



 Kentucky Department of
EDUCATION

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

An Expansion of Composition in the Classroom



FALL 2023



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?

Reading and 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. *Reading and 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, *Reading and 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).

Reading and 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. *Reading and 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 *Reading and 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.

Reading and 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.

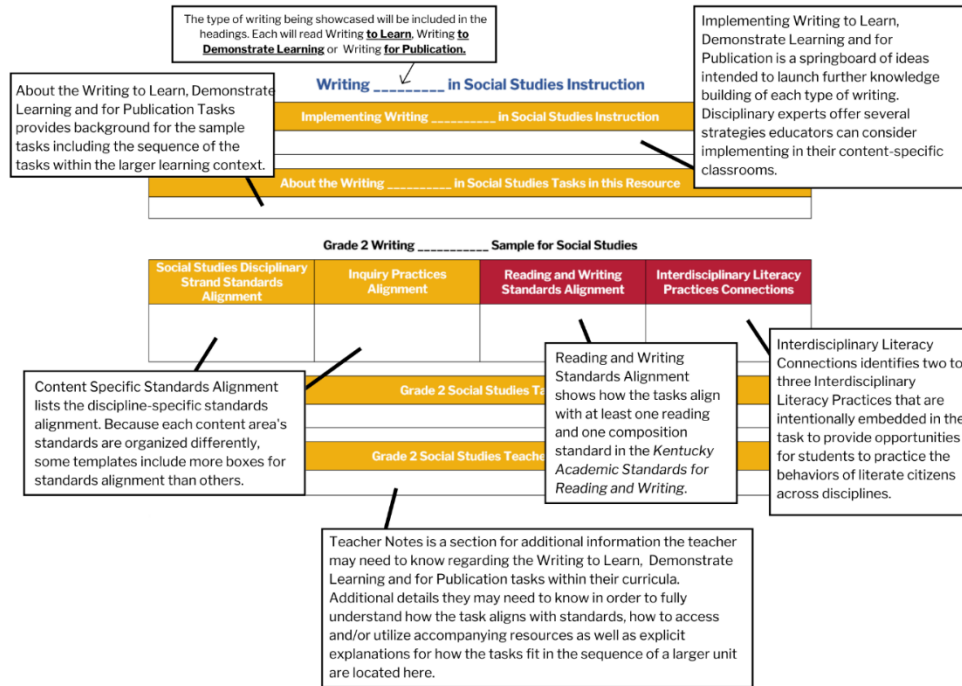
¹ Draper, R.J., & Siebert, D. (2010). Rethinking texts, literacies, and literacy across the curriculum. In R.J. Draper, P. Broomhead, A.P. Jensen, J.D. Nokes, & D. Siebert (Eds.), *(Re)imagining content-area literacy instruction* (pp. 20–39). New York: Teachers College Press.

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.

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 Science Instruction

Implementing Writing for Publication in Science Instruction

Writing for Publication in the science classroom provides students the opportunity to share their learning with the community or world by engaging an authentic audience with their research or ideas. In the science field, professionals disseminate information in peer-reviewed journal articles in which they share their findings and understanding about a phenomenon or problem with peers. Scientists may also use writing for publication to take action, both locally and globally, to address a science-related issue or to stimulate interest and further thought of the community members. Students may Write for Publication in the science classroom in many ways, including, but not limited to, the following **examples**:

- Research reports
- News articles
- Letter or email to community leaders
- Blogs or postings to a scientific community website
- Podcasts, Videos, or Animations
- Infographics or Brochures
- Speeches or presentations
- Engineering Design Project proposals

Science teachers engage students in Writing for Publication when they utilize the science and engineering practices (SEPs) as the vehicle for sharing their understanding of the Disciplinary Core Ideas (DCIs) and Crosscutting Concepts (CCCs). These three dimensions comprise the *Kentucky Academic Standards for Science*. Use of key SEPs not only provides the teacher with information about the students' ability to utilize a particular practice but also about their current understanding of the other two dimensions as they share their knowledge with an authentic audience.

Teachers are also encouraged to leverage writing as a tool for deeper learning using Writing to Learn tasks described in [Writing to Learn in Science](#). See [Writing to Demonstrate Learning in Science](#) for tools for assessing and monitoring progress towards mastery of skills and concepts.

About the Writing for Publication Tasks in this Resource

The grade 3 unit on weather conditions and hazards begins with the phenomenon of local damage to homes, buildings and environment due to various weather events using pictures or video. Through this anchoring phenomenon, the students learn about how weather conditions and events are measured, recorded, and communicated to the community, how the local climate varies by location, and how we can prepare for weather-related hazards. To sum up the learning the students are presented with a performance task which includes an engineering design problem, “How can we design and build homes in our area to reduce damage caused by weather?”

The students will activate their prior knowledge from what they have learned from previous lessons in this unit to brainstorm examples of dangerous weather conditions (tornadoes, winds, thunderstorms, floods, forest fires, etc.) and draw from personal experiences by describing a time when they have either encountered, heard about, read about, or watched a video about dangerous weather. They will learn that weather conditions can be dangerous to people and buildings. Students will investigate photos of weather events and match the photos with the types of severe weather generated. They will describe the weather conditions that make each type of event dangerous, analyze the types of damage and predict how different design features might have been improved in order to reduce the damage caused. Students will explore the school building to identify design features intended to reduce the impacts of weather-related hazards. Students will use their knowledge to share their findings regarding how well the design features of their school reduce the impacts of weather.

The high school physics unit on energy flow from Earth’s system is an introduction to energy transfer in a relevant and grounded context: the Texas power crisis of February 2021. Students engage with articles and contemplate the intricate societal, environmental and physical factors that brought on this crisis. They determine how energy flows between various systems, spanning from generators to our neighborhoods, and identify the factors contributing to the reliability of energy sources. This prepares the students to model and explain the events in Texas on various levels, ranging from electron movement in wires to the challenging choices made by power companies to ensure stability. Students evaluate the trade-offs, criteria and constraints inherent in shaping decisions concerning our energy setups and employ them in a culminating task: design a reliable energy solution that meets the needs of our communities, as obtained from discussions with acquaintances and family members. The task is designed to provide students with the means to voice their opinions with local energy professionals advocating for an improved energy future that resonates with their personal convictions as well as those of their families.

Grade 3 Writing for Publication Sample for Science

Disciplinary Core Idea Alignment	Science and Engineering Practices Alignment	Crosscutting Concepts Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
<p>ESS3.B Natural Hazards</p> <p>A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.</p>	<p>Engaging in Argument from Evidence</p> <p>Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.</p>	<p>Cause and Effect</p> <p>Cause-and-effect relationships are routinely identified, tested, and used to explain change.</p>	<p>RI.3.3 Describe the relationship between individuals, a series of historical events, scientific ideas or concepts or steps in technical procedures over the course of a text.</p> <p>C.3.2 Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and provide information.</p> <p>C.3.5 Conduct short research projects that build knowledge about a topic.</p> <p>C.3.6 Summarize information from experiences or gather information from print and digital sources; take brief notes on information from various print/digital sources, and analyze by sorting into appropriate categories.</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 9: Apply high level cognitive processes to think deeply and critically about text.</p>

Grade 3 Science Task

The principal is focusing on school safety and wants to communicate to parents/guardians and the community how the school is designed to improve student safety during weather events. The principal is asking third grade students to develop a brochure informing their parents of some of the features of the school that were designed to reduce the impacts of weather-related hazards. The brochure should include:

- 4 design features of the school,
- a claim regarding the effectiveness of each design feature, and
- cited evidence to show how each feature reduces a weather-related impact.

Grade 3 Teacher Notes

The learning associated with this sample Writing for Publication comes from a progression of science ideas that are introduced in kindergarten. In Kindergarten, students learn about the patterns and variations in local weather (sunlight, wind, snow or rain, and temperature) and the purpose of weather forecasting to prepare for, and respond to, severe weather. If students do not have a good understanding of these concepts, teachers may need to build that understanding.

In the grade 3 classroom, students will engage in Writing to Learn experiences throughout the instructional sequence in order to build knowledge about weather conditions and hazards. Writing to Demonstrate Learning is also utilized throughout to get a snapshot of student learning along the way. Writing for Publication is illustrated when students create their parent brochure through engaging in argument from evidence as they synthesize information from the entire unit to make a claim regarding the merit of the design solutions used to reduce weather impacts and provide evidence to support their claims. As they begin to think about the relationship (CCC: Cause and Effect) of how the design can reduce weather related impacts (DCI: ESS3.B Natural Hazards), the students use evidence to support their claim regarding the merit of the design (SEP: Engaging in Argument from Evidence).

Teachers can also use this task as a summative performance assessment (or Writing to Demonstrate Learning task) of the students' ability to make a claim and support the claim with evidence as well as the students' current understanding of local weather-related hazards and how natural hazards cannot be eliminated but steps can be taken to reduce their impacts. Since this task is specifically intended to represent Writing for Publication, students should have several opportunities to revise their work based on the feedback of peers and teachers.

It is important to note that severe weather can be a sensitive topic of discussion. Many students in Kentucky have experienced traumatic weather events, and it may be challenging to talk about in an academic setting. Teachers need to attend to the social-emotional wellbeing of their students and should begin with giving students a sense of stability, security and belonging. Students will benefit from teachers who care and reassure them that they are safe. Teachers may want to avoid using television programs or video to watch disaster-related events as this can bring back vivid memories. Teachers will need to follow the lead of the student. If the student wants to talk about it, show empathy for what they have gone through and listen. If the student does not want to talk about it, respect their wishes and provide a variety of methods and opportunities to express their reactions to the disaster and to tell their stories of survival.

For more guidance on using a similar phenomenon, building teacher background knowledge, and instructional sequence and strategies leading up to this culminating task, see [Grade 3 Unit 1: Wild Wacky Weather from Phenomenal Science](#).

High School Physics Writing for Publication Sample

Disciplinary Core Idea Alignment	Disciplinary Core Idea Alignment	SEPs & Crosscutting Concepts Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
<p>ETS1.B: Developing Possible Solutions When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts.</p> <p>PS3.A: Definitions of Energy Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. <i>(Continued in next column.)</i></p>	<p>These relationships are better understood at the microscopic scale, at which all of the different manifestations of energy can be modeled as a combination of energy associated with the motion of particles and energy associated with the configuration (relative position of the particles). In some cases, the relative position energy can be thought of as stored in fields (which mediate interactions between particles). This last concept includes radiation, a phenomenon in which energy stored in fields moves across space.</p> <p>ESS3.A: Natural Resources All forms of energy production and other resource extraction have associated economic, social, environmental, and geopolitical costs and risks as well as benefits. New technologies and social regulations can change the balance of these factors.</p>	<p>Science and Engineering Practices Alignment:</p> <p>Constructing Explanations and Designing Solutions Evaluate a solution to a complex real-world problem, based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations.</p> <p>Crosscutting Concepts Alignment:</p> <p>Energy and Matter Changes of energy and matter in a system can be described in terms of energy and matter flows into, out of, and within that system.</p> <p>Stability and Change Systems can be designed for greater or lesser stability.</p>	<p>RI.11-12.7 Integrate and evaluate multiple sources of information presented in different print and non-print formats in order to address a question or solve a problem.</p> <p>C.11-12.2 Compose informative/explanatory texts to examine and/or convey complex ideas, concepts and information clearly and accurately through the effective selection, organization and analysis of content.</p>	<p>ILP 3: View literacy experiences as transactional, interdisciplinary and transformational.</p> <p>ILP 8: Engage in specialized, discipline specific literacy practices.</p> <p>ILP 10: Develop a literacy identity that promotes lifelong learning.</p>

High School Physics Task

Every year, local power company and/or cooperative employees make important decisions about the energy future for our community. Informed citizens and voters have the power to speak up about how to move toward a more reliable energy infrastructure that meets the community's needs. Develop a proposal to improve our electricity infrastructure to increase reliability while meeting our community's needs.

Use a slide deck, poster, infographic, presentation or video to communicate to the local electric company and/or cooperative.

In your work, make sure to:

- a. Explain why our region's current grid solution has costs and risks associated with it, as well as benefits.
- b. Describe, in words and pictures or diagrams, the criteria you prioritized. Then, describe the changes you made to our region's current grid solution, and justify your choices by explaining the predicted impact those changes will have.
- c. Use a model to clearly demonstrate how your solution prioritizes reliability or other criteria. Use any model (or models) that you believe will be convincing to your audience.
- d. Include relevant science ideas that help explain your choices.

High School Physics Teacher Notes

This task requires students to collaborate with local power companies and/or cooperatives to develop an understanding of local energy infrastructure. Communities may be served by a variety of energy organizations: electrical generation companies, electrical transmissions companies, electrical distribution companies and/or regional cooperatives. Educators can contact local engineers, community outreach coordinators, marketing departments, research and development departments or public relations/media officers at the local power company and/or cooperative to find suitable collaborators interested in working with students, providing feedback and facilitating a presentation for student energy proposals.

In the high school classroom, students will engage in Writing to Learn experiences throughout the instructional sequence in order to build knowledge about energy solutions and their social, cultural, and environmental impacts. Writing to Demonstrate Learning is also utilized throughout to get a snapshot of student learning along the way. Writing for Publication is illustrated when students develop their presentation to communicate their ideas to the local electric company and/or cooperative. Students design, evaluate, and refine a solution as they take into account social, cultural, and environmental impacts. They use models to help demonstrate how their solution prioritizes reliability or other criteria. As they begin to think about how systems can be designed for greater or lesser stability (CCC: Stability and Change) and work to improve our electrical grid while taking into account social, cultural, and environmental impacts (DCI: ETS1.B: Developing Possible Solutions). Students will explain how the changes they made to the region's current grid solution are the most effective and justify their choices (SEP: Constructing Explanations and Designing Solutions).

Teachers can also use this task as a summative performance assessment (or Writing to Demonstrate Learning task) of the students' ability to construct an explanation and design a solution to improve the electric grid while taking into account social, cultural, and environmental impacts of the solutions.

Since this task is specifically intended to represent Writing for Publication, students should have several opportunities to revise their work based on the feedback of peers and teachers. The teacher could use a [Stayer-Strayer Protocol](#) to share ideas and give peer feedback. Nominate half of each group to begin as strayers who will visit half of the other groups in the class. Stayers need to be ready to share their ideas about their design solution with the visiting strayers. These strayers will spend 5 minutes at each group interacting with the stayers: 3 minutes listening to the stayers, 2 minutes for questions and feedback. After visiting half of the other groups, the stayers and strayers will switch roles. The new strayers will visit the other half of the groups. Review and incorporate peer feedback into community plans. Tell students to return to their original groups and process the feedback that the stayers received from other groups as well as the ideas that the strayers got from the other presentations.

For more information regarding the storyline around the Texas power crisis of February 2021 and the lesson sequence refer to the [Open SciEd High School Physics Unit: Energy Flow From Earth's Systems](#) where they are focusing on how can we design more reliable systems to meet our communities' energy needs? For more information on supports and instructional moves for this task, see Lesson 10 and 11 in the series. This is a culminating task and will require prior learning experiences within this unit for the students to be successful.