impacts on the environment, including how different mixes of sources of electricity can affect emissions of carbon dioxide (CO_2), air pollution, and water use. Present the provided EPA PowerPoint, available at https://www.epa.gov/climate-research/generate-game-energy-choices, to explain the rules of the game and answer any questions students have.

Split the students into groups of five and six and distribute a Generate board game grid and card set to each student group. You may wish to arranging desks into "islands" to facilitate the best access to each gameboard. Refer to the instructions provided at the U.S. EPA site to lead the game, keeping track of each group's score by using the Excel sheet provided at the website: https://www.epa.gov/climate-research/generate-game-energy-choices.

The game features several rounds and scenarios to choose from, although the basic version of the game is sufficient to teach the fundamental concepts. At the conclusion of the game, ask the students what they learned, and encourage them to reflect on why our energy grid used fossil fuel sources at first (because they were initially cheaper and more dependable) and why the energy grid may benefit from switching to renewables (climate change impacts and pollution.) If time allows, ask the students to consider what they learned from the Generate board game as it relates to the documentary *YOUTH v. GOV.*

Handout 1

Climate 101

The plaintiffs in the film *YOUTH v. GOV* cite the National Climate Assessment (NCA) as evidence in their case that global warming is real and harmful to human health and the environment. In this activity, you will read portions of the NCA yourself and answer questions for each section. Go to the National Climate Assessment website at https://nca2018.globalchange.gov/chapter/1/. Read carefully and ask questions if you don't understand.

A. First, read the Introduction to Chapter 1. Then answer the following questions:

1. Identify your region in Figure 1.1. Have you witnessed the described impact to your region? Do you think the proposed action adequately addresses the impact?

2. The reading suggests that risks from climate change are often highest for those that are already vulnerable, including low-income communities, some communities of color, children, and the elderly. Why do you think this is? Consider your region if possible.

3. Now look at Figure 1.2, which shows several potential indicators of climate change. Select the three indicators that global warming is occurring that are the most compelling to you. Use information from the text in addition to the figure.

4. Does the behavior of any of the indicators in Figure 1.2 surprise you? Explain what you expected versus what you observed in the figure.

B. Next, read "Key Message (KM) 1: Observed Changes in Global Climate" from NCA's "Chapter 2: Our Changing Climate" at https://nca2018.globalchange.gov/chapter/2/. [Note: You must click on the "Read More" link under the first paragraph to read the full message.]

5. In your own words, explain how greenhouse gases warm the Earth.

6. What is the effect of aerosols on global temperature? Compare them to the effect of greenhouse gases using Figure 2.1.

7. On a scale from 1 to 10 (1 = the least, 10 = the most), how certain do the authors seem to be that humans, rather than natural variability, are driving global warming? Explain your answer using the text and Figure 2.1.

8. Scroll down to Figure 2.2. Which of the three scenarios do our current emissions appear to be approaching? How does this scenario compare with the scenario that is compatible with the Paris Agreement target (green line), keeping in mind that climate experts in the *Juliana* case, along with the IPCC, argue that even the Paris Agreement targets are too high and unsafe for protecting youth from climate chaos?

9. What did you learn after reading this portion of NCA that you did not know before?

Handout 2

Climate Impacts

A. Before you begin, please highlight or circle the portion of NCA Chapter 2 assigned to your group in the list below. Then find your assigned reading by using the sections index at the right of the screen.

Reading assignments by topic and corresponding sections in NCA Chapter 2:

- KM 3: Ocean Changes
- KM 4: Sea Level Rise
- KM 5: Temperature
- KM 6: Precipitation
- KM 7: Arctic
- KM 8: Severe Storms (Hurricanes)
- KM 9: Coastal Flooding

Begin reading and taking notes on your assigned section. When you have finished, plan a one-minute summary of the assigned topic to the class in which you cover:

1) what impacts have already occurred, and
2) what impacts are expected to occur in the future

Present your report to the class, following your teacher's directions.

B. Research your assigned topic on the internet. Choose one recent article from a reputable source that highlights the critical environmental issue detailed in your section. Please provide the title and source of your article, as well as a brief summary in the space below.

Article title:

Author:

Source:

Article summary:

C. In the film, plaintiffs Jacob Lebel and Kelsey Juliana suffered from forest fires that increased in frequency due to climate change. Find a recent article discussing the relationship between climate change and forest fires and summarize it here.

Article title:

Author:

Source:

Article summary:

D. In the film, plaintiff Jaime Butler shared that 1,000 Navajo community horses died because of drought due to climate change. Identify an animal species that is at risk because of climate change and explain exactly how climate change is adversely affecting the species.

Article title:

Author:

Source:

Article summary:

Handout 3

Energy Pollution: Its Impacts on Human Health and the Environment

A. Energy Pollution Table

The U.S. Energy Information Administration (EIA) is a trusted energy agency. Go to the EIA home page at https://www.eia.gov/. Read each energy source profile and characterize its environmental impacts in the chart below.

Source	Does it produce GHG?	Does it produce air pollution?	Does it pollute the water?	Does it produce radioactive pollution?	Has it caused a famous disaster?
Petroleum and Gasoline					
Natural Gas					
Coal					
Nuclear					
Solar					
Wind					
Hydropower					

B. Human Health and Energy Pollution

In the movie, plaintiff Jayden Foytlin suffered from health complications after contaminated water flooded her home in Rayne, Louisiana, and many of the plaintiffs struggle with asthma related to increased forest fires and smoke in their communities (e.g., Isaac Vergun testified to this during his deposition). Find a recent article discussing the relationship between global warming, pollutants, and human health impacts and summarize it below:

- Heat stress and heat strokes in young athletes
- Low birth weight babies
- Increase in Lyme disease
- Asthma and increased lung disease from fine particulate matter in the air (PM2.5)
- Increased transmission of malaria

Article title:

Author:

Source:

Article summary:

Handout 3

Energy Pollution Table (Answer Sheet)

Source	Does it produce GHG?	Does it produce air pollution?	Does it pollute the water?	Does it produce radioactive pollution?	Has it caused a famous disaster?
Petroleum and Gasoline	Yes, carbon dioxide	Yes, particulate matter, carbon monoxide, etc.	Yes, contaminated water, oil spills, marine habitat destruction	No	*Exxon Valdez* 1989, Deepwater Horizon 2010, etc.
Natural Gas	Yes, carbon dioxide and methane	Yes, from flaring, hydrogen sulfide, carbon monoxide, etc.	Yes, contaminated water, wastewater spills and leaks	No	New London Explosion, Hutchinson Explosion
Coal	Yes, carbon dioxide	Yes, smog and haze, particulate matter, fly ash, various oxides	Yes, runoff water, acid rain, etc.	No	Aberfan Mine avalanche, various inter-national mine explosions
Nuclear	No, none after construction	No	Yes, contaminated wastewater	Yes, spent reactor fuel and nuclear parts	Chernobyl, Three Mile Island, Fukushima
Solar	No	No	No, but some water used for cleaning	No	N/A
Wind	No	No, but some bird impacts	No	No	N/A
Hydropower	Possibly carbon dioxide and methane, depending on site-specific factors	No, but dams and generators may.	No, but may affect water temperature, silt load, water chemistry	No	2121 Rishiganga Hydroelectric Project flash flood in Himalayas

Links for accessing information for chart:

Petroleum Link: https://www.eia.gov/energyexplained/oil-and-petroleum-products/oil-and-the-environment.php
Gasoline Link: https://www.eia.gov/energyexplained/gasoline/gasoline-and-the-environment.php
Natural Gas Link: https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php
Coal Link: https://www.eia.gov/energyexplained/coal/coal-and-the-environment.php
Nuclear Link: https://www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php
Solar Link: https://www.eia.gov/energyexplained/solar/solar-energy-and-the-environment.php
Wind Link: https://www.eia.gov/energyexplained/wind/wind-energy-and-the-environment.php
Hydropower Link: https://www.eia.gov/energyexplained/hydropower/hydropower-and-the-environment.php

The United States Government and the Fossil Fuel Industry

Enduring Understandings

- While presidents have espoused values aligned to protecting the environment, their actions have often run counter to those values.
- Capitalism and industry interests have often guided executive action.
- If held accountable by the courts to protect the constitutional rights of young Americans and carry out its duty to protect the nation's air from pollution, the Environmental Protection Agency could significantly redress the effects of climate change in the United States. EPA is the only federal agency exclusively authorized and mandated to protect the air from pollution that harms human health and welfare.

Essential Questions

- What values have presidents espoused about protecting the environment?
- What examples of presidential action have run counter to their espoused values?
- How have capitalism and industry interests prevented significant executive action or influenced the federal government to continue perpetrating harmful actions and policies as it relates to climate change?
- How has energy policy impacted climate change policy and action?

Notes to the Teacher

From Richard Nixon to Donald Trump, United States presidents have all stressed the importance of preserving the environment. In each case, the actions subsequently taken by these leaders often undermined exactly the environmental safety they espoused.

In 1970, President Richard Nixon established the Environmental Protection Agency, but would later reject pollution-control efforts by EPA in favor of American industrial growth. Following Nixon, President Ford prioritized the nation's economic crisis over environmental efforts.

President Carter was a conservation advocate and had intentions of promoting solar energy, but ultimately his administration focused on energy-independence through building the nation's coal resources, rather than renewable energy, in response to the oil crisis. Upon taking office, President Reagan worked to dismantle and minimize the work of the EPA. The first President Bush pivoted presidential policy and early on tried to strengthen the United States' position on climate change, but ultimately doubled down on strengthening the partnership between the government and the fossil fuel industry as his reelection approached. President Clinton espoused lofty ideals on environmental justice, but a shift in Congressional power to Republicans and his lack of support for strong action by EPA derailed his ability to follow through with campaign promises. The second President Bush continued the policy of presidential doublespeak. He spoke of protecting the environment while still expanding the use of fossil fuels. President Obama spoke the language of climate change action, but steered U.S. energy policy in a way that continued to utilize fossil fuels and even put the U.S. at the top of the world in terms of natural gas and oil production.

President Trump openly declared war on the EPA and publicly doubted climate change, reversing many of the policies that were in place to reduce greenhouse gas emissions and denying climate science. President Biden has said he wants to make action on climate change an important goal, but the administration has still not reversed critical actions that actively make the climate crisis worse. Reliance on fossil fuels remains. As of 2021, according to the EIA, fossil fuels still make up 79% of primary energy consumption in the United States.

In Part 1 of this lesson, students come to understand that presidents often have high aspirations in their speeches, but may fall short in their actions for many reasons. Small student groups work independently to research the words and actions of ten modern presidents and complete one section of a handout, giving examples and summarizing their research.

In the second part of the lesson, student groups plan a media project — a video or podcast — to convey the information that they found in their research. After each group presents its project, the group members help their classmates record main ideas in the other sections of the handout provided in Part 1.

Finally, there are several extension activities you may wish to include. The first deals with economics, watching a video that examines the cap-and-trade system of reducing emissions. The second has two readings on climate-induced trauma, particularly as it affects young children. The readings reflect the experiences of children who suffered from severe weather events such as hurricanes and floods. Here are some resources you and your students might find helpful. They are suggested as research sources on **Handout 1.**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5922215/
Fredrickson, Leif et al. "History of US Presidential Assaults on Modern Environmental Health Protection." *American Journal of Public Health* vol. 108,S2 (2018): S95-S103. doi:10.2105/AJPH.2018.304396

https://millercenter.org/the-presidency/presidential-speeches
An archive of presidential speeches compiled by the UVA Miller Center

Additional Resources

They Knew: The US Federal Government's Fifty-Year Role in Causing the Climate Crisis (2021) by Gus Speth, environmental lawyer and co-founder of the Natural Resources Defense Council
https://www.ourchildrenstrust.org/speth-they-knew

Companion website for *They Knew: The US Federal Government's Fifty-Year Role in Causing the Climate Crisis*
https://www.ourchildrenstrust.org/speth-they-knew-references

An expert report from Joseph Stiglitz, a Nobel Prize-winning economist, about the economics of climate change, the cost of not acting on climate change, and how young people are devalued when it comes to measuring impacts
https://biotech.law.lsu.edu/blog/document_cw_01-2.pdf

G. Supran, S. Rahmstorf, and N. Oreskes, *Assessing ExxonMobil's Global Warming Projections*, 379 Science eabk0063 (2023)
https://www.science.org/doi/10.1126/science.abk0063

An assessment of ExxonMobil's own scientists' projections of global warming from fossil fuel use going back to the 1970s. In fact, ExxonMobil's own scientists better predicted global temperature change in the 1980s than James Hansen's testimony to congress in 1988!

Common Core Standards addressed by this lesson

CCSS.ELA-LITERACY.RH.9-10.1
Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.

CCSS.ELA-LITERACY.RH.11-12.1
Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.

CCSS.ELA-LITERACY.RH.9-10.2
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.

CCSS.ELA-LITERACY.RH.11-12.2
Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

CCSS.ELA-LITERACY.RH.11-12.3
Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

Duration of Lesson

5–6 class periods, including screening the film *YOUTH v. GOV*

Assessments

Class discussions
Completion of handouts
Concluding media project

Materials Needed

Video of *YOUTH v. GOV* and projector
Paper and pens for students
Copies of **Handout 1: Presidential Words and Actions**
Teacher Resource 1: Presidential Words and Actions (Possible Answers)
Copies of **Handout 2: The Media Project**
Teacher Resource 2: Rubrics for Grading Media Project and Summary
Computers and internet access
Computer software equipped to complete media projects

Procedure

Part 1: Research

1. At the start of class, tell students they will be viewing a film about young people who have actually sued the government because of climate change. Then show the film.

2. After the screening, give students an opportunity to comment and to ask questions. Then explain that they will be researching other examples of presidential words and actions similar to those as highlighted in the film, with the goal of creating a media project with their research.

3. Divide students into 10 research groups and assign one modern president to each group. (The presidents are Richard Nixon, Gerald Ford, Jimmy Carter, Ronald Reagan, George H. W. Bush, Bill Clinton, George W. Bush, Barack Obama, Donald Trump, and Joe Biden.) Allow a few minutes for students to relocate and sit with their assigned group.

4. When students are in their groups, distribute copies of **Handout 1: Presidential Words and Actions.**

5. Give students sufficient time to research both the words about climate and the relevant actions of their president. Explain that you want them to fill in examples of both words and actions of their president in the appropriate area of the handout. (Students may need one or two class periods to complete their research.)

Part 2: Media Project

1. Once students have completed their research assignments, give them copies of **Handout 2: The Media Project.**

2. Explain to students that they will be completing a media project that highlights and showcases their research findings. Give them the option to complete either a television broadcast or a podcast.

3. Give students at least a class period to write and outline their production. The filming and production of this project should happen outside of class.

4. Give each group time to present their media project to the class. Students should also turn in their personal summary as noted on **Handout 2**.

5. After each group presents their media project, have group members guide their classmates in completing the appropriate section of **Handout 1.**

6. Conclude the lesson with a class discussion of the following questions: To what extent were the presidents able to fulfill the environmental goals they expressed in their speeches? If their actions did not meet the goals they expressed, what were the reasons? Lack of will? Opposition from Congress? Countervailing pressures? Do you think the current president will be able to succeed?

Extension Activities

1. Economic Approaches to Climate Change

Have student teams research the following proposals to limit climate change, explaining how each works and evaluating the pros and cons of each:

- Cap-and-trade
- Carbon tax
- Subsidies reform
- Divestment campaign
- Environmental regulation
- Energy-efficient standards

Then hold a discussion to answer these questions:

- What are the limits of capitalism as a solution to climate change?
- How can society make a real impact on climate change?

2. Climate Trauma

Have students read and annotate one or more of these texts:

County of Sonoma, "Coping with Trauma and Stress in the Face of Wildfires" (See especially the section on "Mental Health in Children During Wildfires.")
https://socoemergency.org/coping-with-wildfires/#1622144500660-48999738-470e

Heidi de Marco, "Children in Northern California Learn to Cope with Wildfire Trauma"
https://www.salon.com/2022/09/11/children-in-northern-california-learn-to-cope-with-wildfire-trauma_partner/

Jane Brody, "After the Hurricanes, the Inner Storm for Children"
https://www.nytimes.com/2005/09/27/health/psychology/after-the-hurricanes-the-inner-storm-for-children.html

Discuss: How can climate change — and extreme weather events resulting from climate change, like persistent drought, stronger hurricanes, and more frequent and hotter fires — impact the lives of children?

Handout 1

Presidential Words and Actions

Name of president for research_____

Dates in office_____

Members of your research group_____

Directions: Research to learn what the president you are studying has said about the environment. Then research what actions were taken under their administration — both actions to address the climate crisis and actions that have made the climate crisis worse. After you have completed the table, list the resources you used on the back of the handout. Then give the president a score of A to F for their actions on the environment. You may find the following websites helpful:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5922215/

https://millercenter.org/the-presidency/presidential-speeches

Presidential Words	Actions During Their Term in Office

Continue on back if necessary.

Score _____

Presidential Words	Actions During Their Term in Office

Teacher Resource 1

Presidential Words and Actions (Possible Answers)

Richard M. Nixon	
Presidential Words	Actions During His Term in Office
"The automobile is our worst polluter of the air. Adequate control requires further advances in engine design and fuel composition. We shall intensify our research, set increasingly strict standards, and strengthen enforcement procedures — and we shall do it now. We can no longer afford to consider air and water common property, free to be abused by anyone without regard to the consequences. Instead, we should begin now to treat them as scarce resources, which we are now more free to contaminate than we are free to throw garbage into our neighbor's yard. "This requires comprehensive new regulations. It also requires that, to the extent possible, the price of goods should be made to include the costs of producing and disposing of them without damage to the environment." — State of the Union, 1/22/1970	1970 — Established the Environmental Protection Agency 1970 — Signed the Clean Air Act Dedicated federal funds to invest in the development of the electric car and solar energy. In 1971, the EPA recommended standards for the Big Four automakers (at that time General Motors, Chrysler, Ford, and AMC/Jeep) to decrease fuel emissions. Nixon felt that the requirements were too stringent, and agreed with automakers who feared that manufacturing cars to conform to these standards would raise car prices and considerably decrease sales. In 1972, Nixon vetoed the Federal Water Pollution Control Act Amendments. Again, this action was motivated by concern that to enforce the legislation as written would put American manufacturers at a disadvantage compared to their overseas counterparts.

Gerald Ford	
Presidential Words	Actions During His Term in Office
"I will address the humanitarian issues of hunger and famine, of health and of healing. My goal is to achieve — or to assure basic needs and an effective system to achieve this result. "I recognize the need for technology that enriches life while preserving our natural environment. My goal is to stimulate productivity, but use technology to redeem, not to destroy our environment." — Remarks at Tulane University, 4/23/1975	Prioritized the economy and energy needs. Leaned into policy which focused on diversifying fossil fuels. December 1974 — vetoed strip-mining ban bill May 1975 — vetoed second strip-mining ban bill

Jimmy Carter	
Presidential Words	Actions During His Term in Office
"The third principle is that we must protect the environment. Our energy problems have the same cause as our environmental problems — wasteful use of resources. Conservation helps us solve both problems at once." —Address to the Nation on Energy, 4/17/1977 "We will protect our environment. But when this Nation critically needs a refinery or a pipeline, we will build it." — Crisis of Confidence Speech, 7/15/1979	Conservation advocate, but energy crisis limited actions toward positive climate action. He made efforts to increase coal production as a response to the oil crisis. 1973 — Canceled the Sprewell Bluff Dam project 1977 — Created the Department of Energy 1978 — Endangered American Wilderness Act 1979 — Had solar panels installed on the roof of the White House.

Ronald Reagan	
Presidential Words	Actions During His Term in Office
"Make no mistake. We will not permit the safety of our people or our environmental heritage to be jeopardized, but we are going to reaffirm that the economic prosperity of our people is a fundamental part of our environment." — Acceptance speech at the 1980 Republican Convention, 7/17/1980 "As we do all this, we'll continue to protect our natural resources. We will seek reauthorization and expanded funding for the Superfund program to continue cleaning up hazardous waste sites which threaten human health and the environment." — State of the Union, 2/6/1985	The early Reagan administration (1981–1983) launched an overt attack on the EPA, combining deregulation with budget and staff cuts. In 1986, he removed the symbolic solar panels from the roof of the White House. Reagan abandoned the practice of previous administrations of appointing agency heads with federal government experience and sympathy for the agency's mission. Instead, he chose people from industry who shared his antiregulatory views. To run the EPA, Reagan selected Anne Gorsuch, a 38-year-old corporate lawyer and two-term Colorado legislator who had opposed the Clean Air Act, water quality rules, and hazardous waste protections.

George H. W. Bush	
Presidential Words	Actions During His Term in Office
"If we're to protect our future, we need a new attitude about the environment. We must protect the air we breathe. I will send to you shortly legislation for a new, more effective Clean Air Act. It will include a plan to reduce by date certain the emissions which cause acid rain, because the time for study alone has passed, and the time for action is now. We must make use of clean coal. My budget contains full funding, on schedule, for the clean coal technology agreement that we've made with Canada. We've made that agreement with Canada, and we intend to honor that agreement. We must not neglect our parks. So, I'm asking to fund new acquisitions under the Land and Water Conservation Fund. We must protect our oceans. And I support new penalties against those who would dump medical waste and other trash into our oceans. The age of the needle on the beaches must end. "And in some cases, the gulfs and oceans off our shores hold the promise of oil and gas reserves which can make our nation more secure and less dependent on foreign oil. And when those with the most promise can be tapped safely, as with much of the Alaska National Wildlife Refuge, we should proceed. But we must use caution; we must respect the environment. And so, tonight I'm calling for the indefinite postponement of three lease sales which have raised troubling questions, two off the coast of California and one which could threaten the Everglades in Florida. Action on these three lease sales will await the conclusion of a special task force set up to measure the potential for environmental damage. I'm directing the Attorney General and the Administrator of the Environmental Protection Agency to use every tool at their disposal to speed and toughen the enforcement of our laws against toxic-waste dumpers. I want faster cleanups and tougher enforcement of penalties against polluters." — State of the Union Address, 2/9/1989	Appointed the "first professional environmentalist" to head the EPA. William Reilly, previously president of the Conservation Foundation and the World Wildlife Fund. Strengthened the Clean Air Act and signed the United Nations Framework Convention on Climate Change, acknowledging the human role in global warming. However, his administration also watered down conclusions of scientific reports on climate change and made deals with the fossil fuel industry. Signed the 1992 Energy Policy Act to increase the use and exports of natural gas.

Bill Clinton	
Presidential Words	Actions During His Term in Office
"Our plan does include a broad-based tax on energy, and I want to tell you why I selected this and why I think it's a good idea. I recommend that we adopt a Btu tax on the heat content of energy as the best way to provide us with revenue to lower the deficit because it also combats pollution, promotes energy efficiency, promotes the independence, economically, of this country as well as helping to reduce the debt, and because it does not discriminate against any area. Unlike a carbon tax, that's not too hard on the coal States; unlike a gas tax, that's not too tough on people who drive a long way to work; unlike an ad valorem tax, it doesn't increase just when the price of an energy source goes up. And it is environmentally responsible." — State of the Union, 2/17/1993	Signed the Kyoto Protocol and an executive order addressing environmental injustices, but progress slowed when the 1994 election swept conservative Republicans into power in Congress. Continued to expand oil and gas infrastructure.

George W. Bush	
Presidential Words	Actions During His Term in Office
"Our third goal is to promote energy independence for our country, while dramatically improving the environment. I have sent you a comprehensive energy plan to promote energy efficiency and conservation, to develop cleaner technology, and to produce more energy at home. I have sent you Clear Skies legislation that mandates a 70-percent cut in air pollution from power plants over the next 15 years. I have sent you a Healthy Forests Initiative, to help prevent the catastrophic fires that devastate communities, kill wildlife, and burn away millions of acres of treasured forests. "I urge you to pass these measures, for the good of both our environment and our economy. Even more, I ask you to take a crucial step and protect our environment in ways that generations before us could not have imagined. "In this century, the greatest environmental progress will come about not through endless lawsuits or command-and-control regulations but through technology and innovation. Tonight I'm proposing $1.2 billion in research funding so that America can lead the world in developing clean, hydrogen-powered automobiles." — State of the Union, 1/28/03	Signed the Kyoto Protocol and an executive order addressing environmental injustices, but progress slowed when the 1994 election swept conservative Republicans into power in Congress. Continued to expand oil and gas infrastructure.

Barack Obama	
Presidential Words	Actions During His Term in Office
"The consequences of our inaction are now in plain sight. Countries like China are investing in clean energy jobs and industries that should be right here in America. Each day, we send nearly $1 billion of our wealth to foreign countries for their oil. And today, as we look to the Gulf, we see an entire way of life being threatened by a menacing cloud of black crude. "We cannot consign our children to this future. The tragedy unfolding on our coast is the most painful and powerful reminder yet that the time to embrace a clean energy future is now. Now is the moment for this generation to embark on a national mission to unleash America's innovation and seize control of our own destiny. "This is not some distant vision for America. The transition away from fossil fuels is going to take some time, but over the last year and a half, we've already taken unprecedented action to jumpstart the clean energy industry. As we speak, old factories are reopening to produce wind turbines, people are going back to work installing energy-efficient windows, and small businesses are making solar panels. Consumers are buying more efficient cars and trucks, and families are making their homes more energy-efficient. Scientists and researchers are discovering clean energy technologies that someday will lead to entire new industries. "Each of us has a part to play in a new future that will benefit all of us. As we recover from this recession, the transition to clean energy has the potential to grow our economy and create millions of jobs — but only if we accelerate that transition. Only if we seize the moment. And only if we rally together and act as one nation — workers and entrepreneurs; scientists and citizens; the public and private sectors." — Speech on the BP oil spill, 6/15/2010	White House issued "A Historic Commitment to Protecting the Environment and Addressing the Impacts of Climate Change" https://obamawhitehouse.archives.gov/the-record/climate He spoke the language of climate action, but still pursued traditional energy sources. Increased oil and gas production to levels higher than any other president in U.S. history: https://apnews.com/article/business-5dfb-c1aa17701ae219239caad0bfefb2 Opposed the 21 *Juliana* youth plaintiffs and their case. His Department of Justice sought to prevent the youths' evidence from being heard at trial. Entered the Paris Agreement.

Donald J. Trump	
Presidential Words	Actions During His Term in Office
"And we're going to be an exporter —exporter. (Applause.) We will be dominant. We will export American energy all over the world, all around the globe. These energy exports will create countless jobs for our people, and provide true energy security to our friends, partners, and allies all across the globe. "But this full potential can only be realized when government promotes energy development — that's this guy right here, and he'll do it better than anybody — instead of obstructing it like the Democrats. They obstruct it. But we get through it. We cannot have obstruction. We have to get out and do our job better and faster than anybody in the world, certainly when it comes to one of our great assets — energy. This vast energy wealth does not belong to the government. It belongs to the people of the United States of America. (Applause.) Yet, for the past eight years, the federal government imposed massive job-killing barriers to American energy development. "Since my very first day in office, I have been moving at record pace to cancel these regulations and to eliminate the barriers to domestic energy production, like never before. Job-killing regulations are being removed and vital infrastructure projects are being approved at a level that they've never seen before. As you all know, I approved the Keystone XL Pipeline and the Dakota Access Pipeline in my first week. Thousands of jobs — tremendous things are happening. And, by the way, I thought I'd take a lot of heat. I didn't take any heat. I approved them and that was it. I figured we'd have all sorts of protests. We didn't have anything." — Speech at the Unleashing American Energy Event, 6/29/2019	Campaigned to reduce the size of the EPA and pursued an attack on the agency. Challenged agency regulations. Tried to control and manipulate the EPA's use and dissemination of science. Removed or obscured information about climate change from websites, dismissed scientific advisory panels, blocked scientists who receive EPA grants from advisement, and put a political appointee in charge of scientific grants. Used extreme legal maneuvers, including expansion of "shadow docket," to prevent *Juliana* case from proceeding to trial. Pulled out of the Paris Agreement.

Joe Biden	
Presidential Words	Actions During His Term in Office
"We'll create good jobs for millions of Americans, modernizing roads, airports, ports, and waterways all across America. And we'll do it all to withstand the devastating effects of the climate crisis and promote environmental justice. "We'll build a national network of 500,000 electric vehicle charging stations, begin to replace poisonous lead pipes — so every child — and every American — has clean water to drink at home and at school, provide affordable high-speed internet for every American — urban, suburban, rural, and tribal communities." — State of the Union, 3/1/2022	Fact Sheet from the White House on Biden's actions on climate: https://www.whitehouse.gov/briefing-room/statements-releases/2022/07/20/fact-sheetpresident-bidens-executive-actions-on-climate-to-address-extreme-heat-and-boost-offshore-wind/ Reversed many of the policies of the previous administration. Brought the United States back into the Paris Agreement. Signed an executive order that will enable the federal government to reduce greenhouse gas emissions by 65% by 2030. Despite claims to listen to youth and aggressively address climate crisis, the Department of Justice under President Biden has continued the legacy of preceding administrations of trying to keep *Juliana* evidence from being heard in open court.

Handout 2

The Media Project

This assignment consists of creating a media project: a television broadcast (news, sitcom, movie, documentary) or a podcast. Your media project needs to highlight your research findings related to presidential words and actions.

Media

Specific requirements and options

- Each media project needs to be a *minimum* of ____ minutes, a **maximum** of ____ minutes.
- The media project can also include commercials (30 seconds to one minute in length).
- Be sure to keep events in chronological order.
- Students who try to achieve period dress, hair, and makeup for video projects will receive added consideration.

Student responsibilities

- Each group needs to select a director to lead the vision of the media project.
- All group members are expected to participate in the writing and production of the media.
- Be creative. Be humorous if it's appropriate. Serious events should be serious (assassination and other deaths for example).
- Each student will also have to turn in a one-page summary that ties the media project to the historical significance of the period. (See below.)
- Students must also complete a peer review of their group members. (Turn in **typed,** with summary.)

General requirements

- Your planning group can only include members of your research team, but you are free to use extras (family, friends, teachers).
- All media should be submitted in digital format.
- Any media that contain inappropriate, illegal, or plagiarized materials will **receive a ZERO** and be turned over to the proper authorities.
- First draft of storyboards, script outlines, etc. are due on _____
- Final due date of project _____

Summary

Specific requirements

Your summary should be typed. In the summary, highlight important events, people, places, terms, and their historical significance. All summaries must be in your own words. The summary is due the day of your in-class presentation.

Do not plagiarize. You must also include a separate works cited page.

Teacher Resource 2

Rubric for Grading Media Project

Media Criteria/ Distribution	**Professional A** 20 – 19 points	**Excellent B** 18 – 17 points	**Average C** 16 points	**Poor D** 15 points	**Not Acceptable F** 11 points	**Points**
Presentation of History	Accurate information	Some inaccurate information	Too much inaccurate information	Totally inaccurate information	No effort to meet the criteria for the project	
Organization	Adheres to a theme; focused direction	Few problems with theme and direction	Disjointed theme and direction	No theme or poor direction	No effort to meet the criteria for the project	
Accuracy	Meets time constraints; submitted in correct format	Few problems with time and/or video format	Misses time and/ or video guide-lines	Fails time constraints and/or video format	No effort to meet the criteria for the project	
Production Value	Interesting, appealing	Some errors; interesting, appealing	Some errors; a little dry; presentation could be better	Many errors; boring; lack of presentation	Inappropriate content	
					Total	

Rubric for Grading Summary

Media Criteria/ Distribution	**Professional A** 10 points	**Excellent B** 9 points	**Average C** 8 points	**Poor D** 7 points	**Not Acceptable F** 5 points	**Points**
Organization	Clear thesis in introduction; logical sequence and paragraph structure	Excellent paper; good thesis; logical sequence and paragraph structure	Some clarity of thesis in introduction; some logical sequence; average paragraph structure and sequence	Little clarity of thesis; some sequence; below average paragraph structure and sequence	No clarity of thesis in introduction; no logical sequence; no paragraph structure	
Mechanics	Professional in the areas of grammar, spelling, punctuation, sentence structure, citations	Excellent in the areas of grammar, spelling, punctuation, sentence structure, citations	Average in the areas of grammar, spelling, punctuation, sentence structure, citations	Below average in the areas of grammar, spelling, punctuation, sentence structure, citations	Problems in the areas of grammar, spelling, punctuation, sentence structure, citations	
Works cited page	MLA format All sources used		Some errors Some sources missing		**0 points** for no works cited page	
					Total	

Lesson 4 **Environmental Science, Government, English Language Arts**

Climate Close to Home

Enduring Understandings

- Natural systems are interdependent.
- Life on Earth depends on and affects the climate.
- Climate naturally changes over long periods of time (which is very different than anthropogenic-induced changes).
- Climate change will have consequences for all Earth systems.
- Climate change impacts all human communities, but children are the most vulnerable.
- Climate change impacts vary across geographic boundaries.
- The actions of human communities impact the climate of Earth.
- Federal, state, and local governments are actively and knowingly making the climate crisis worse through actions that permit, subsidize, and promote fossil fuel energy systems.
- Decisions at the local and state government level can be made to stop policies and government actions that make the climate crisis worse, as well as help mitigate the impacts of climate change on communities.
- Courts can judge what governments are doing to cause or address climate change and are a backstop against illegal government conduct that infringes upon the rights of citizens.
- Only courts are empowered to interpret constitutions and say what the law requires.
- Citizen participation can influence climate policy by voting (if you are 18), lobbying in the legislature, petitioning and submitting comments to the president and executive branch, and bringing cases to the judicial branch.
- All voices can play a significant role in government decision-making processes. The reality is that it takes many voices to outweigh lobbying money and the power of special interest groups like the fossil fuel industry. Sometimes, it takes the courts to step in to protect people who are disenfranchised and lack political power in influencing their government.
- Sometimes it is also easier to influence politicians at the local level by attending your city council meetings.

Essential Questions

- What is climate change?
- How is climate different from weather?
- Why is the climate of Earth changing?
- What evidence do we have that the climate of Earth is changing?
- What contributes to climate change?
- What are the impacts of climate change?
- How does climate change affect human communities?
- How does the impact of climate change vary across geographic boundaries?
- Why is citizen participation in every branch of government important?
- How can citizens participate in political processes?
- How can citizens participate in the legislative branch and advocate for climate policy reform?
- How can citizens participate with their executive branch of government?
- How can citizens participate in their judicial branch of government to protect their rights?
- What are the roles of local and state governments in causing and mitigating the impacts of climate change?
- Why is engaging local governments around climate policy important?
- What tools are available to engage local government in climate policy

Notes to the Teacher

In this lesson, students look to the example of the young people from *YOUTH v. GOV* as they discover their own voices, learn how to work for the protection of human and constitutional rights, and determine how best to respond to the existential threat of climate change. The young plaintiffs featured in *YOUTH v. GOV* come from all over the United States, from Alaska to Florida. The activities in this lesson have been designed for use as individual modules or tiered instruction with each new lesson component building upon the last. A review of the activities prior to delivery is strongly suggested to determine the class time needed for each one and plan appropriately for materials acquisition. While the suggested lesson duration is between three and six one-hour periods, the activities can easily be modified based on time available or the point in the course curriculum where the lesson can best be integrated.

This lesson assumes students have some background on the fundamentals of climate change. The following resources may be helpful in the event review material is necessary: (1) Climate Change: https://youtu.be/dcBXmj1nMTQ; (2) Climate Change Quiz: https://climate.nasa.gov/quizzes/global-temp-quiz/. Please note all suggested links in this lesson can be displayed on a projector or shared with students for use on individual devices, depending on the classroom technology available.

Part 1 of the lesson asks students to reflect on their own feelings about climate change as it impacts their own lives. If students have themselves undergone acute traumatic experiences due to climate change or are experiencing the chronic or vicarious trauma of living in a climate-disrupted world where governments are not caring for their lives, this could be upsetting. You may wish to address this with students ahead of time and allow students to withdraw from this part of the lesson if it is emotionally difficult for them. You may also consider having a school counselor attend this part of the lesson to assist students.

In this part of the lesson, students examine climate issues affecting their own state and region. You will need enough copies of **Teacher Resource 1: How Worried Are You About Climate Change?** to create a class set of the question provided, noting that one handout will cover six students (assuming scissors or a paper cutter are available). A full set of copies of **Handout 1: Climate Anxiety: Reflection Questions** is also recommended for each class; blank paper and writing utensils may also be necessary. A computer with internet access and a projector will be useful in showing the *Juliana* v. *United States* plaintiff page students will reference as part of the assignment during the second part of the lesson, the link for which can be found at https://www.ourchildrenstrust.org/federal-plaintiffs/. Large index cards will also be needed for students to complete the assignment.

When students are asked to list words or phrases that come to mind when they think of climate change in Step 1, one alternative would be for the class to create a word cloud using a free digital program like Mentimeter (https://www.mentimeter.com/signup?referral=features/word-cloud) or Poll Everywhere (https://www.pollevery-where.com/word-cloud). [Please note that, while free, these programs still require a user account.] **Handout 1: Climate Anxiety: Reflection Questions** can be completed as an in-class activity or assigned as homework if time is limited. For additional context in helping students understand the concept of "eco-anxiety" introduced in **Handout 1**, please visit *How can we help kids cope with 'eco-anxiety'?* at https://www.bbc.com/future/article/20220315-how-eco-anxiety-affects-childrens-minds.

For the first part of this lesson, students will need access on their computers or devices to the article "Young People's Climate Anxiety Revealed in a Landmark Survey" at https://media.nature.com/original/magazine-assets/d41586-021-02582-8/d41586-021-02582-8.pdf.

NOTE: After Part 1, it will be important to create space for students to share, publicly or confidentially, how they are feeling about the activity and the subject. This can be a class discussion, but you should also offer resources like the school counselor for students who feel overwhelmed. It may also help to take a break after Part 1 and do a relaxing or fun activity (e.g., movement, music, or going outside) to help all the students manage their emotions.

In Part 2 of this lesson, a shifting climate becomes a more personal narrative as students examine the impacts of climate change in their own communities. They will explore the most prevalent climate indicators close to home, thinking critically about the consequences of climate change relative to the health of human communities and future of our planet. A full set of copies of **Handout 2: Climate Change in My Community** is recommended for each class; computers/devices, writing utensils, index cards, and colored pencils/markers may also be necessary. A computer with internet access and a projector will be useful in showing students how to navigate the menu of websites provided on the handout: (1) "States at Risk" (https://statesatrisk.org/), (2) "The 50 States in Climate Crisis" (https://www.greenpeace.org/usa/the-50-states-in-climate-crisis/), and (3) "Environmental Protection Agency Climate Indicator Map" (https://tinyurl.com/98xxhx85). **Handout 2: Climate Change in My Community** can also be completed as a homework assignment depending on the time available.

In Part 3 of this lesson, students will explore the policies and government actions at play that make the climate crisis worse, as well as policies and government actions that could help mitigate the impacts of climate on local communities. They learn about how local and state agencies knowingly exacerbate climate change as well as how they can work to protect the environment, exploring policy statements relating to efforts in their own communities or region. Students will have the opportunity to write a letter to a legislator expressing their concerns and ideas for workable solutions to a local or regional climate-related problem, including identifying governmental actions and policies that make climate change worse. A full set of copies of **Handout 3: Sharing Your Story** is needed for each class, as are computers with internet access and writing utensils. **Handout 3: Sharing Your Story** can also be completed as a homework assignment depending on the time available.

If you think students would benefit from some letter-writing tips, share these from the ACLU at https://www.aclu.org/other/tips-writing-your-elected-officials. It is important to give students leeway in framing their own ideas for letters to legislators. (Letters could also be sent to the president, governors, the attorney general of their state or the U.S., heads of executive agencies like EPA or state natural resource agencies, editors of media outlets from local papers to the *New York Times* or the *Wall Street Journal*, local city councils and mayors, etc.) You should not require students to take any particular stance. You should also not require them to mail the letters, but encourage them to do so if they choose and to share any response they receive.

Common Core Standards addressed by this lesson

History/Social Studies

CCSS.ELA-LITERACY.RH.9-10.1
Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.

CCSS.ELA-LITERACY.RH.9-10.2
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.

CCSS.ELA-LITERACY.RH.9-10.4
Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

CCSS.ELA-LITERACY.RH.9-10.5
Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.

CCSS.ELA-LITERACY.RH.9-10.7
Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.

Science and Technical Subjects

CCSS.ELA-LITERACY.RST.9-10.1
Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

CCSS.ELA-LITERACY.RST.9-10.2
Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

CCSS.ELA-LITERACY.RST.9-10.4
Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

CCSS.ELA-LITERACY.RST.9-10.5
Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).

CCSS.ELA-LITERACY.RST.9-10.7
Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

Writing

CCSS.ELA-LITERACY.WHST.9-10.1
Write arguments focused on discipline-specific content.

CCSS.ELA-LITERACY.WHST.9-10.2
Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

CCSS.ELA-LITERACY.WHST.9-10.4
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.WHST.9-10.5
Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

CCSS.ELA-LITERACY.WHST.9-10.6
Use technology, including the internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

CCSS.ELA-LITERACY.WHST.9-10.7
Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CCSS.ELA-LITERACY.WHST.9-10.8
Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

CCSS.ELA-LITERACY.WHST.9-10.9
Draw evidence from informational texts to support analysis, reflection, and research.

Duration of Lesson

Three to six one-hour periods

Assessments

Completion of the **Climate Anxiety** reflection activity and discussion
Completion of the **Climate Change in My Community** research project, group discussion, and index card illustrations
Completion of the **Sharing Your Story** reflection questions and policy letter
Group discussion
Student presentations

Materials

Writing utensils
Blank 8 ½" x 11" paper
Whiteboard
Whiteboard markers
Computers/devices with internet access
Projector/speakers
Large index cards
Colored pencils/markers
Access to copies of "Young People's Climate Anxiety Revealed in a Landmark Survey" (See Notes to the Teacher, above.)
Full class copies of:
- **Handout 1: Climate Anxiety**
- **Handout 2: Climate Change in My Community**
- **Handout 3: Sharing Your Story**
- **Teacher Resource 1: How Worried Are You About Climate Change?**
- **Teacher Resource 2: Climate Anxiety: Reflection Questions (Suggested Answers)**
- **Teacher Resource 3: Sharing Your Story (Suggested Answers)**

Procedure

Part 1: Climate Change: A Matter of Heart
(1–2 one-hour periods)

1. Ask the students to choose five words or phrases that come to mind when they think about climate change. Ask them to record their list of terms on a blank sheet of paper or in a notebook. Invite the students to share their thoughts with the class; record the student responses on the board. [Note: Please see Notes to the Teacher for Part 1, above, regarding digital alternatives to this activity.]

2. Divide the class into groups of two or three students. Distribute one copy of the question from **Teacher Resource 1** to each student. Explain that the line represents a continuum and give them several minutes to think and quietly place their response accordingly. Ask them to record their reason(s) for responding the way they did; allow students in each group to share their responses with each other for several minutes. Invite a few students to share their thoughts with the class.

3. Have students access copies of the article "Young People's Climate Anxiety Revealed in Landmark Survey" online at https://media.nature.com/original/magazine-assets/d41586-021-02582-8/d41586-021-02582-8.pdf. (See Notes to the Teacher, above, for guidance on making this activity emotionally safe for all students.) Also distribute copies of **Handout 1: Climate Anxiety: Reflection Questions**. Invite the students to review the data in the upper right-hand corner of the article. Explain this data set is the result of a survey of 10,000 young people conducted in 2021, a year after *YOUTH v. GOV* premiered. Invite several students to share anything that stands out to them from the data.

4. Ask the students to think about their responses to the questions in Steps 1 and 2 above, allowing several minutes for them to compare their responses to the survey data. Invite several students to share using the questions below as a framework for a brief discussion.

a. How does your response to the first question (*How worried are you about climate change?*) compare with the survey results shown? (Answers here may vary.)

b. How do the terms you used to complete the "*When I think of climate change…*" statement compare with the survey results shown? (Answers here may vary.)

c. How do the results of this survey make you feel? Please explain. (Answers here may vary.)

5. Give students time to read the article. Then distribute a copy of **Handout 1: Climate Anxiety: Reflection Questions** to each student and give time for them to answer the reflection questions on the back.

6. Ask members of each group from Step 2 to share their responses to the **Handout 1** reflection questions with each other. Ask several students to share their thoughts, using the reflection questions as a guide for a class discussion.

7. Ask the students to think about the young people (plaintiffs) involved in the case from *YOUTH v. GOV*. Host a brief discussion using the following questions to guide the conversation.

a. What is something you have accomplished in your life of which you are proud?

b. How does it make you feel to know people your age are fighting hard to protect their right to a safe climate, demanding government accountability to end climate harms?

c. Do you feel inspired by the work of the young people featured in this film?

d. Does the work of the young people featured in this film make you feel more hopeful about the future of the climate and health of human communities on earth?

8. As a homework assignment for the next class, ask the students to learn more about the young plaintiffs from *YOUTH v. GOV* by visiting https://www.ourchildrenstrust.org/federal-plaintiffs/. (Alternatively, you could ask them to find out about cases arising in other states, including their own. This information can be found at https://www.ourchildrenstrust.org/pending-state-actions. Plaintiffs' stories are found in the complaints for each case. There is other content on the social media channels of Our Children's Trust.) At the start of the next class, students should be prepared to share information about two plaintiffs to whom they relate or with whom they have something in common. Give each student a large index card. For each plaintiff, students should record the following on their cards (one plaintiff per side):

a. Name of plaintiff

b. Age of plaintiff

c. Hometown of plaintiff

d. Concerns the plaintiff has about the immediate impacts of climate change where they live

e. Something about the plaintiff to which they relate

Part 2: Too Close for Comfort (1–2 one-hour class periods)

1. Begin by dividing the class into groups of two or three. Ask each group to discuss their findings from researching the young plaintiffs from *YOUTH v. GOV* the day before. If time permits, students can revisit the plaintiffs if needed at https://www.ourchildrenstrust.org/federal-plaintiffs/

2. Invite students from each group to share their thoughts, focusing specifically on (1) the plaintiff concerns relating to the impacts of climate change in their communities and (2) the things about the plaintiffs to which they relate. [Note: The idea here is to encourage the students to begin connecting changes in climate to the health of their communities.]

3. Ask the students what climate-related issues exist in their own communities or region. Invite several students to share and host a brief discussion, noting that some may not have experience with or know of climate impacts. (Answers here may vary, but might include new or more extreme weather patterns, shifts in water availability, increases in forest fires and drought, reduced food supply, impacts to human health, community inequity, habitat loss, ecosystem imbalance, coastal flooding, inland flooding, changes to infrastructure, urban heat island effects, etc.)

4. Explain to the students that they will have the opportunity to explore the impacts of climate change in their communities or regions. Distribute one copy of **Handout 2: Climate Change in My Community** to each student. Review the instructions for Parts 1 and 2; give students time to begin working. (Note: This activity would work well with a block schedule or split over two class periods.)

5. Once students have completed the assignment, distribute large index cards to the class (one per student). Ask each student to make a sketch of a scene from their community impacted by the aspect of climate change they detailed in Part 2 of the handout on their index card. Allow for approximately 10–15 minutes of worktime.

6. Invite the students to share the sketch they made with the class. Ask them to discuss where the sketch scene takes place and share how it reflects the climate-related impact to their community. Consider using the prompts below from Question 2 of Part 2 as a framework for this conversation, noting that answers may vary. [Note: As an alternative to index cards, students might also consider a larger piece of art or other form of creative expression as a response to the prompt.]

a. How is your community impacted by this aspect of a changing climate?

b. Where do you see this problem in your community? Do you see it often? What does it look like?

c. Does this impact of climate change affect your community in an inequitable way?

d. How does this impact of climate change affect your life?

e. How does this impact of climate change on the community make you feel?

f. Why do you think it might be important to solve this climate-related problem?

Part 3: Exploring Climate and Energy Policy and Government Action (2–3 one-hour class periods)

1. Begin by asking the students the following questions, allowing room for discussion depending on the time available.

a. How do you get people to care about something important?

b. Think about the experience you have with the impact of climate change in your community. What ideas do you have for solving this problem?

c. The Fifth Amendment of the United States Constitution says that Americans cannot be "deprived of life, liberty, or property, without due process of law." Do you think people have a constitutional right to a climate system capable of sustaining human life?

d. The Fourteenth Amendment of the United States Constitution says that Americans are entitled to "equal protection of the law." Do you think children have a constitutional right to equal protection to a climate system not harmed by fossil fuels? Do you think children should have greater protection than adults in their 60s who have lived most of their lives?

e. What can people do if they feel their rights have been violated? If you want to change the way systems operate, what are your options? Do you believe that young people who can't vote have to use other options to have their voices heard?

2. Tell students they will watch a video that offers an introduction to how the United States government and politics operate. Play the "Introduction: Crash Course U.S. Government and Politics" video (https://www.youtube.com/watch?v=lrk4oY7UxpQ). While students watch, they should record three new things they learn on a sheet of paper or in a notebook. [Note: For links to more of the videos in this *Government and Politics* series, please visit the Student Voice section of the Additional Resources below.]

3. Host a brief discussion with the class about the video, using the following questions as a guide.

a. What stood out for you in this video?

b. What is one thing you learned you did not know before?

c. The video describes the United States as a democratic republic, meaning its citizens have the right to participate. Voting is mentioned as a common method of citizen participation in the political process, but that is only an option if you are 18 years or older. What other ways of participating as an engaged citizen are mentioned? (Contacting your representatives to tell them what you think of a political issue through letters, calls, and emails; working for campaigns to raise money; donating to campaigns; canvassing local voters; answering public opinion polls; writing letters to the editor; commenting on online articles; blogging; making videos; participating in a rally; discussing political issues with family and friends; running for office; becoming more educated)

d. What are some ways youth can take action that weren't mentioned in the film? (For example, filing a constitutional lawsuit like the *Juliana* youth)

4. Explain to students that a good place to begin when you want to create environmental change within a system is understanding the policies and laws in place designed to protect the environment (like the Clean Air Act) and policies and laws that harm the environment (e.g., energy policies that mandate the use of fossil fuels and fossil fuel development permits, leases, and subsidies that carry out those policies and implement the laws). Tell the students they will now have an opportunity to explore ways in which local and state governments are taking the lead with climate policy work (or actively make the climate crisis worse) and how they can be more involved

5. Divide the class into groups of two or three. Distribute copies of **Handout 3: Sharing Your Story** to each student. Play the first segment (0:00 to 2:18) from "As Federal Climate-Fighting Tools are Taken Away, Cities and States Step Up" (https://www.nytimes.com/2022/07/01/climate/climate-policies-cities-states-local.html) for the class, giving the students time to respond to the questions in Question 1. If necessary, play the segment twice. If time permits, invite several students to share their answers.

6. When students have completed their responses, direct them to "How State and Local Governments Are Leading the Way on Climate Policy" (https://www.audubon.org/magazine/fall-2019/how-state-and-local-governments-are-leading-way). Assign each student group one of the following policy-related sections of the article to read; you may have multiple groups with the same topic. Review the instructions for Question 2 and allow sufficient time for groups to research.

- 100 percent renewable energy
- Low-carbon buildings
- Innovative transportation
- Wildlife corridors
- Carbon farming
- Coastal resiliency

7. When students have finished researching, invite each group to share their findings. Remind students that these are examples of climate policy in action at the local and state levels — policies that governments can use to address the climate crisis and policies that governments must end to stop making the crisis worse.

8. Tell students that local and state governments can also do things that harm climate and prevent a transition to renewable energy. Ask students to suggest some. (Laws that require fossil fuel use and development; laws that prevent people from having rooftop solar or connecting their solar to the electric grid; laws that require utilities to approve fossil fuel generation; local laws that require gas hookups in all new buildings and subsidize gas use in homes; local/state governments not requiring EV infrastructure so people can buy and drive electric cars easily; not having pedestrian- and biker-friendly transportation routes; not having good public transportation; zoning laws that don't allow for density in housing in cities and expand urban sprawl.)

9. Explain to the students they will now explore some of the climate policies that exist at the local and state levels for their own states. Review the instructions for Question 3 and allow sufficient time for students to research independently. When students have finished researching, invite several to share their findings and use Question 3b as a framework for the discussion.

10. Explain to the students that the final portion of **Handout 3: Sharing Your Story** focuses on sharing an idea they have for a solution to the impacts of climate change in their community with an elected official. Review the instructions for writing a letter to a legislator in Question 4, as well as the ACLU tips for creating a strong letter. Students can have the option of writing their letter long-hand or typing their letter. Remind students that the *USA.gov* tool (https://www.usa.gov/elected-officials) is an excellent resource for determining who local legislators are and how to contact them. [Note: This activity would work well with a block schedule or split over two class periods.]

11. Ask the students how it makes them feel to share their voice in a way similar to the youth from *YOUTH v. GOV*, inviting several to share their thoughts as part of a full-class discussion. Do not require students to mail the letters, but encourage them to do so if they choose and to share any response they receive. Point out to them that they may use this process to contact their legislators about other issues that concern them as well.

Extension Activities

Extension Activity 1: Take It to Your School Board

Students could write to or talk with members of their local school board or district.

- For suggestions on what to include with their communication, students could watch "Climate Action: What Can Students Do?". https://youtu.be/ZCZyqGPqfk8

- "How to Talk to Your School Board About Climate Change…and Have Them Listen" (https://medium.com/@abarron_80988/how-to-talk-to-your-school-board-about-climate-change-and-have-them-listen-33c13d54147c) is an excellent resource for tips on what to say and templates on how to design appropriate communication.

- "How to pass a School Board Climate Action Resolution" (https://schoolsforclimateaction.weebly.com/pass-a-resolution.html) suggests steps to take in knowing how to contact and approach school board members.

- This "Menu of Climate Action Plan Solutions" (https://www.k12climateaction.org/img/K12-Climate-ActionPlan-MenuSolutions-Screen.pdf) provides a helpful idea list in determining the climate-positive actions a school board may be capable of undertaking.

- An example of a student-initiated climate policy passed by a school board can be found at https://www.dpsk12.org/dps-board-of-education-passes-student-initiated-climate-policy/.

Extension Activity 2: Getting the Word Out

To further explore the impacts of climate change introduced in Part 2 above, students could play the role of photo-journalists in their community. They could document a climate-related issue by taking photographs and writing an article with a catchy headline.

Extension Activity 3: Youth Inspiring Action

Students could research climate actions other students are taking and design their own platform for elevating their own voice as well as others. Ideas might include a climate-themed art show, climate rally, community art project, essay competition, or photojournalism projects. Please see the *Student Voice* section of Additional Resources, below.

Additional Resources

Climate Change Basics

NASA Global Climate Change
https://climate.nasa.gov/

How to Talk to Kids About Climate Change
https://www.npr.org/2019/10/22/772266241/how-to-talk-to-your-kids-about-climate-change

EPA Climate Change
https://www.epa.gov/climate-change

Climate Reality Project
https://www.climaterealityproject.org/

EPA: Calculating a Carbon Footprint
https://www3.epa.gov/carbon-footprint-calculator/

Climate Change Data/Impacts

NASA Climate Change: How Do We Know?
https://climate.nasa.gov/evidence/

NOAA: Data in the Classroom
https://dataintheclassroom.noaa.gov/

National Science Foundation: Climate Reanalyzer
https://climatereanalyzer.org/

NASA: The Effects of Climate Change
https://climate.nasa.gov/effects/

World Wildlife Foundation: Effect of Climate Change
https://www.worldwildlife.org/threats/effects-of-climate-change

CDC: Climate Effect on Health
https://www.cdc.gov/climateandhealth/effects/default.htm

Student Voice

Alliance for Climate Education
https://acespace.org/

Alliance for Climate Education: Youth Action Network
https://acespace.org/youth-action-network/?_ga=2.251832330.2021594211.1661543753-2058451221.1661543753

Youth for Climate Action (UNICEF)
https://www.unicef.org/environment-and-climate-change/youth-action

Fridays for the Future
https://fridaysforfuture.org/what-we-do/activist-speeches/

Voices of Youth
https://www.voicesofyouth.org/

Future Blue Youth Council
https://bowseat.org/get-involved/alumni/future-blue-youth-council/

YOUTH v. GOV: Meet the Youth Plaintiffs
https://www.ourchildrenstrust.org/federal-plaintiffs/

Crash Course: US Government and Politics
https://www.youtube.com/c/crashcourse/search?query=government

Our Children's Trust: State Legal Actions in all 50 States
https://www.ourchildrenstrust.org/state-legal-actions

Our Children's Trust: Global Legal Actions
https://www.ourchildrenstrust.org/global-legal-actions

Teacher Resource 1

How worried are you about climate change?

Extremely worried — **Not worried at all**

How worried are you about climate change?

Extremely worried — **Not worried at all**

How worried are you about climate change?

Extremely worried — **Not worried at all**

How worried are you about climate change?

Extremely worried — **Not worried at all**

How worried are you about climate change?

Extremely worried — **Not worried at all**

How worried are you about climate change?

Extremely worried — **Not worried at all**

Handout 1

Climate Anxiety: Reflection Questions

Directions: After reading the article "Young People's Climate Anxiety Revealed in a Landmark Survey" from https://media.nature.com/original/magazine-assets/d41586-021-02582-8/d41586-021-02582-8.pdf, please answer the questions below to the best of your ability.

1. The article refers to the phrase "eco-anxiety," defined as the distress, anger, and other negative emotions in children and young people worldwide as the result of climate change. Do you think "eco-anxiety" is an appropriate term for this phenomenon? Please explain.

2. In the study detailed here, 45 percent of the participants said their feelings about climate change affected their daily lives. Can you relate to feeling this way about climate change? Please explain.

3. In the article, study co-author Caroline Hickman claims "there is a general 'othering' of children in society, and children's voices that threaten the predominant narrative of the most powerful group in society." What do you think the term "othering" means here? Who do you think is the "most powerful group in society" to which she refers?

4. In the study, 65 percent of the participants agreed with the statement that governments are failing young people in how they respond to climate change. Do you agree with this statement? Please explain.

5. The study also demonstrated that young people feel reassured when governments act. Do you agree with this statement? Please explain.

6. According to Sarah Ray, a climate researcher from California, “This research will impact more audiences than other arguments about why we should do more on climate.” Why do you think she feels this way? Please explain.

7. How does climate change affect your daily life? Please explain.

Teacher Resource 2

Climate Anxiety: Reflection Questions (Suggested Answers)

Directions: Please answer the questions below to the best of your ability.

1. The article refers to the phrase "eco-anxiety," defined as the distress, anger, and other negative emotions in children and young people worldwide as the result of climate change. Do you think "eco-anxiety" is an appropriate term for this phenomenon? Please explain.

   (Answers here may vary. "Anxiety" is often defined as the feeling of worry, nervousness, or unease, typically about an imminent event or something with an uncertain outcome.)

2. In the study detailed here, 45 percent of the participants said their feelings about climate change affected their daily lives. Can you relate to feeling this way about climate change? Please explain.

   (Answers here may vary.)

3. In the article, study co-author Caroline Hickman claims "there is a general 'othering' of children in society, and children's voices that threaten the predominant narrative of the most powerful group in society." What do you think the term "othering" means here? Who do you think is the "most powerful group in society" to which she refers?

   (While answers here may vary, "othering" is defined by Oxford Languages as the act of viewing or treating (a person or group of people) as intrinsically different from and alien to oneself. Additionally, the "most powerful group in society" to which Hickman refers is the government.)

4. In the study, 65 percent of the participants agreed with the statement that governments are failing young people in how they respond to climate change. Do you agree with this statement? Please explain.

   (Answers here may vary.)

5. The study also demonstrated that young people feel reassured when governments act. Do you agree with this statement? Please explain.

   (Answers here may vary.)

6. According to Sarah Ray, a climate researcher from California, "This research will impact more audiences than other arguments about why we should do more on climate." Why do you think she feels this way? Please explain.

   (While answers here may vary, it important to note the "other arguments" stated above could include improved environmental and human health, growth in the low-carbon sector, and matters of environmental justice/inequality. As a side note, the American Psychiatric Association (APA) recognizes climate change as a growing threat to mental health (https://www.psychiatry.org/patients-families/climate-change-and-mental-health-connections). It is important to help students understand the societal and health implications of climate change as a globally prevalent cause of anxiety for younger generations.)

7. How does climate change affect your daily life? Please explain.

   (Answers here may vary.)

Handout 2

Climate Change in My Community

Directions: For this assignment, you will explore the impacts of climate change in your own community or region. Start by visiting one of the following websites aimed at showing how people in all 50 states are experiencing the impacts of climate change.

- States at Risk (https://statesatrisk.org/)
- The 50 States in Climate Crisis (https://www.greenpeace.org/usa/the-50-states-in-climate-crisis/)
- Environmental Protection Agency Climate Indicator Map (https://tinyurl.com/98xxhx85)

Find your state, explore the climate change impacts detailed for your state, and follow the instructions below to the best of your ability. [Note: You can use your current state of residence or a state associated with a prior residence, a favorite place, or locations of friends/family.]

Part 1: Exploring the Issues

1. In the table below, list your state and reasons for choosing this state.

2. Next, describe three climate change impacts you discovered for your state in the spaces provided.

State:		
Reason for choosing this state:		
Climate Change Impact 1	**Climate Change Impact 2**	**Climate Change Impact 3**
Ex: Hurricanes have become more common and destructive.	*Ex: More danger days now exist with a heat index above 105°F.*	*Ex: Nearly 1 percent of the land has burned every year since 1984.*

Part 2: Identifying the Problem

3. Choose one of the impacts of climate change that you described in Part 1 above that you have personally experienced in *your* community. List this impact in the space below and briefly describe your experience.

4. Consider the climate change impact you described above and answer the questions below in the space provided.

   a. How is your community impacted by this aspect of a changing climate?

   b. Where do you see this problem where you live? Do you see it often? What does it look like?

   c. Does this impact of climate change affect your community in an inequitable way?

   d. How does this impact of climate change affect your life?

   e. How does this impact of climate change on the community make you feel?

   f. Why do you think it might be important to solve this climate-related problem?

5. Using the internet, research the climate change impact you personally experienced. Find one current news article from a reputable source about this climate change phenomenon in your state. Please provide the following about your article in the space below:

   Title of article:

   Author:

   Source of the article:

   One-paragraph summary of the article:

Handout 3

Sharing Your Story

Directions: For this assignment, you will explore climate-related policies that exist at the local and state level for your community. After learning about how local and state governments can cooperate on climate policy, you will design a letter to a local elected official expressing your ideas for a workable solution to the impact(s) of climate change in your community/region.

1. With your class, listen to the first segment (0:00 to 2:18) of the article "As Federal Climate-Fighting Tools are Taken Away, Cities and States Step Up" (https://www.nytimes.com/2022/07/01/climate/climate-policies-cities-states-local.html). Please respond to the questions below as you listen.

   a. The article references policies focused on solutions that are adapted to the needs of communities. Why do policies need to be adapted in this way?

   b. According to the article, what are some of the benefits of enacting policies at the local level?

   c. What limitations might local policies carry in addressing the crisis of climate change?

2. With your group, read your assigned section of "How State and Local Governments Are Leading the Way on Climate Policy" (https://www.audubon.org/magazine/fall-2019/how-state-and-local-governments-are-leading-way). In the spaces provided below, please describe the following:

   a. The policy "solution" your group was assigned

   b. Why this solution is necessary for climate change

   c. Which state is pioneering this solution and what they are doing

   d. Who the other state leaders are and what they are doing

   e. Is your own state helping to slow climate change, or are inadequate laws actually increasing climate change? Find evidence to support your answer.

3. Working independently, explore the Center for Climate and Energy Solutions: State Climate Policy Maps website (https://www.c2es.org/content/state-climate-policy/). Find your own state. [Note: You can use your current state of residence or a state associated with a prior residence, a favorite place, or locations of friends/family.]

   a. Review your state's climate and energy policies (greenhouse gas emissions, state climate action plans, carbon pricing, electricity sector policies, and transportation policies).

   b. Consider the climate change impacts from your community you detailed earlier. Do any of the climate policies you see here from your state address these impacts? Please explain.

4. One of the most effective ways of participating as an engaged citizen is to make your voice heard. Consider the impacts of climate change visible in your immediate community. Think about how you have experienced these impacts, why finding a solution is important, and what solution you think is best. Choose one local or state elected official/legislator from your state and contact that person in a letter in which you share your concerns and suggestions. An excellent way to find these officials is at USA.gov: How to Contact Your Elected Officials (https://www.usa.gov/elected-officials). If you need some tips on writing to the official you choose, look at the suggestions from the American Civil Liberties Union at https://www.aclu.org/other/tips-writing-your-elected-officials.

Teacher Resource 3

Sharing Your Story (Suggested Answers for Part 1)

Directions: For this assignment, you will explore climate-related policies that exist at the local and state level for your community. After learning about how local and state governments can cooperate on climate policy, you will design a letter to a local elected official expressing your ideas for a workable solution to the impact(s) of climate change in your community/region.

1. With your class, listen to the first segment (0:00 to 2:18) of the article "As Federal Climate-Fighting Tools are Taken Away, Cities and States Step Up" (https://www.nytimes.com/2022/07/01/climate/climate-policies-cities-states-local.html). Please respond to the questions below as you listen.

   a. The article references policies focused on solutions that are adapted to the needs of communities. Why do policies need to be adapted in this way?

      (Town and cities of various sizes and characters have dissimilar needs relating to the impacts of climate change. Large cities will need different strategies from small towns or rural areas.)

   b. According to the article, what are some of the benefits of enacting policies at the local level?

      (The policies can be tailored to different communities; developing policies locally can help break through some of the gridlock found at the national level and allow the focus to be on the human needs and wellbeing of communities.)

   c. What limitations might local policies carry in addressing the crisis of climate change?

      (Local governments may not have the same power, authority, or money as the federal government, which is why federal policy is important. As two examples, the federal government has to approve any transmission lines or pipelines that cross state lines, and our electricity grids are regionally connected. Air pollution also crosses state lines, and the EPA is supposed to protect our national air. Many government actions require approvals by both state and federal governments.)

JOURNEYS IN FILM™
educating for global understanding

PO Box 65357
Albuquerque, NM 87193