



 Kentucky Department of
EDUCATION

Text-Based Writing ***ACROSS DISCIPLINES***

An Expansion of Composition in the Classroom



Spring 2025



What is Text-Based Writing Across Disciplines?

What does “Text-Based Writing Across Disciplines” mean?

Defining “Text-Based Writing Across Disciplines” requires clarity around the terms “Text-Based,” “Writing” and “Across Disciplines.” “Text-Based” signals that students are engaged with complex, grade level texts throughout their learning. Most simply, writing is communicating. Student writers communicate with themselves, peers, teachers and others. Writing in the classroom can have many purposes and audiences and may be formal or informal. In the academic setting, writing can serve as a tool to promote student learning, to allow students to demonstrate their thinking and understanding of the content and/or concepts taught, and/or to share with others in a real-world setting. These types of writing are called Writing to Learn, Writing to Demonstrate Learning and Writing for Publication. “Across Disciplines” refers to using the types of writing—as defined here—in English/language arts as well as other disciplines, such as social studies, science, math and visual and performing arts.

Each of the tasks in this resource ground students in complex, grade-level text throughout the writing process.

What is Reading and Writing Across Disciplines, and what is its purpose?

Text-Based Writing Across Disciplines is an expansion of [Composition in the Classroom](#), a resource developed by reading and writing teachers to help Kentucky educators provide students with opportunities to develop into confident, independent and proficient writers. *Composition in the Classroom* and its expansions support teachers implementing existing [High-Quality Instructional Resources](#) (HQIRs) adopted by school districts as well as educators teaching in districts that have not yet adopted a primary HQIR in reading and writing. The tips, suggestions and tasks in *Composition in the Classroom* and its expansions should not replace adopted HQIRs but rather should serve to supplement instruction towards the full depth and rigor of the *Kentucky Academic Standards*. For more information regarding high-quality literacy curricula, districts and school leaders may access [The Reading and Writing Instructional Resources Consumer Guide](#), a tool for evaluating and selecting instructional resources for alignment to the *Kentucky Academic Standards (KAS) for Reading and Writing*.

Composition in the Classroom is organized around three modes of writing in the *Kentucky Academic Standards (KAS) for Reading and Writing*, including information regarding standards-aligned instruction through Writing to Learn, Writing to Demonstrate Learning and Writing for Publication. *Text-Based Writing Across Disciplines*, however, contains sample discipline-specific reading and writing tasks, organized by each of the three types of writing mentioned above. This resource is grounded in the *KAS for Reading and Writing*, which includes the Interdisciplinary Literacy Practices as well as each discipline’s content specific standards. The ten Interdisciplinary Literacy Practices are part of the *KAS for Reading and Writing*, appearing on every page of the standards document but should not be confused as additional standards. They should guide teachers in providing intentional opportunities for students to engage in deeper learning by practicing the behaviors of a literate citizen. The student practices serve as the overarching goals for literacy instruction for each student across the state. These practices are further clarified by [possible teacher and student actions](#). These actions do not define curriculum, but rather they demonstrate how teachers can provide opportunities for students to experience the literacy practices and how students will apply these practices, so they may become an innate part of life across the disciplines and beyond school. This resource aims to bring more clarity around what these practices look like in action.

While *Composition in the Classroom* primarily serves English/language arts teachers and their students, *Text-Based Writing Across Disciplines* attends to the needs of all teachers and their students. Because of its widespread classroom use already, the developers chose to begin the expansion with a focus on Writing to Learn (October 2023), a professional learning space that will hopefully both affirm and stretch educators' practices. The second release added Writing to Demonstrate Learning (March 2023) and the final release will include Writing for Publication (September 2023).

Text-Based Writing Across Disciplines provides what *Composition in the Classroom*, alone, does not. While *Composition in the Classroom* provides general characteristics of each type of writing (Writing to Learn, Writing to Demonstrate Learning and Writing for Publication) and examples of strategies teachers can implement to engage students in each of the types of writing, this expansion includes a more disciplinary, or specialized, look at writing. *Text-Based Writing Across Disciplines* intends to show more precisely how to ensure opportunities for students to engage in discipline-specific literacies or learning that uses reading and writing skills specific to each field to teach or demonstrate content knowledge and for publication purposes as well. The sample tasks in *Text-Based Writing Across Disciplines* represent some of the types of reading and writing experts in each field (e.g., economists, biologists, literary scholars, mathematicians, etc.) might authentically engage in to deepen their own expertise.

Text-Based Writing TO LEARN Across Disciplines

[Writing to Learn](#), as previously described, is an instructional strategy used to promote student learning. Teachers utilize this instructional strategy to help deepen students' understanding of the subjects they are studying, to engage students in thinking, to provide opportunities for applying, extending and developing skills, and to help students reflect on their learning. Typically, Writing to Learn is informal writing with the student as the primary audience. Rather than emphasizing formal composition skills, Writing to Learn helps students obtain content knowledge and build capacity to analyze, synthesize, comprehend and express their thinking in writing. Most simply stated, Writing to Learn is any writing students engage in that promotes learning. Therefore, Writing to Learn Across Disciplines refers to using Writing to Learn in English/language arts as well as other disciplines, such as math, science, social studies and visual and performing arts. The first section of this expansion, Writing to Learn Across Disciplines, provides samples of Writing to Learn tasks for each discipline. Explicit reading-writing connections are intentionally present throughout the sample tasks, requiring students to read and think deeply about text, or “anything that communicates a message,” as defined by the *KAS for Reading and Writing*. Throughout the sample tasks, readers engage in passages, videos, graphs, data sets, experiments or other forms of communication while processing and documenting their learning through writing.

Text-Based Writing TO DEMONSTRATE LEARNING Across Disciplines

[Writing to Demonstrate Learning](#), as previously described, is necessary in every classroom for teachers to ascertain how well students are understanding the content, skills or concepts taught. Teachers use this type of writing to provide students opportunities for applying and demonstrating the content, skills, or concepts they have learned in class and for assessing students' understanding of the subjects they are studying.

Regularly asking students to think and write about text at the higher levels of Bloom's Taxonomy (i.e., analysis, synthesis, evaluation) can help students not only think through the content but also reveal the depth of their knowledge. Though this kind of writing certainly can promote

learning, it is especially used to help teachers understand how well students are learning. Typically, Writing to Demonstrate Learning takes the form of an academic exercise with the teacher as the primary audience and, thus, would not be suitable for publication. When students Write to Demonstrate Learning, their responses may be graded, marked or scored with a rubric to provide feedback to both the teacher and the student on their progress towards mastery. While feedback may focus on compositional or technical skills as a writer, teacher feedback usually focuses on content and conceptual understandings. Most simply stated, Writing to Demonstrate Learning is any composition intended to serve as a measurement of the student's depth of learning.

While students may demonstrate their learning through paragraphs or essays, at all ages, student composition should not be limited to traditional formats or restricted to writing on paper or drafting in a word processing document. Instead, students should have numerous opportunities to use digital resources to create individual or shared products and to take advantage of technology's capacity to link to other information and to display information flexibly and dynamically. This may even require students to incorporate a variety of communication methods into one Writing to Demonstrate Learning composition.

Like Writing to Learn, Writing to Demonstrate Learning Across Disciplines refers to using Writing to Demonstrate Learning in English/language arts as well as other disciplines such as math, science, social studies, and visual and performing arts. The first section of this expansion, Writing to Learn Across Disciplines, provides samples of Writing to Learn tasks for each discipline. The Writing to Demonstrate Learning section is the second of three sections that will make up the complete expansion and provides samples of Writing to Demonstrate Learning. Explicit reading-writing connections are intentionally present throughout the sample tasks, requiring students to read and think deeply about text, or "anything that communicates a message," as defined by the *KAS for Reading and Writing*. Throughout the sample tasks, readers engage in passages, videos, graphs, data sets, experiments or other forms of communication while processing and documenting their learning through Writing to Demonstrate Learning.

Text-Based Writing FOR PUBLICATION Across Disciplines

[Writing for Publication](#), as previously described, allows students to share their learning with audiences beyond the classroom and school community. Writing for Publication is preceded by intentional opportunities for students to Write to Learn and Write to Demonstrate Learning. The primary difference between Writing to Demonstrate Learning and Writing for Publication is the *audience*: whereas teachers are the primary audience of Writing to Demonstrate Learning, publication is for the world beyond the school community.

"Publication" indicates writing will be shared with an intended audience and approximates writing done in a variety of real-world settings, such as in a career or academic setting or in response to civic duty. Pieces for publication are produced for an authentic audience and purpose and are also directly relevant to students' learning. Ideally, students make decisions about audience, purpose and/or form based on their interests, experiences or inquiry. These pieces of writing are more successful when the writers pay careful attention to success criteria for writing. Teacher and/or student created rubrics may address audience/purpose, idea development, organization, word choice and conventions as well as the content of the subject matter.

Authentic Writing for Publication is writing for authentic audiences and purposes that has been taken through the complete writing process. Draper & Siegert (2010) define Writing for Publication as tasks that allow students "to negotiate (e.g., read, view, listen, taste, smell, critique) and create (e.g., write, produce, sing, act, speak) texts in discipline-appropriate ways or in ways that other members of a discipline (e.g.,

mathematicians, historians, artists) would recognize as ‘correct’ or ‘viable.’”¹ Thus, Writing for Publication must include both reading complex disciplinary text and then writing about what is learned as a disciplinary expert might write.

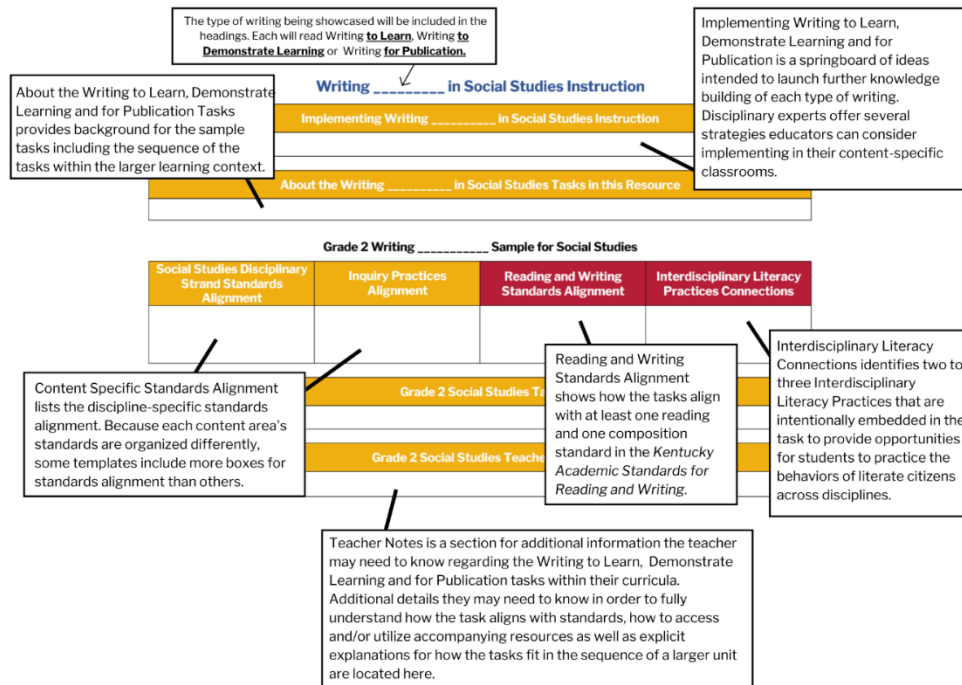
When students Write for Publication, they become subject matter experts who communicate their learning to the world, requiring them to make considerations for the needs of their audience. In addition to the content and skills of the discipline, many students may also require instruction or support in using technological tools, communication platforms or technical writing/communication strategies used in professional or career settings. Consider opportunities to collaborate with professionals outside of the field of education to provide feedback or serve as the authentic audience to prepare students to Write for Publication. For example, the grade 4 visual art sample task included in this resource asks students to write biographies of fellow student artists prior to presenting the art in a community show. Teachers may collaborate with local gallerists or artists to discuss why this type of writing matters in the field of visual art. In the high school physics sample task, students write a proposal to improve local energy infrastructure. Teachers may collaborate with local energy experts or engineers to share knowledge about their field as well as provide feedback on student proposals.

At the heart of Writing for Publication is **Interdisciplinary Literacy Practice 10: Develop a literacy identity that promotes lifelong learning.** Indeed, as students access complex texts across disciplines and apply their learning from those texts to real world problems, educators can create an environment where students are empowered as lifelong learners able to think for themselves and effectively propose solutions to complex problems. When students have opportunities to engage with relevant issues through the texts they read and write, they can engage more deeply in inquiry and ultimately can take stronger ownership of their learning.

¹ Draper, R.J., & Siebert, D. (2010). Rethinking texts, literacies, and literacy across the curriculum. In R.J. Draper, P. Broomhead, A.P. Jensen, J.D. Nokes, & D. Siebert (Eds.), *(Re)imagining content-area literacy instruction* (pp. 20–39). New York: Teachers College Press.

How to Read the Templates

Each content area template begins broadly with a compilation of possible Writing to Learn, Writing to Demonstrate Learning and Writing for Publication strategies that experts in the field deem especially applicable to learning that discipline's content. The remainder of each template provides authentic content-specific sample tasks, organized into elementary and secondary levels. These sample tasks can help educators recognize the presence or absence of Writing to Learn, Writing to Demonstrate Learning or Writing for Publication instructional strategies within their adopted high-quality instructional resource (HQIR), equipping them with the knowledge to identify when the curriculum does not include adequate opportunities for students to engage in both types of writing. Because the types of texts involved in reading and writing vary across disciplines, each sample contains discipline-specific approaches each type of writing.



Writing for Publication in Reading and Writing Instruction

Implementing Writing for Publication in Reading and Writing Instruction

Writing for Publication in reading and writing classrooms includes opportunities to publish (via print, non-print and digitally) in all three modes required within the Composition Strand: Opinion/Argument, Informational/Explanatory and Narrative. Students must gather, evaluate, synthesize and cite sources to develop and organize clear, coherent products that are appropriate to task, purpose and audience.

Although the purpose and audience considerations are essential for producing an authentic publication, teachers should also plan to integrate reading throughout the learning process, allowing students to have rich input from various sources prior to writing. According to Vaughn, Roberts et al. (2019), when students read and analyze complex, grade-level text, they are provided with opportunities to build knowledge, vocabulary and metacognitive skills essential for success at school and beyond.⁸ As the *Kentucky Academic Standards for Reading and Writing* assert, reading and writing should be viewed as complementary learning rather than as separate subjects. Furthermore, Graham and Hebert (2010) found that students who write with a reader in mind and read with the writer in mind strengthen both skills.⁹

These byproducts of access to complex, grade-level texts are equally important for students to be able to Write for Publication authentically. When Writing for Publication, purpose refers to a reason beyond demonstrating a student's understanding of standards and an audience other than the teacher. As always, the writing is text- and evidence-based.

Some examples of Writing for Publication in the English/language arts classroom are included below. Note that beginning in Grade 8, the *KAS for Reading and Writing* specifies that students will use narratives strategically in other modes of writing; therefore, Grade 8-12 students would not be instructed to publish a narrative in isolation.

Journalistic Compositions (opinion/argument or informational/explanatory):

letters to the editor, op eds, news articles, profiles/biographies, critiques/reviews, biography, autobiography

Multimodal Compositions (may include elements of opinion/argument, informational/explanatory or narrative as well as digital components that allow students to display ideas flexibly and dynamically):

bumper stickers, social media posts, billboards, blogs, infographics, airplane banners, flyers, public service announcements, advertisements, commercials, brochures, websites, blogs/vlogs, digital storytelling, how to instructions, TEDTalks, podcasts.

⁸ Vaughn, S., Roberts, G. J., Miciak, J., Taylor, P., & Fletcher, J. M. (2019). Efficacy of a Word- and Text-Based Intervention for Students With Significant Reading Difficulties. *Journal of Learning Disabilities*, 52(1), 31–44. <https://doi.org/10.1177/0022219418775113>.

⁹ Graham, S., & Hebert, M. A. (2010). *Writing to read: Evidence for how writing can improve reading*. A Carnegie Corporation Time to Act report. Washington, DC: Alliance for Excellent Education.

Implementing Writing for Publication in Reading and Writing Instruction

Narrative Compositions:

short stories/novels, poems/verse novels, cartoons/graphic novels, drama/screenplays, memoir/personal narrative, creative non-fiction/essays

Authentic Correspondence (opinion/argument or informational/explanatory):

cover letters, resumes, formal email, thank you notes

Writing for Publication often concludes a series of lessons or a unit of study. The publication typically develops over time and results from students engaging in a variety of intentional, deeper learning experiences, such as Writing to Learn tasks like those described in [Writing to Learn in Reading and Writing](#). See [Writing to Demonstrate Learning in Reading and Writing](#) for tools to assess and monitor progress towards mastery of skills and concepts.

About the Writing for Publication Tasks in this Resource

The Kindergarten Writing for Publication sample is adapted from *CKLA*, a free, online, open-source product that earns green ratings on EdReports. In this Kindergarten unit, students explore the topic of “The History of the Earth” by hearing a series of read-alouds about minerals, rocks and fossils. After building knowledge of this topic, students have an opportunity to Write for Publication to an authentic audience, a local, state or national paleontologist.

The Grade 4 Writing for Publication sample is adapted from *EL Education*, a free, online, open-source product that earns green ratings on EdReports. In this Grade 4 unit, students explore the topic of “The Impact of Natural Disasters,” by reading a series of informational and texts about various extreme weather events around the world. After building knowledge of this topic, students have an opportunity to Write for Publication through a leaflet about weather preparedness.

Similarly, the Grade 7 Writing for Publication sample is adapted from *EL Education*, a free, online, open-source product that earns green ratings on EdReports. In this Grade 7 unit, students explore the topic of “Plastic Pollution” by reading a series of informational and literary texts about how single use plastics impact various environments around the world. After building knowledge of this topic, students have an opportunity to Write for Publication through creating a documentary film clip about the impact of plastic pollution.

Grade 1 Writing for Publication Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
<p>RI.1.1 With prompting and support, ask and answer explicit questions about key concepts and details, and make and support logical inferences to construct meaning from the text.</p> <p>RI.1.3 With prompting and support, identify the connection between individuals, events, ideas or pieces of information over the course of a text.</p> <p>RI.1.9 Identify information from two or more texts on similar themes or topics.</p> <p>C.1.1 Compose opinion pieces, using a combination of drawing, dictating, writing and digital resources, to state the topic and an opinion.</p> <p>C.1.2 Compose informative and/or explanatory texts, using a combination of drawing, dictating, writing and digital resources, to establish a topic and provide information about the topic.</p> <p>C.1.5 With guidance and support, participate in shared research and writing projects.</p> <p>C.1.6 With guidance and support, collect information from real-world experiences or provided sources to answer or generate questions.</p>	<p>ILP 1: Recognize that text is anything that communicates a message.</p> <p>ILP 2: Employ, develop and refine schema to understand and create text.</p> <p>ILP 3: View literacy experiences as transactional, interdisciplinary and transformational.</p> <p>ILP 4: Utilize receptive and expressive language arts to better understand self, others and the world.</p> <p>ILP 5: Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks.</p>

Grade 1 Reading and Writing Task

[From CKLA Grade 1, Domain 7: The History of the Earth](#)

Domain Overview

The domain focuses on the geographical features of the earth’s surface and the layers of the earth. Students will learn about the shape of the earth, the North and South Poles, and the equator. Students will also learn the names of the layers of the earth— the crust, the mantle,

and the core—and characteristics of each layer. Students will learn how occurrences such as volcanoes and geysers give information about the layers of the earth. The read-alouds also focus on minerals and rocks. Students will learn about the importance of rocks and minerals in their daily lives. They will also learn about the three types of rocks and characteristics of each type. Students will learn how rocks and minerals are taken from the earth’s crust to be used by people. Students will also learn about fossils and their importance in giving us knowledge about the history of living things on the earth.

Letter to a Paleontologist

As a class, brainstorm ideas and then write a letter to Pam or a real paleontologist. The students may talk about the cool things that paleontologists do or ask questions that they still have about the history of the earth.

Grade 1 Teacher Notes

Prior to this task, the students should have been exposed to letter writing and perhaps have participated in writing letters together as a class along with some independent practice in letter writing. Model the format of a letter with a greeting such as “Dear [insert name of librarians],” in the upper left-hand corner of a poster as well as a letter closing such as, “Your friend.” You may use a [template](#) to guide students as you model the format of letter writing.

Grade 5 Writing for Publication Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
<p>RI.5.7 Analyze information from multiple print and non-print formats, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.</p> <p>RI.5.8 Explain how an author uses reasons and evidence to support particular claims in a text, identifying which reasons and evidence support which claim(s).</p> <p>RI.5.9 Integrate information from several texts on the same theme or topic.</p> <p>C.5.2 Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and convey ideas and information clearly.</p> <p>C.5.6 Summarize relevant information from experiences, or gather relevant information from multiple print and digital sources; summarize or paraphrase applicable information in notes and finished work and provide a list of sources.</p>	<p>ILP 1: Recognize that text is anything that communicates a message.</p> <p>ILP 3: View literacy experiences as transactional, interdisciplinary and transformational</p> <p>ILP 6: Collaborate with others to create new meaning.</p> <p>ILP 9: Apply high level cognitive processes to think deeply and critically about text.</p> <p>ILP 10: Develop a literacy identity that promotes lifelong learning.</p>

Grade 5 Reading and Writing Task

[From EL Education Grade 5, Module 4, Unit 3, Lessons 8-12: Creating a Leaflet to Distribute](#)

Prior to the Task

In Unit 3, students apply their learning from the previous units to help educate others in being prepared for a natural disaster. They begin by researching in pairs the kinds of food to include in an emergency preparedness kit. For the mid-unit assessment, students then research the other necessary items to include in a kit. In Lessons 3–5, students write an opinion essay based on their research to explain which two items they think are most important to include in an emergency preparedness kit and why. This prepares them for the end of unit assessment, in which students write an on-demand opinion essay (Writing to Demonstrate Learning) about the two personal items they would include in an emergency preparedness kit and why.

Task

In Lessons 8–11, students prepare an educational leaflet (Writing for Publication) to distribute at their performance task presentations explaining what to do in a natural disaster and the kinds of things to pack in an emergency preparedness kit. They create prompt cards for their presentations and practice them. For the performance task in front of a live audience, students present their PSAs, created in Unit 1, and describe the items they would pack in an emergency preparedness kit.

Criteria for Leaflets

Design	Content
<ul style="list-style-type: none">• Colorful• Not too much text; only necessary information• Clear, easy-to-read font• Images for understanding and are eye-catching	<ul style="list-style-type: none">• List of supplies• Explains what to do in a natural disaster

Grade 5 Teacher Notes

There are a number of options for the creation of this leaflet, depending on the technology and materials available. Students could create their leaflets using technology, or they could create them by hand using markers or colored pencils.

Students are left to work in pairs relatively autonomously, participating in a peer critique with another pair if they choose. This is to gradually release students to apply the processes they have learned about planning, revising, and creating work products over the course the year with minimal guidance.

In this lesson, students continue to focus on working to contribute to a better world as they apply their learning to help their school and community by educating them about preparing for natural disasters.

Grade 7 Writing for Publication Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
<p>RI.7.9 Analyze how two or more authors writing about the same topic present key information by emphasizing different evidence or advancing different interpretations of facts.</p> <p>C.7.2 Compose informative and/or explanatory texts to examine a topic and convey ideas, concepts and information through the selection, organization and analysis of relevant content.</p> <p>C.7.5 Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.</p> <p>C.7.6 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and, in order to engage in reflection or analysis, quote or paraphrase data and conclusions of others, avoiding plagiarism by providing in-text and bibliographic MLA or APA citation.</p>	<p>ILP 2: Employ, develop and refine schema to understand and create text.</p> <p>ILP 4: Utilize receptive and expressive language arts to better understand self, others and the world.</p> <p>ILP 7: Utilize digital resources to learn and share with others.</p> <p>ILP 10: Develop a literacy identity that promotes lifelong learning.</p>

Grade 7 Reading and Writing Task

From [EL Education, Grade 7, Module 4, Unit 3, Lessons 1-14: Creating a Documentary Clip](#)

For your performance task, you will work in a group of three to create a 3- to 5-minute documentary clip on plastic pollution, how best to solve it, and your action plan for attempting the solution. The purpose of this clip is to teach others about the plastic pollution problem and what can be done about it. This video clip will be based on the plans you developed, which will include your script, storyboard, and a description of your action plan and its effects.

Your script should include

- a narrative lead introduction;
- your argument about why we need to solve the problem of plastic pollution, which is based on a claim supported by evidence and reasoning;
- an explanation of your triad's action plan and its results;
- a conclusion that follows from and offers a reflection on the possible impact of your action plan; and
- several of the documentary film techniques your class identified (interviews, music, visuals, re-enactments, narration, close-ups, and statistics).

Your storyboard should include the following:

- Images (either hand-drawn or clip art) to represent
 - each scene in your script
 - the actors
 - the camera angles
 - the techniques
- Captions telling what is happening and who is in the scene

To celebrate this powerful learning and make a difference in the world, host a film screening at your school or in your community (possibly at the public library, local community center, or another public space).

Grade 7 Teacher Notes

EL Education provides multiple scaffolds to prepare students to Write for Publication to create a documentary clip related to this unit, “Plastic Pollution.” First, students engage in a variety of reading tasks to build knowledge of plastic pollution in Earth’s oceans as well as possible solutions to the plastic pollution crisis. With this knowledge basis built over the first two units of Module 4, students now apply their knowledge within a series of lessons. Note that Unit 3 requires students to engage in more reading and careful planning prior to publishing their writing. Prior to publishing their writing, students analyze a model documentary, draft a narrative lead, combine leads, draft/revise a documentary script, analyze and draft a storyboard and then practice/pitch the documentary.

When preparing students to Write for Publication, students not only need knowledge of the content but also knowledge of the task, purpose, audience and genre expectations. While students in this unit are assessed on their “pitch” and the clip created, they are given feedback and mentorship throughout the process. Teachers planning to engage students in this type of Writing for Publication may find tools such as the [Peer Critique](#) protocol or the [Presentation Checklist](#) to help guide student planning and revision.