

THE STORY OF PLASTIC



CURRICULUM GUIDE

CFI EDUCATION

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GRADE LEVELS 9-12

SUBJECTS

- Language Arts
- Social Studies
- History
- Science
- Global Studies

THEMES

- Single-use plastics
- Environmental justice
- Ocean Conservation
- Clean Water
- International relationships
- Inequality
- Fossil fuel economy
- Technology and innovation
- Media literacy
- Service learning

USING THIS GUIDE

THE STORY OF PLASTIC challenges students to think critically about how they can contribute to meaningful change when it comes to the way our society regards plastics. Young people have a critical stake in the environmental decisions made today. This standards-aligned study guide helps teachers empower students with tools to become active participants in the public debate over plastic. Teachers can choose from a variety of discussion questions designed to get students talking about themes like media literacy, collective responsibility, and environmental justice. Additionally, this guide includes a range of interdisciplinary activities that allow students to apply these concepts to service learning projects that support a global movement to break free from plastics.

ABOUT THE FILM

Depicting a world rapidly becoming overrun with toxic materials, *THE STORY OF PLASTIC* brings into focus an alarming, human-made crisis. Striking footage illustrates the ongoing catastrophe: fields full of garbage, veritable mountains of trash; rivers and seas clogged with waste; and skies choked with the poisonous runoff from plastic production and recycling processes with no end in sight. Original animations and archival material from the 1950s and '60s augment the far-ranging insights of contemporary activists, scientists, and farmers in this timely documentary. These perspectives along with forays to sites as far-flung as China, Indonesia, India, and the Philippines, in addition to US locales, point to the disastrous impact of the manufacture and use of plastics. *THE STORY OF PLASTIC* identifies a pressing global challenge first identified around 20 years ago—one that threatens the life expectancy of animals, humans, and Earth itself.

LETTER FROM THE FILMMAKERS

Shifting the broken systems that have caused the plastic pollution crisis will take a well-rounded understanding of how solutions are interconnected. *THE STORY OF PLASTIC* challenges viewers to think beyond today's short-term solutions, empowering them to explore connections they didn't know existed. We believe the change our world needs to see will take more than the efforts of a few heroes and individual actions. *THE STORY OF PLASTIC* was made to celebrate the many acts that often go unrecognized in today's hero-centric modern culture. Our team strongly believes that these acts, in large numbers, will be what enables communities to take charge of their own futures. The best thing a person can do to stop plastic pollution is to stop asking 'what can I do' and start asking, 'what can we do.'

— Deia Schlosberg, Director/Producer
& Stiv Wilson, Executive Producer/Producer



FOR THE EDUCATOR

Before starting the lesson, we recommend that educators familiarize themselves with local policies regarding plastics so you can bring the class discussion into a local context. A few recommended questions to research before starting the lesson include:

- Is your school zero waste? Some U.S. schools have been proactive about eliminating single-use plastic and reducing waste, such as those participating in the Zero Waste Schools Program in Marin County, California. Check with your school administrators to see where they are with this discussion.
 - Visit [Zero Waste Marin's website](#) for more information about their program.
- Has your state or municipality banned plastic bags? The growing movement to ban plastic bags and other single-use plastic has resulted in legislation in several states and cities. For example, California banned plastic bags in 2014 and plastic straws in 2016.
 - For an overview of regulation in the U.S., [see this resource by the National Conference on State Legislatures](#).
- Is there a local campaign to address plastic pollution? Connect with organizers already working on the issue to see if they will mentor your class. Visit the [Surfrider Foundation website](#) for a map of their chapters in the U.S.

BEFORE THE FILM | SETTING UP THE FILM TIME: 10 MINUTES

- For people born after 1990, plastics have been so ubiquitous they may feel invisible. Help students become conscious of the plastics around them by asking them to write down as many things made out of plastic as they can think of in one minute. For example, cups, straws, chip bags, water bottles, etc.
- As an extension, you could turn this into a friendly competition by seeing who can write down the most in the class.
- Explain to students that you'll be watching the film THE STORY OF PLASTIC to learn more about what happens to the plastic we see on a daily basis. Read aloud the synopsis in the About the Film section of this guide, or distribute a copy to the class and have your students read it aloud to practice reading comprehension.

AFTER THE FILM | JOURNALING TIME: 5 MINUTES

- Allow students some time to collect their thoughts after watching the film by journaling for five minutes.
- Make sure to tell students how you plan to review or grade the journal entries.
- If you would like to provide writing prompts, see the discussion questions below for options.

DISCUSSION QUESTIONS

- What are the main messages of THE STORY OF PLASTIC?
- Who do you think the audience is for the film?
- Why do you think the filmmakers made this film?
- What argument is the film making?
- What tools did the filmmakers use to support their argument?
- Was the film's argument persuasive? Why or why not?
- What parts of the film were most effective in persuading you and why?
- If you were the filmmakers, would you have done anything differently to make the argument more persuasive?
- Who did the filmmakers rely on to help them make the argument?
- Do you think the people interviewed in the film were reliable sources? Why or why not?
- How did it feel to hear the perspectives of the people interviewed in the film?
- How did the filmmakers use cinematography to support their argument?
- How did it feel to see the images of plastic waste floating in the ocean? Have you ever seen plastic waste floating in a water way? If so, where?
- Why do you think the filmmakers included ads from plastics companies? How did it feel to see the plastics ads?
- What is archival footage? What archival footage did the filmmakers use in the film?
- What are some of the benefits of plastics that were mentioned in the film? How have plastics helped people?
- What are the harms caused by plastics as mentioned in the film? How have they hurt society?
- Who benefits the most from the widespread use of plastics? How do they benefit?
- Who and what suffers the most from the widespread use of plastics? How do they suffer?
- Does plastics recycling solve the problem? What did the film reveal about plastics recycling?
- Who does the film argue should take responsibility for plastics pollution?
- After watching the film do you feel motivated to take action? If so, how?
- What questions did the film bring up for you?

ACTIVITY | LARGE GROUP TIME: 15 MINUTES

ANALYZE A PUBLIC SERVICE ANNOUNCEMENT

- Show your class the [#CleanSeas Break-Up PSA video](#) (Runtime: 1:57 minutes).
- Ask students if they know what this type of video is called. Then explain that the purpose of a Public Service Announcement is to persuade an audience to change a behavior. Ask students the following discussion questions:
 - Who is the audience for this PSA?
 - What is the PSA trying to persuade its audience to do?
 - How does the PSA attempt to persuade its audience?
 - Do you think it is effective? Why or why not?
- As an extension, you could break students into small groups and ask them to create their own PSAs about pollution from plastics. For more on teaching PSAs, see [this resource from TeachWriting.org](#).

ACTIVITY | PAIR WORK TIME: 30 MINUTES

ANALYZE TYPES OF PLASTIC AND THEIR PURPOSE

- Before this activity, collect a variety of plastics—enough to give one to each student. For a guide to different types of plastics, see [this resource from Owlcation](#).
- Distribute the plastics to each student along with a copy of [the plastics questionnaire created by Algalita](#) (or project the questionnaire in order to reduce paper).
- Have students form pairs and work together to complete a questionnaire for each of their plastics. When finished, have each student present their findings to the class.
- As an extension, you can ask students to observe how their collected plastics break down (or do not break down) when subjected to different elements like sunlight. See [this lesson plan from Education.com as a guide](#). Or you can have students experiment with making organic plastic alternatives using [this lesson plan](#).



ACTIVITY | INDIVIDUAL ASSIGNMENT TIME: 4 DAYS

WRITE A PERSUASIVE LETTER TO THE EDITOR OF A NEWSPAPER

- Ask students to write down in their own words a thesis statement from THE STORY OF PLASTIC and three arguments the film made to support its thesis statement.
- Explain to students that you would like them to practice writing a persuasive letter to the editor based on the film's thesis statement. (If any students feel strongly about an opposing argument to the film's, they can also choose a different position for their letter to the editor.)
- Have students do Internet research to find the requirements of a letter to the editor at a publication to which they would like to submit. As a reference, [here are the guidelines for the San Francisco Chronicle](#).
- Have students do Internet research to find verifiable facts from reliable sources to support the arguments they plan to include in their letters. It may be helpful to have a brief discussion about what makes a source reliable and verifiable. Students can use [this worksheet](#) to verify their facts.
- Following the letter to the editor requirements they found on their publication's website, have them compose their letters and submit for at least one round of teacher feedback and revisions. Alternatively, you could have them exchange with a partner to have them edit each other's work.
- As an extension, students can submit their letters to the publication to see if they are accepted. Have them include the sources used as well as their age, which may help persuade editors looking for age diversity in their publication.
- For more on teaching how to write letters to the editor, check out [this resource posted on Read Write Think](#).

ACTIVITY | INDIVIDUAL ASSIGNMENT TIME: 1 WEEK

CREATE A MULTIMEDIA PRESENTATION ABOUT A HISTORICAL EVENT FROM THE MODERN ENVIRONMENTAL MOVEMENT

- Ask students to review the [American Experience timeline of the modern environmental movement](#) and select an event listed on the timeline that they would like to research further.
- Have students conduct research and create a multimedia presentation featuring images, text, and/or charts about their event. Each presentation should address the fundamental questions:
 - What environmental problem is related to your historical event?
 - What were the consequences of the environmental problem?
 - Who and/or what was affected most by the environmental problem?
 - What did people do to try to solve the environmental problem?
 - Has the environmental problem been resolved?

- After at least one teacher review and revision, have students present to the class. Or you could have them publish presentations online for all to review.
- Some popular slide-making tools include:
 - [Google Slides](#)
 - [Microsoft PowerPoint](#)
 - [Apple Keynote](#)
 - [Prezi](#)



ACTIVITY | SMALL GROUPS TIME: 1 WEEK

DO A BREAK FREE FROM PLASTIC BRAND AUDIT

- Have the class form small groups of four to five students and explain to them that you'd like them to participate in a "brand audit" of discarded plastics.
- With the goal of having this activity be as self-directed as possible, ask the small groups to review the materials included in the [Break Free from Plastic Brand Audit Toolkit](#) and follow the 10-step instructions to perform a brand audit. For "Step 2: Choose Your Site" you may want to require your students to focus on doing home or school plastics collections for safety reasons. It may be helpful to get the support of your school administrators in advance of doing an audit at school. For more on school waste audits, see [Grades of Green](#).
- To grade this assignment, have them print out the [preview page of their Submission Form](#) showing that they fulfilled the requirements of the project.
- As an extension, have the small groups present their findings to the class to see how they compare, or to the school board or administrators if doing your audit on campus.

CREATE A SHORT ENVIRONMENTAL DOCUMENTARY

- Explain to students that you'd like them to practice their media-making skills by working as a group to create a short (5-10 minute) documentary about a local environmental issue of their choosing. Have them brainstorm as a large group a clear subject for their documentary. Some potential subjects could include: a tour of a local recycling center, a profile on an environmental activist, a spotlight on a business or school that has gone zero waste, or a historical event from the environmental movement.
- Distribute or project the About Documentary Filmmaking handout (at the end of this guide) and have students take turns reading the sections aloud to the class. As each section is being read, ask them to think about what production role they would like to play in the documentary filmmaking process.
- Have them pair up based on their desired role. Ideally your class will have enough students that each role will have at least two people who can work together to complete their portion of the project. As the teacher, you can assume the role of the Producer.
- Have the student pairs brainstorm their production to-do lists based on the information provided in the handout and present their work plans to the producer and directors (you and the students who have assumed the director role). Provide feedback and support as they execute their plan. Some questions that should be answered in the pre-production planning stage include:
 - What is the documentary's main idea?
 - Who is the audience for the documentary?
 - What argument will the documentary make?
 - Who will be interviewed?
 - What video and audio equipment will be used?
 - What camera shots are needed?
 - What other footage or graphics are needed?
 - What sound or audio are needed?
 - What editing software will be used?
 - How will the video be distributed?
- For an in-depth guide to teaching filmmaking, review the [Digital Pathways Video Curriculum](#) from the Bay Area Video Coalition.
- For more on film production, see [this PBS Learning Media resource, Video Production: Behind the Scenes with the Pros](#).
- As an extension, you can arrange for a public screening of the documentary or a social media campaign where students aim to get 100 views of the documentary through online marketing.

ACTIVITY | LARGE GROUP TIME: 4 WEEKS

ENGINEER A ZERO-WASTE CAMPAIGN AT YOUR SCHOOL

- If your school does not already have a zero-waste program, have students work together to create one. Before raising the idea to your students, get buy-in from key school stakeholders so that they are prepared to accommodate student requests. Some stakeholders include: school principal, superintendent, school board president, head janitor, and the head of the school lunch and breakfast programs.
- Have students get started. You may want to focus on your school lunch program since this is where the majority of school waste is created. Key steps include:
 - Do an audit to see how much waste is collected each week. Have them measure garbage, recycling, and organic food waste by estimating weight based on the size and capacity of the collection containers. You will likely need the janitorial staff and/or lunch program staff to help students get an accurate measure.
 - Review the data collected by students in the audit, and brainstorm alternatives to reduce waste. For example, removing vending machines, replacing disposable utensils with reusable ones, switching styrofoam packages with compostable products, or creating a compost pile on school property.
 - Prepare a cost-benefit analysis on top alternatives and present a proposal to your school stakeholders to win their support for your students' recommendations.
 - Once you have a plan in place and the necessary school support, create campaign materials, such as fliers, posters, and public service announcements, to educate teachers, students, and parents about how they can help your school reduce waste.
 - Establish a team of students and a teacher advisor to maintain the campaign and monitor its implementation over the school year.
- For a more in-depth guide on reducing school waste, see [this resource created by the U.S. Environmental Protection Agency](#).



STANDARDS

Common Core Standards English Language Arts

CCSS.ELA-LITERACY.W.9-10.2 - Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

CCSS.ELA-LITERACY.SL.9-10.1 - Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

CCSS.ELA-LITERACY.SL.9-10.5 - Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

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.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.

For more information, see the [Common Core English Language Arts Standards](#)

Next Generation Science Standards

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

HS-ESS3-4 Earth and Human Activity - Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

For more, see [Next Generation High School Standards](#)

RESOURCES

FILMS

- [THE STORY OF PLASTIC](#)
- [THE STORY OF STUFF PROJECT](#)
- [BAG IT](#)
- [A FIERCE GREEN FIRE](#)
- [PLASTIC CHINA](#)

ENVIRONMENTAL ORGANIZATIONS

- [Algalita](#)
- [Break Free from Plastic Movement](#)
- [Grades of Green](#)
- [Sierra Club](#)
- [Surfrider Foundation](#)
- [Zero-Waste Marin](#)

ARTICLES

- [“The Toxic Consequences of America’s Plastics Boom”](#) by Zoë Carpenter (journalist featured in the film) published in *The Nation*
- [“The world’s plastic pollution crisis explained”](#) in *The National Geographic*
- [“The U.S. Recycling System is Garbage”](#) in the *Sierra Club Magazine*

TOOLKITS

- [“Buy, Use, Toss?” High School Curriculum \(\\$9.99\)](#)
- [Surfrider “Rise Above Plastics” toolkit](#)

HANDOUT: DOCUMENTARY FILMMAKING

ABOUT DOCUMENTARY FILMMAKING

A documentary film is a form of storytelling that explores factual stories and issues using film or video. Documentary filmmakers rely heavily on journalism skills—such as researching, interviewing, and multimedia presentation—to convey information. However, documentaries tend to be longer, more personal, and have a stronger point of view than a traditional journalism newscast. Documentarians may also employ different techniques

DOCUMENTARY FILMMAKING STAGES

Pre-Production – determine the topic for the film and begin research, schedule interviews with your subject matter experts, begin writing a script for the film, create a storyboard to conceptualize the script, and create a shot list for your camera person.

Production – shoot video according to the shot list, conduct on-camera interviews, continue writing the script incorporating the interviews conducted, and record any audio needs, such as voice-over narration.

Post-Production – finalize your script, review and sort footage, assemble your video footage and audio into an editing software, and add in any graphics or animation to create the final presentation.

EXAMPLE PRODUCTION ROLES

Producer – finds funding for the film and acts as a general manager for the project.

Director – supervises staff and oversees all aspects of the film from pre-production to post-production.

Writer – writes the script for the film, including the narration, and assembles interviews in a coherent order to convey a message.

Artist – creates storyboards during the pre-production stage and can also create graphics or visual aids to add to the film during post-production.

Cinematography – determines the camera shots and runs the camera technology to capture footage during the production stage.

Sound – oversees the microphone and audio recording technology during production and coordinates additional audio pieces, such as voice overs, music, or sound effects during post-production.

Editor – reviews and sorts footage during post-production and puts all the elements of the film together using editing software for its final presentation. Popular free and inexpensive editing software includes:

- [Adobe Spark](#)
- [Apple iMovie](#)

HANDOUT: DOCUMENTARY FILMMAKING

DOCUMENTARY FILMMAKING ETHICS

Consent – filmmakers hold a great deal of power in representing other people’s stories. It is important to ask for people’s consent to be filmed before they are featured in a documentary. This includes people who are interviewed and anyone that can be seen prominently in a live-action shot. For footage of large crowds, it is not necessary to get everyone’s permission if their face is not prominently visible. It’s a good idea to document a participant’s consent by asking your subject on camera, “Do I have your permission to use this interview in my film?” And remember, people can change their mind at anytime

Accessibility – a primary way videos are made more accessible to people with disabilities is to include captions on videos in a high-contrast color and legible font. For more tips, see [this checklist from the Bureau of Internet Accessibility](#).

Copyright – general copyright laws prevent you from using other people’s artistic works, such as music, art, photography, or video, without their written consent. However, documentary filmmakers are allowed some flexibility to use other people’s work for educational purposes. Whenever possible, you should get people’s consent, make your own artistic works, or use media that has been deemed “creative commons,” which means the artist has made it available to use free of charge. For sites with creative commons material, try:

- [Wikimedia Commons](#)
- [Free Music Archive](#)