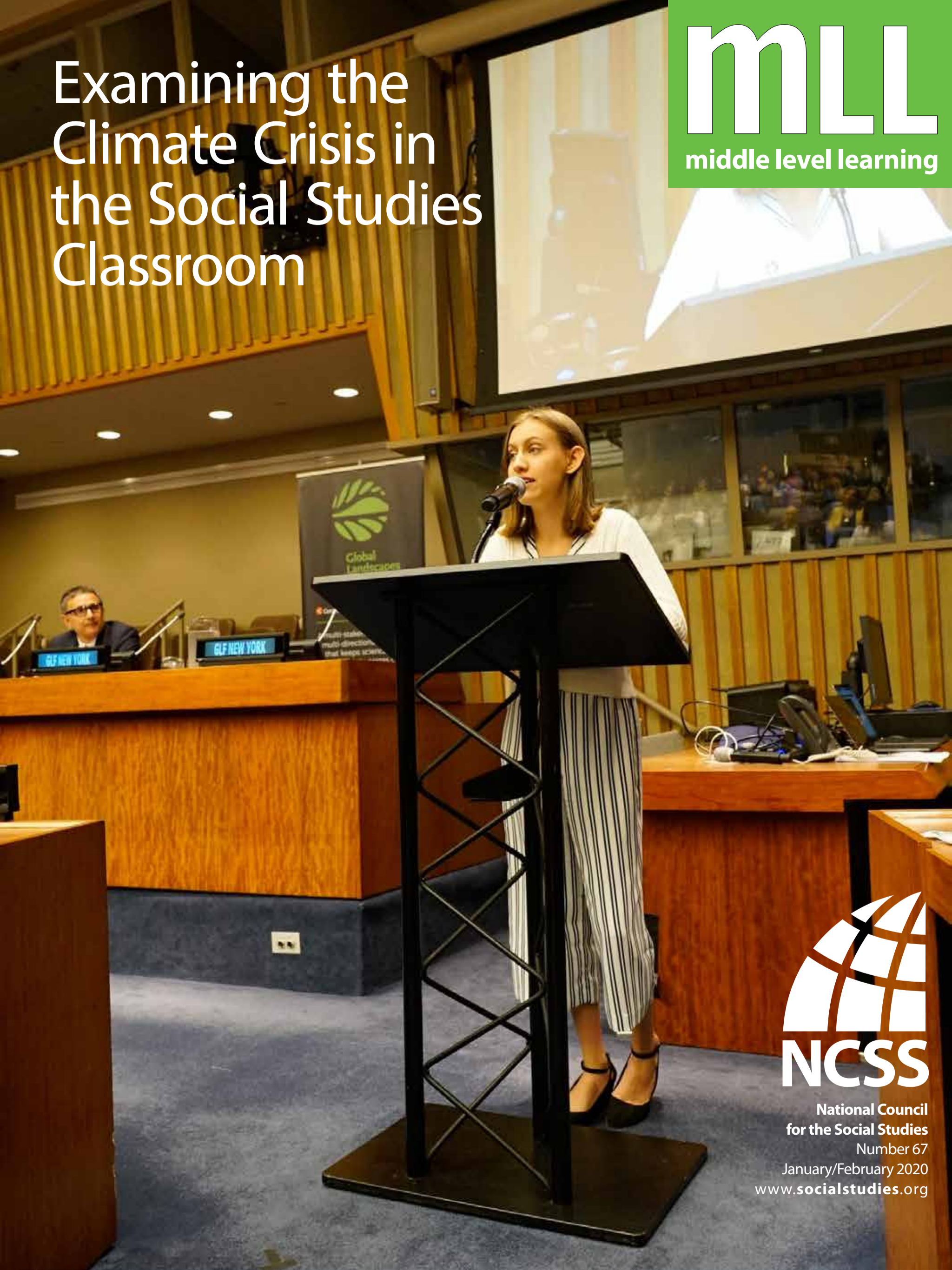


Examining the Climate Crisis in the Social Studies Classroom

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Examining the Climate Crisis in the Social Studies Classroom: Public Polling and Mock Trials

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Climate change is the crisis of our time, and many young students feel genuine concern for the health of the environment. As Greta Thunberg and others raise awareness about the consequences of climate change—such as increased fires, stronger hurricanes, longer droughts, and so much more, there are still those who remain in denial about human-induced climate change. We use the phrase “human-induced climate change” interchangeably with “climate change,” as there is ample evidence to support that climate change has been induced by human activity.

Although both authors have experience teaching and leading discussions about climate change in the classroom, Matt has specifically discussed and addressed climate change in the social studies classroom. These classroom conversations often began with someone asking about the difference between climate change and weather. The questions often center upon the issue of global warming and confusion about why there is still snow and cold weather in the winter if the Earth is warming. Many students have a very immediate view of climate change. In these conversations, Matt has tended to give a basic answer to a complex question: that weather refers to the short-term atmospheric conditions of a region while climate is weather averaged over a long period of time. Climate change refers to the long-term changes across large spans of time.¹

Because these questions occurred in a social studies classroom, Matt wanted students to understand that all social issues are scientific, and all scientific issues are social.² He would spark conversations asking a powerfully simple question that offers much to a social studies classroom: what do other people think? This was the genesis of a lesson on people’s opinions about climate change (public polling) and, more importantly, what we could do with that information in the classroom.

Human-Induced Climate Change

Although geologic records show cycles of global heating and cooling cycles as a part of an ongoing natural process, scientific models depict the current global warming trend as one that is not natural but is human made. The effects of human-induced climate change present massive challenges. As of this date, the global average temperature is already 1.1°C warmer than pre-industrial levels (1850–1900).³ Climate models by the Environmental Protection Agency (EPA) predict that the average global temperature will rise between .5° to 8.6°F by 2100, with a likely global increase of 2.7°F. These figures closely overlap with estimates from the



Swedish teenager Greta Thunberg addresses climate strikers at Civic Center Park in Denver, Colorado, October 11, 2019.

(Andy Bosselman, Streetsblog Denver, via Flickr, CC by 2.0)

ON THE COVER: Alexandria Villaseñor, founder of the U.S. Youth Climate Strike and Earth Uprising, speaks at a Vision 2030 session of the Global Landscapes Forum in New York City on September 25, 2019. (Photo by Justin Davey/GLF via Flickr CC BY-NC-SA 2.0)

(Courtesy of Bureau of Land Management-Idaho firefighters, via Flickr, CC BY 2.0)



above: Tambo Complex fire in Victoria, Australia, on January 18, 2020

right: Flooding in Venice, Italy, December 24, 2019



(Courtesy of Roberto Trombetta via Flickr, CC BY-NC 2.0)

Intergovernmental Panel on Climate Change (IPCC), which predict a rise between 2° to 6°C by the same date. Even at the lower end of the estimate, any rise in greenhouse gases from current levels will disproportionately affect natural phenomenon in the form of coral and insect extinction, loss of habitats, and oceans with elevated acidity and lower levels of oxygen.⁴

The human cost of climate change is already well reported. While it is imprecise to connect any single natural catastrophe on the scale of a multi-millennial geologic time period, short-term comparisons (from 100–150 years) have indicated that even small changes to the global temperature can produce oversized consequences. In late 2019, Australian brushfires prompted New South Wales to declare a state of emergency for the third time this fire season. Since 2006, only four states of emergency had been called. In November 2019, Venice experienced its worst flood since 1966, which city mayor Luigi Brugnaro directly attributed to the effects of climate change. In California, four out of the five largest recorded wildfires in state history occurred after 2012. In turn, data collected by the National Oceanic and Atmospheric Administration (NOAA) showed July 2019 as the hottest month ever recorded, which follows the trend of the last five years as being the five hottest years on record. The threats to human life and economy caused by climate change have caused even multinational companies like the energy conglomerate BP and the online real estate database company Zillow to analyze how changes to climate might affect future business. In a 2017 report, Zillow estimated that the current global models indicate that by 2100, “almost 300 U.S. cities would lose at least half their homes, and 36 U.S. cities would be completely lost” due to rising sea levels caused by climate change.⁵ The changes in weather will impact the food, housing, health care, transportation, and industries that create our modern system of living.

The majority of climate scientists agree that the Earth’s climate is especially sensitive to human activities. Harvard science professor Naomi Oreskes summarizes the scientific community’s position as a “consensus on the reality of anthropogenic climate change.”⁶ (The name “Anthropocene”—from *anthropo*, or man, and “cene,” or new—was popularized by the atmospheric chemist Paul Crutzen, who pointed out that human “dominance of biological, chemical, and geological processes on Earth” means that humans have to assume responsibility for our attempts to dominate nature.⁷) Key to the description made by Oreskes is her focus on environmental pollution as a human activity. Because human-induced climate change is so unique in the geological history of Earth, some geologists and climate scientists argue that the widespread atmospheric and environmental changes caused by humans has outdated the Holocene, the current geological epoch that began some 12,000 years ago. What Oreskes and the

scientific community at large argue is that the current change in climate is unlike previous geologic eons that produced natural global warming events as a result of geothermic changes or changes to the orbit and rotation of the Earth. Climate change, they warn, is due to humans in developed countries engaging in carbon-costly activities such as heating and cooling larger homes, air transport, and materials production. It is impossible to tell at this moment what the impact on the Earth might mean on a geologic time scale.

Public Opinion Surveys

In the United States, climate change issues are perpetually “on trial” in public conversations. In the court of public opinion, the opinion of the general masses carries the greatest weight. However, students must understand that public opinion surveys (or public opinion polls) may not always yield logical results if the public is not well-informed.⁸ As a classroom activity, public opinion polls give students the opportunity to analyze complex issues through the opinions of others (see Table 1). These public opinion surveys should be student driven and should focus on issues of interest to students in order to create authentic engagement.

Table 1. Survey Activity Type

Strategy	Key Components	Benefits
Public Opinion Survey	Public survey Student led Data collection Open ended	Student centered Students engage public Focus on the issue Data analysis Data determines results but students draw their own conclusions

Lesson Materials and Process

The overview of this lesson follows the four inquiry dimensions of NCSS’s C3 Framework (see Table 2).⁹ This lesson is designed to help students understand that issues are “put on trial” immediately by the public and that in this decade of hyper-connectivity and social media, these surveys can take place on a large scale with surprising speed. While our lesson is not an all-encompassing activity for addressing all questions related to climate change, it is designed to help students recognize some of the complex conversations that inform the debate.

Table 2. Public Opinion Poll C3 Framework Progression Overview

Dimensions	Developing Questions and Planning Inquiries	Applying Disciplinary Tools and Concepts	Evaluating Sources and Evidence	Communicating Conclusions and Taking Informed Action(s)
Activity	Create research question(s) Choose audience* Decide polling format	Create polling questions Conduct background research	Begin polling Analyze results Evaluate next steps	Make data public Draw conclusions Actionable steps Seek change

*Audience selection is dependent on maturity of students.

Start Small with Peanut Butter and Jelly

Conducting a public opinion survey for the first time can be challenging, especially given the prep work involved. We suggest starting with a simple issue like peanut butter and jelly sandwiches (PBJ), because it is non-threatening and familiar. Begin by asking students what they know and feel about PBJs. Then create questions and collect data such as: Do you like PBJ? Do you prefer crunchy or creamy peanut butter? And, What flavor jelly do you prefer? These three questions allow students to gain a sense of people’s thoughts about an issue as well as practice conducting a public opinion poll. Teachers may choose any subject but should also allow students significant input in deciding what to examine. This will make conducting a climate change opinion poll smoother, if not fail proof. A recommended schedule is included (see Table 3).

Table 3. Recommended Timeline

	Public Opinion Survey
Day One	Present background information and assign groups
Day Two	Draft overarching research question and polling questions
Day Three	Student research
Day Four	Data collection*
Day Five	Data analysis*
Day Six	Conclusions and action
Day Seven	Debrief

*Time dependent on volume of data

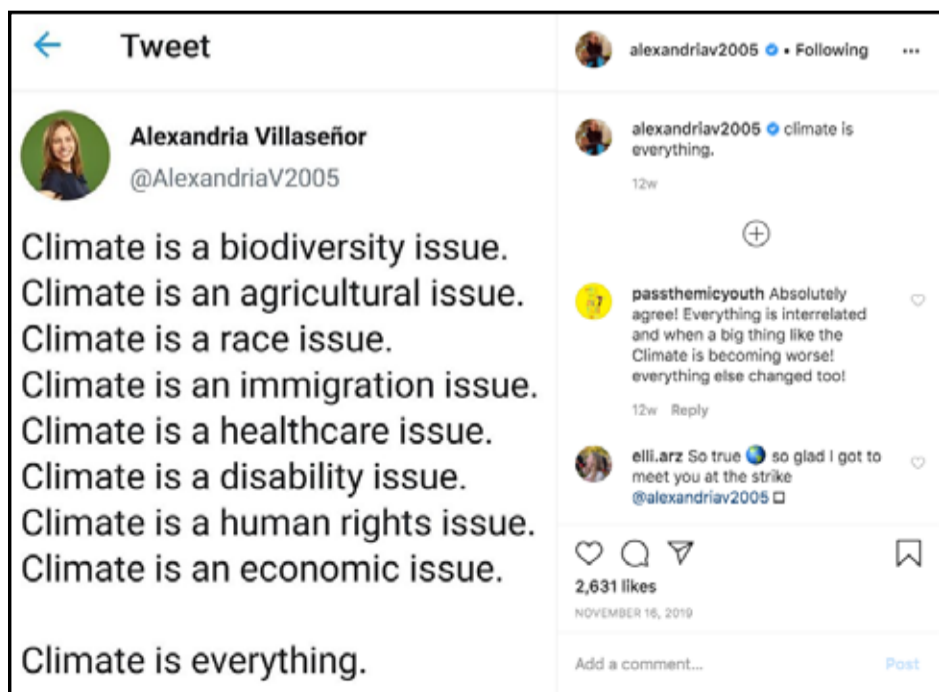
Teachers should separate the class into groups to allow as many perspectives as possible to be examined. Teachers and students can determine the population to be polled (such as friends and parents). We recommend that teachers select a combination of participants who they believe are directly and indirectly impacted by the issues.¹⁰ This sampling technique helps to reflect the nature of a diverse population and the distribution of impact.

Questions and Planning

Climate change is a big topic with much to examine. We recommend working with students to create an overarching research question. Our sample guiding questions are: (1) What is human induced climate change? and (2) How do participants feel about it? In a public opinion survey, there are two data collection points. The first is student research and the second is the polling data. It is important to collect both sets of data because students first use their research to inform their polling questions and then compare the two datasets to draw conclusions. Many students already have a sophisticated skillset using social media, but we recommend in-person polling to start because students can personally connect with and know what their friends and family think about an issue. We do encourage the use of polling through social media after students have gained a deeper understanding of the process. Once the question(s) and polling format are settled, the next steps are to begin student research.

Questions and Research

Once teachers have settled on the overarching research questions, they can collaboratively create the polling questions. We find it effective to have students decide on polling questions first as this tends to lead to stronger student research.



A tweet shared on Instagram by 14-year-old U.S. climate activist Alexandria Villaseñor proclaiming that climate change affects all issues.

Teachers should structure both overarching and polling questions in grade level appropriate ways to ensure students will be able to analyze and explain their results.¹¹ Additionally, it is important to encourage students to use simple and direct phrasing in their questions. We recommend teachers choose a student research method appropriate to their classroom. This may include a WebQuest, guided textual research, guided notes, or any of the other great research methods.

We recommend beginning a public opinion poll with 5-10 polling questions. The five questions included in Table 4 could easily be scaled up (see p. 6). These examples are just a starting point; we provide further examples of polling questions in Table 5 (see p. 7).

Table 4. Public Opinion Polling Questions

Questions	Decreasing Complexity	Increasing Complexity
What is climate change?	What is climate?	Please define climate change
What is human-induced climate change?	Can humans impact climate?	How have humans impacted climate shifts across the last 300 years?
Do you believe human-induced climate change is real, why or why not?	Is the Earth getting warmer because of humans?	Can you think of any supporting and denying arguments for climate change?
What are your feelings about human-induced climate change?	Is climate change a problem?	Some in the United States still argue that climate change is naturally occurring, while others affirm humans are the cause. Do you view one argument or the other as more credible? If so, why, and why is this important?
What are the causes of human-induced climate change?	Why does the climate change?	Do you see a direct connection to your daily actions and its impacts on climate change?
What should we do about human-induced climate change?	Can we fix climate change?	Can you think of any large-scale changes we can make to impact climate change? What can you do to reduce your impact on climate change?

Student Resources

“Interactive: Climate Time Machine,” NASA (interactive map tracking changes in global conditions over time), https://climate.nasa.gov/climate_resources/25/interactive-climate-time-machine/

Bill Nye: Science Guy (Young Adult Science Show – Netflix)

“Climate Change Resources for Youth Groups,” World Wildlife Foundation (directory for youth engagement), www.wwf.org.uk/get-involved/youth-groups/resources/climate-change-activities

Rachel Hope Allison, *I’m Not a Plastic Bag* (graphic novel)

Kids Can Save the Planet (Documentary Series)

“Meet Generation Greta: Young Climate Activists Around the World” *The Guardian* (online article),* www.theguardian.com/environment/2019/jun/28/generation-greta-young-climate-activists-around-world

“‘You Need to Act Now’: Meet 4 Girls Working to Save the Warming World” (NPR radio – 4 mins)* www.npr.org/2020/01/19/797298179/you-need-to-act-now-meet-4-girls-working-to-save-the-warming-world

Chasing Coral (Documentary – Netflix)*

Austin Aslan, *The Islands at the End of the World* (fiction novel)*

Philippe Squarzoni, *Climate Changed* (graphic novel)*

* For students at a more advanced reading level

** For students at a more advanced reading level with the ability to understand more mature content

Octavia E. Butler, *Parable of the Sower* (science fiction novel)**

Teacher Resources

“Leading Organizations Involved in Climate Change Research, Policy Making, and Education,” *American Association of Geographers* (hyperlink web directory), www.aag.org/cs/programs/interdisciplinary/climatechange/clearinghouse/organizations

Years of Living Dangerously (Emmy Award Documentary TV Series)

“Women + LGBT + People of Color Adapt to Climate Change” *America Adapts* #75 (Podcast), www.americaadapts.org/episodes/2018/9/30/episode75

“Meet 15 Women Leading the Fight Against Climate Change,” *Time Magazine* (online article), <https://time.com/5669038/women-climate-change-leaders/>

“The Key Players in Climate Change” *New York Times* (online article), www.nytimes.com/interactive/2016/04/21/science/paris-agreement-carbon-dioxide-global-warming.html

Anya Kamenetz, “8 Ways to Teach Climate Change in Almost Any Classroom” *NPR* (online article), www.npr.org/2019/04/25/716359470/eight-ways-to-teach-climate-change-in-almost-any-classroom

Table 5. Additional Climate Change Polling Questions

Can you name an influential person involved in climate change?	Is there anything you specifically can do to address the amount of carbon in the atmosphere?
How might human-induced climate change affect you in the future?	What have some influential young people done to address climate change?
In what ways do humans contribute to climate change?	Do you know what the Anthropocene is?
What countries are most responsible for human-induced climate change?	What countries are most vulnerable to human-induced climate change?

Polling and Analysis

Polling can take time and requires students to seek out participants and document responses. We recommend using a recorder to document responses but only with the expressed permission of the polling participants. We also strongly suggest that students keep field notes. Figure 1 is an example of how students might record responses and field notes. In addition, we are not recommending that students collect much demographic data. While such data could be collected with additional questions and offer more demographic-specific data, this would require much more nuanced student polling questions, making this activity more complicated.

Figure 1. Field Notes

Question	Response	Willingness to Answer	Temperament
Polling question	Detailed response	How willing was the participant to respond?	Did the participant seem agitated, at ease, and were they engaged with the questions?

Deciding how to examine and draw conclusions from collected data will depend upon the questions used. We recommend organizing student research and polling data by question in order for students to analyze each question in isolation and across all polling data. The questions in Table 4 showcase a progression of complexity of public opinion with polling. This format encourages students to address multiple perspectives.

Drawing conclusions is solely dependent upon what students find and experience during their data collection. We recommend that teachers position student research in comparison to the public opinion survey in order to help them determine potential differences and similarities. In addition, asking students to explain their understanding of the two processes will be helpful in examining each activity. We suggest that teachers engage students in a dialogue and consider using a Socratic seminar during this section. Teachers may use many different debriefing strategies with students, such as written responses, discussion, presentations, or digital posts to an approved platform. The conclusions students reach should directly connect to this debrief. We recommend starting by revisiting overarching research, polling questions, and students' preconceived notions before analyzing the actual data. How long this lasts will depend upon how much data students collect and the complexity and detail of their analysis.

Taking Informed Action

After students have been debriefed, it is helpful to display the findings in the classroom to showcase a finished product. As students have progressed through the four domains of the C3 Framework, the last and most important step is taking informed action. We want students to understand the significance of climate change and the value of individual and collective action in mitigating its consequences. Taking into account the age and access of middle schoolers, informed action will vary. We encourage student input, and discourage teachers from dictating an action. Student-selected actions demonstrate higher levels of engagement.

Conclusions

Public opinion surveys are an excellent way to examine issues like human-induced climate change. In this activity, we have shown how a public opinion survey guides students through the four domains of the C3 Framework. Another benefit to opinion polling is that the activity is student-driven and teaches students how to use data and information about a range of issues that can be controversial. This method of analyzing an issue is an important counterbalancing force to push back against misinformation. We have seen how effective public opinion surveys can be in our own classroom at fostering civic engagement through data and how they expanded students' own understanding of climate change, the community's view of climate change, and the importance of taking action.

Extension Activity: Climate Change on Trial

Mock Trial

Extension Activity: Climate Change on Trial

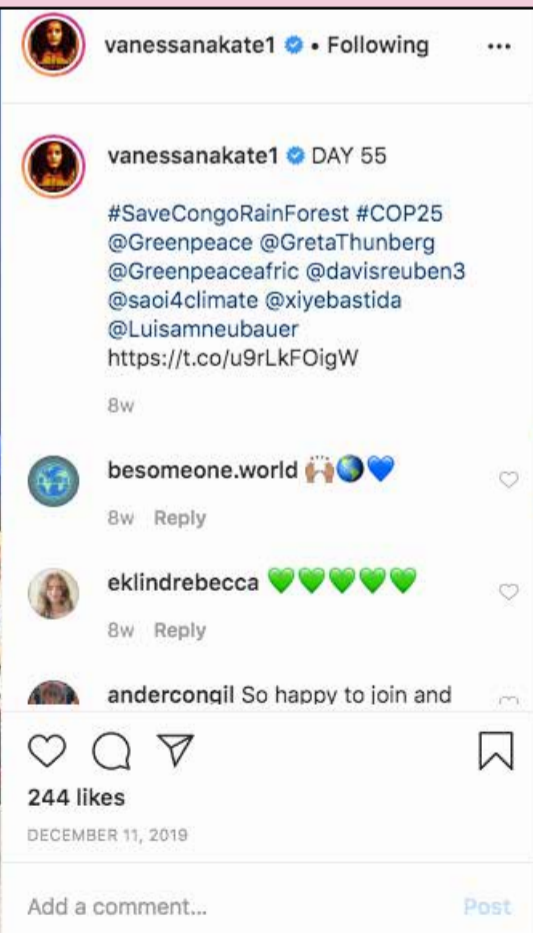
An excellent extension activity is conducting a mock trial about a climate change issue. The mock trial activity can be run either before or after completing the public opinion poll. While both activities have distinct benefits, conducting a public opinion survey and a mock trial back-to-back allows students to see how the “court of public opinion” and the formalized legal system can produce different outcomes. The mock trial also showcases the ways in which various opinions are considered in the public versus legal sphere. As Table 6 illustrates, there are numerous benefits for students who engage in both types of trials.

Table 6. Trial Activity Types

Strategy	Key Components	Benefits
Mock Trial	Legal question Trial format Research intensive Student led	Student centered Students directly engage issue Focus on the issue Performance based Students determine results

Like a public opinion survey, a mock trial puts an issue before a group of people for judgment. The primary difference is that a mock trial ensures that participants follow a formalized set of rules and procedures. In addition, unlike public opinion surveys where the primary goal is to understand a variety of opinions, the goal of a mock trial is to decide which team demonstrates a stronger strategy when advocating a perspective on a controversial topic.

While mock trials require many of the same data collection and analytical processes used in public opinion surveys, this activity places importance on how well students can present their research to other students and emphasizes the value of facts.¹²



In this way, mock trials require students to integrate multiple skills: integrating research, recognizing legal parameters and rules, and developing effective rhetorical tactics to make allies of audiences. We encourage teachers to use a jury trial format rather than an appeals court format because it enables increased student involvement. The Learning Law and Democracy Foundation’s Teaching Civics project

offers mock trial plans that lay out a clear path for student roles, procedures, and goals (see <https://teachingcivics.org/lesson/mini-mock-trials/>).



Conducting a Mock Trial on Climate

Teachers should decide which specific aspect of climate change they want the trial to focus on (perhaps giving special attention to an angle that is relevant to the local community, school district, or state). Avoid presenting biases on the topic to ensure that students are not influenced to choose the “right” or “correct” side before the trial begins.¹³

Next, fill the following roles: attorneys, judge, jurors, bailiff, clerk, witnesses, defendant, plaintiff, court recorder, and the public. (See the “Mini-Mock Trial Manual” for a review of each role, <https://teachingcivics.org/lesson/mini-mock-trials/>.) These roles may shift depending upon the needs of the classroom. We encourage teachers, whenever possible, to allow students the opportunity to select their roles. However, we recognize that due to time restrictions, student ability, or grade level, teachers may need to assign all roles.

After all roles have been selected or assigned, give students time to research their roles and positions. Adjust the time allotted for research relative to grade level and individual student ability. Detailed role descriptions and scaffold supports may be very useful. The importance of being impartial

should be underscored for the student chosen or elected to be the judge.¹⁴ Students who are jurors should know they must be tolerant of all opinions, hear all arguments openly, and be flexible with their opinion if a convincing argument is presented. Student witnesses must also be given time to research their respective roles. They do not need to memorize their witness stories and testimonies verbatim. However, they should be able to accurately relay relevant facts during the trial. Students who struggle to remember material may use a script.

Before beginning a mock trial, carefully review all relevant trial processes and procedures to avoid common areas of disruption. For example, one seemingly straightforward action that can cause confusion is how and why an attorney can raise an objection. Common reasons for objecting to an argument include posing “leading” questions (steering a witness in the story), accusations of hearsay (outside of what a witness knows directly), immaterial and irrelevant opinions and conclusions (the information is not closely related), and nonresponsive answers of witnesses (a witness is not directly answering or appears to be evading the question).¹⁵ With younger students, it’s helpful to set a limit on objections until they gain a deeper understanding of when and why to use them.

Successful classroom mock trials begin by centering a question that allows for ample debate and flexibility. Some examples for a climate mock trial are: “Should companies that knowingly and significantly contribute to climate change be held liable? And if so, how?” or “Is the fossil fuel industry guilty of negligence for not revealing its known scientific impact on the climate?” (for additional mock trial questions, see Table 7). Determine the questions based on the issues you want the class to explore.

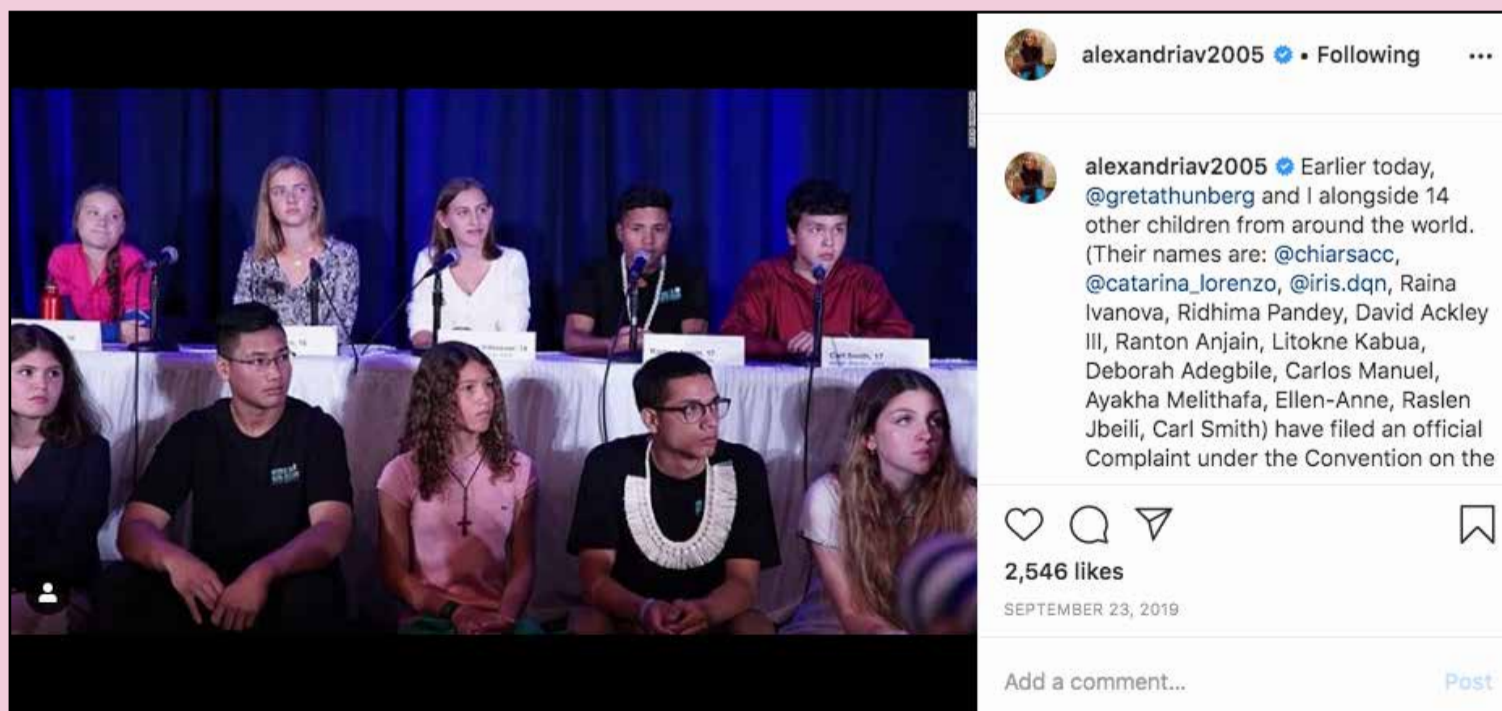
Table 7. Potential Legal Questions

Legal Issue	Legal Question
Recent reports affirm that climate change projections will result in the rise of sea level and displacement of coastal population centers.	Should governments be held liable for not doing enough to mitigate the impact of climate change?
Scientists state that the climate crisis will create a generation of climate refugees whose status is directly connected to climate change and carbon dioxide (CO2) production and the failure to reduce carbon emissions.	Given that wealthy countries are disproportionately responsible for the current levels of CO2 in the atmosphere, should responsibility for the impending climate refugee crisis be proportional to historical levels of CO2 production?
Given that the vast majority of atmospheric carbon, which directly contributes to climate change, is emitted by developed nations, should developing nations meet the same percentage of reduction in carbon emissions reductions as those of developed nations?	Are existing climate agreements fair to developing nations?
Research by oil companies in the 1970s and 80s connected the burning of fossil fuels with climate change. What did energy companies do to warn the public? What did they do to address the problem?	Can oil companies be held responsible for negligent or criminal behavior if they knowingly withheld information about their role in climate change?

*These questions require additional research by teachers and students to effectively carry out the mock trial.

Mock trials usually require a defendant to be accused of committing a crime or causing an individual or group harm. Teachers may decide to place individuals or whole companies on trial. Examples of a defendant might include a government leader or corporate chief executive for an action or lack of action that may have contributed to climate change. In addition, student prosecutors, or persons who bring a case against a defendant, may prosecute or bring suit against companies they believe have knowingly contributed to climate change, such as airlines, fossil fuel corporations, or plastics manufacturers. Sample cases are provided on pages 12–13.

In an actual trial, the defendant would have the legal right to face accusers in court and to mount a defense. Teachers may choose to ask outside volunteers, such as parents, community members, or other school staff, to serve in this capacity. Outside volunteers can heighten the theater of the legal trial in a manner reminiscent of movies or television programs that students may have seen.



Sixteen children, including Greta Thunberg and Alexandria Villaseñor, from 12 countries, filed a complaint to the UN Committee on the Rights of the Child to protest lack of government action on the climate crisis.

(via @alexandriav2005 on Instagram)

After identifying a defendant, both defense and prosecution should begin to structure their arguments (which include opening statements, main legal arguments, and potential closing arguments). It may be helpful for students to submit their arguments prior to the opening statements for the teacher to review and ensure that

students are utilizing information correctly. This pretrial activity will help ensure that both sides are equally prepared and that the teacher can maintain an unbiased position in the classroom.

Successful mock trials will generally take place over the course of seven class periods (see Table 8). Trials begin with opening statements from legal counsel on each side. Opening statements include introductions of prosecutor/defendant positions (e.g., clients, organizations, or issues), their goals, facts that support achieving their goals, and what verdict they wish to achieve.¹⁶ Next, the judge will preside over witnesses, who present testimony to be used by the jury in its deliberation. Lastly, attorneys for each side should prepare their closing arguments, which are the final chance to influence the jury's decision. Closing arguments should focus on the following: reminding the jury of the main argument, highlighting facts that support the argument, underscoring facts that refute the opposing side's argument, and reminding the jury why the defendant's (or plaintiff's) preferred verdict is the right one.¹⁷ In a traditional legal trial, the trial begins with opening statements and is followed by examinations, cross examinations, and closing statements. If using this format in the classroom, students would be able to raise objections as needed. However, to make the classroom mock trial more balanced, teachers may consider using an AB BA format. Under this format, prosecution (A) presents an argument followed by a defense response. Next, defense (B) presents an argument followed by a prosecution response. In the next round, the roles switch, with defense (B) presenting an argument first followed by the prosecution (A) response. The prosecution (A) then presents an argument followed by a defense (B) response. This format fosters a more structured mock trial for students to follow. Whichever format teachers elect, it is important that all students are engaged through note taking, whether they are preparing for responses, adjudicating the trial as juries, serving as a judge, or any other role.

Defense and prosecution arguments should be crafted by students with teacher input. Potential arguments can be found in Table 8. Our sample defense and prosecution arguments follow the legal issues and questions identified in Table 7. These arguments are written broadly to allow teachers to adapt and augment them in order to meet the needs of their classes and students. In the event that a teacher decides to put a specific company or person on trial, these arguments can also be adapted to fit the selection.

Table 8. Legal Arguments

Defense	Prosecution
Governments cannot be held liable, as they are required to represent all citizens and make difficult decisions.	Governments may be held liable because their lack of action causes direct harm to those who they are elected to represent.
Developed nations should not be proportionately responsible for CO2 emissions because the technological and social developments achieved through industry have also helped to advance developing nations.	Developed nations should be proportionately responsible for CO2 emissions because CO2 production has disproportionately benefited wealthy nations. Therefore, they should be forced to pay for the resulting crisis.
Existing agreements are not fair to developing nations because developing nations did not proportionately create the existing greenhouse gas emissions crisis.	Existing agreements are fair because developing nations contribute to the existing greenhouse gas emissions crisis through industrial and non-industrial means.
Oil companies cannot be held criminally responsible because they do not have a legal or moral obligation to disseminate information.	Oil companies can be held criminally responsible because they have a fiduciary responsibility to not betray the trust of the public, especially when their business can create harm.

Note: Arguments are intended to be used with Table 7 "Potential Legal Questions."

Student juries will need to be "sequestered" for a brief period, at least 20 minutes, for the trial's conclusion. Remind jurors to answer the questions presented and to come to a conclusion based on the facts and arguments presented. The trial ends with the judge announcing the jury's decision. At this point, teachers should debrief with students over the process, result, and impact of the activity.

Example Fictional Cases

United Republic of Scotia

The United Republic of Scotia (URS) is a wealthy industrialized nation with approximately 2,500 miles of coastline that it utilizes for shipping, commercial fishing, and marine mineral extraction activities. The country has been emitting three times the amount of atmospheric CO₂ over the last 10 years compared to similarly developed nations. Most of these emissions have come from the URS's industrial sector. During this time, the URS's economy has grown at a rate of 8% while most other nations have seen 3% growth. As a result of this production, the URS has contributed to a dramatic increase in atmospheric CO₂ levels. The URS stands accused by members of the International Climate Council (ICC) of knowingly and willingly exceeding its allotted carbon emissions thresholds. The Council alleges that the URS's lack of action on climate change is projected to create five million climate refugees and some \$3 billion in property damage within its borders. A legal question for students to consider is: Should governments be held liable for not doing enough to mitigate the impact of climate change (see Table 7)? In this mock trial, we encourage teachers to have a jury consisting of students from the classroom who will decide whether or not the URS should be held liable for not doing enough about climate change, as the ICC claims.

In this scenario, the primary legal argument for the defense is that the URS should not be held liable because it has an overriding obligation to its citizens to provide basic social services—services that are largely paid for through tax revenues on its industrial sector. Therefore, legally, the URS is not liable because the government is acting in the best interest of its citizens. The defense might also argue that URS citizens have one of the highest standards of living in the region, which can be connected to the country's rapid economic growth.

Conversely, the prosecution could argue that the URS should be held liable for its lack of action on climate change because the URS has made public its preference for continued growth and the government's policy choices have placed economic growth ahead of the well-being of its citizens. The country's inaction is causing citizens to suffer physical and financial losses that could have been avoided had the government done more to mitigate its impact on climate change. In addition, the damage caused by inaction on climate change will drastically reduce future economic growth and will likely negate the past 10 years of growth. Consequently, the URS will see a dramatic reduction in the standard of living for its people due to the economic fallout and will no longer be able to provide the robust set of social services its people are accustomed.

These are only the primary arguments, and students should find additional arguments to support these arguments in order to prove their case to a jury of their peers.

It would then be up to the jury to decide which side has presented a convincing and fact-based argument that has swayed their opinion to one side or the other. We encourage juries be sequestered only while deliberating the merits of each side in order to come to a super-majority opinion (three-fourths of jurors). Some classes may need deliberations to stretch into day seven. Teachers may need to remind student jurors that they must weigh the facts presented. We recommend students create a T-chart with defense and prosecution arguments on either side, to organize their notes from the trial. Students would then be able to assess the merits of each side based upon these organized notes. In some instances, teachers may need to guide students in deliberating who made more factual and convincing arguments. In classes with fewer students, we encourage seeking outside volunteers to serve as members of the jury.

USCA Petroleum

USCA Petroleum Corporation (USCAP) has known since the 1970s that its products significantly contribute to carbon pollution. However, USCAP determined that releasing this information publicly would have been damaging to the financial well being of the company and its ability to serve customers and shareholders. As a result, the corporation decided not to release any of its scientific research and publicly rejected scientific studies that presented the same conclusions as USCAP research. However, recently the public has become aware of USCAP’s research and the ensuing outrage has led to this trial.

The legal question students should consider is: Can oil companies be held responsible for negligent or criminal behavior if they knowingly withheld information about their role in climate change (see Table 7)? A jury of students could evaluate the legal arguments to determine if USCAP is guilty of negligence for not disclosing its research decades ago.

The legal arguments for the defense could be that USCAP does not have a legal or moral obligation to disclose research that was never intended for public dissemination. Additionally, the disclosure of such information would have harmed not only the company but also the entire industry, potentially opening USCAP to legal action by other energy companies. Further, the defense could argue that at the time this research was conducted, public opinion towards carbon pollution and climate change was not as negative as it is today. The prosecution could argue that USCAP has a fiduciary responsibility to act in the best interest of its customers and the public. Moreover, the fact that USCAP possessed information that indicated its products were causing harm and chose to do nothing is the definition of negligent behavior, regardless of the circumstances.

Similar to the URS scenario, the legal arguments in this scenario are only the primary arguments. Students should find additional arguments in support of their primary arguments to prove their case to a jury of their peers. It would then be up to the jury to decide which side has presented a convincing and fact-based argument. We suggest juries be sequestered while they are deliberating the merits of each side in order to come to a super-majority opinion (three-fourths of jurors).

Table 9. Recommended Timelines

	Mock Trial
Day One	Present background Information
Day Two	Assign and research roles
Day Three	Team Preparation, including opening and closing statements and arguments (Prosecution and Defense)*
Day Four	Opening Arguments
Day Five	Witnesses and cross examination**
Day Six	Closing Arguments and Jury Deliberation
Day Seven	Debrief

*Time depending on the number of witnesses

**Time dependent on volume of data

Notes

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