Kentucky Department of EDUCATION

Text-Based Writing *ACROSS DISCIPLINES*

An Expansion of Composition in the Classroom

FALL 2023

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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 Writi*ng, 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 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.

Reading and 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 will 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, publish, research and update 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.

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.

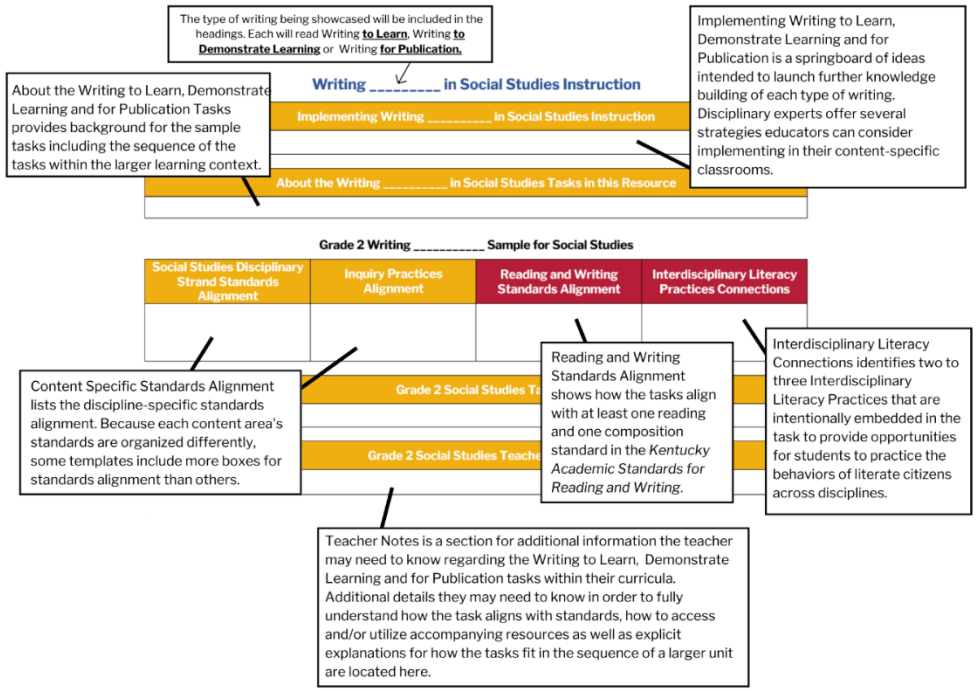
When students Write for Publication, they become subject matter experts who communicate their learning to the world, requiring them to make considerations for the needs of their audience. In addition to the content and skills of the discipline, many students may also require instruction or support in 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 to Learn in Reading and Writing Instruction

Implementing Writing to Learn in Reading and Writing Instruction

Writing is an expectation of English/language arts classrooms beginning in kindergarten and becoming progressively more sophisticated as the grade levels increase. Some Writing to Learn strategies may work just as well for kindergarteners as they do high schoolers while others may not be as appropriate for five- and six-year-old learners as they are for teenagers. Writing to Learn strategies should be selected with attention to the learners' developmental levels and the intended learning goals. This resource provides a clearer picture of what implementing Writing to Learn strategies in reading and writing classrooms may look like across grade levels.

Teachers must intentionally provide opportunities for students to write daily and in all content areas. Some educators may think Writing to Learn is not appropriate for kindergarten students since this age group is still learning to write; however, this is a misconception. Young children are often enthusiastic writers, so the more opportunities they are given to write, the better. Conrad (2008)[2] emphasizes that, at the word level, writing can reinforce phonological, orthographic and morphological awareness and promotes higher quality word representations in memory, improving both spelling and reading skills. The Institute for Education Sciences What Works Clearinghouse Practice Guide for *Teaching Elementary Students to Be Effective Writers*[3] recommends devoting 30 minutes of kindergarten instructional time to writing and developing writing skills. For older students, the Institute for Education Sciences What Works Clearinghouse Practice Guide for *Teaching Secondary Students to Write Effectively*[4] recommends engaging students in Writing to Learn to promote intentional, strategic thinking that ultimately improves writing. For elementary students, Writing to Learn builds the foundation for reading, spelling and communicating in writing, while secondary students can leverage Writing to Learn to improve their strategic thinking and, in turn, their ability to communicate effectively.

Writing in kindergarten and first grades may be drawing and/or forming letters to make words, even if the spelling is invented (words have extra or omitted vowels and consonants). Early in kindergarten, Writing to Learn may begin with prewriting motor skills such as large arm movements in the air or on the carpet and tracing or drawing shapes. These types of activities build spatial awareness and directionality, skills that help young writers produce and remember letter forms. Writing at this level also includes whole class writing experiences led by the teacher for the purpose of learning letter formation or writer's craft, followed by instances of varying combinations of teacher and students and peers sharing the responsibility and then, finally, students independently Writing to Learn (e.g. forming letters, forming words, crafting text). This process continues into first and second grades with the teacher typically being able to release more responsibility to

[2] Conrad, N. (2008). From reading to spelling and spelling to reading: Transfer goes both ways. *Journal of Educational Psychology, 100*(4), 869-878.
[3] Graham, S., Bollinger, A., Booth Olson, C., D'Aoust, C., MacArthur, C., McCutchen, D., & Olinghouse, N. (2012). *Teaching elementary school students to be effective writers: A practice guide* (NCEE 2012- 4058). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/ wwc/publications_reviews.aspx#pubsearh
[4] Graham, S., Bruch, J., Fitzgerald, J., Friedrich, L., Furgeson, J., Greene, K., Kim, J., Lyskawa, J., Olson, C.B., & Smither Wulsin, C. (2016). Teaching secondary students to write effectively (NCEE 2017-4002). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. Retrieved from the NCEE website: http://whatworks.ed.gov.

students and sooner than was possible in the previous grade. Some Writing to Learn strategies that may work well in the earliest years, even kindergarten, include, but are not limited to:

- Drawing shapes to reinforce letter formation (early kindergarten)
- Tracing letters in trays of sand, in whipped cream, or on sandpaper (early kindergarten)
- Handwriting:
    - Printing all upper and lowercase letters and numerals (kindergarten)
    - Legibly printing all upper and lowercase letters and numerals with correct form (Grade 1)
    - Introductory formation of all upper and lowercase cursive letters (Grade 2)
    - Legibly forming cursive letters, words and sentences with accepted norms (Grade 3)
- Reading response journals
- Lists
- Simple Graphic Organizers
- Cloze writing

Other suggested Writing to Learn strategies for reading and writing classrooms across all grade levels include:

- Learning Journal, Learning Log, Class Journal
- Double-Entry Journal/Split-Page Journal
- Reading Response Journal or Reading Responses to text-dependent questions
- Bellringers and Exit Slips either handwritten or digital via a survey or forms tool such as Google Forms
- Annotations on documents or texts (on paper and via digital forms such as Perusall or Hypothesis)
- Graphic organizers on paper and via digital forms
- Answering questions on paper or through digital means such as PearDeck, Padlet, or shared Google Docs or Slides
- Collaborative writing or documentation of thinking on graphic organizers, chart paper or through digital means

About the Writing to Learn Tasks in this Resource

The sample elementary and secondary tasks have Writing to Learn embedded in each and address RL.2 (determining theme) and C.2 (supporting an informative or explanatory claim with evidence). Reading Literature Standard 2 is intentionally chosen as the aligned reading standard for these sample tasks in order to demonstrate how Writing to Learn is one way to address the language of the standard in grades K-3, "...from a summary...".

In the kindergarten example below, Writing to Learn occurs after the students have heard a story read aloud, seen the story's pictures and heard a summary of the story read aloud two to three times. The teacher leads students through an oral discussion of the story's lesson and prompts them to recognize the key details within the summary that support the story's lesson. Once students engage in the oral discussion, they are prepared to use Writing to Learn to capture their thinking and deepen their understanding. Teachers are encouraged to implement the pre-work before jumping into the sample kindergarten task. The purpose of this task is to give kindergarten students an opportunity to practice the skill of determining theme and citing textual evidence through explanation with an informal writing experience.

The Grade 3 example further provided provides the text summary to students. Students do not need to be familiar with the full text because the summary alone has enough implicit and explicit details to determine a possible theme. In other instructional settings, the summary may be written by the class, in collaboration with the teacher or peers or even independently. Of course, in those cases, students would need to be familiar with the full text. In any case, allowing students to experience a variety of opportunities to create and respond to summaries (some written by them and some not) with special attention to the theme is encouraged. The built-in scaffolds embedded in Reading Literature Standard 2 through grade three are intended to prepare students for the demands of the standard in fourth grade and beyond when there is an intentional shift for students to analyze theme using a text rather than from a summary of the text.

The Grade 8 sample task also models built-in scaffolds for determining theme based on concrete textual evidence. The task guides students through analyzing the positive and negative traits of character relationships and determining a theme supported by their analysis. Note that this task could be used with any literary text.

Kindergarten Writing to Learn Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
RL.K.2 With prompting and support, orally recognize key details from a summary to demonstrate understanding of the lesson learned in the story. **C.K.2** Compose informative and/or explanatory texts, using a combination of drawing, dictating, writing and digital resources, to establish a topic and supply information about the topic.	**ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 5:** Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks.

Kindergarten Reading and Writing Task

After leading students through the pre-work for this task, the teacher will review the summary provided below either orally, without showing the written text, or with the text visible as the summary is read aloud.

Summary of *Oh, How I Wished I Could Read!* by John Gile

***Oh, How I Wished I Could Read!* is a book about a young boy who has a dream that he can't read. In his dream, he faces many dangers and problems because he can't read the signs. He ends up getting chased by dogs, sits on wet paint, gets poison ivy and almost gets hit by two cars and a bus! He wakes up from the nightmare to realize it was all just a dream, and he can pick up a book and read!**

Say, "We discovered this book teaches us that it is important to know how to read. You are going to answer questions about the lesson we and the character learned. You will use drawing or writing in the boxes to show your answers to the questions." Give each student a copy of the thinking paper, a tool for them to record their reflections (Writing to Learn). Say, "I am going to read each question to you, but I do not want you to answer any of the questions yet. Just listen and point to the box where you will write or draw your answer. I'm going to read the questions to you, and you point to the box under the question. In a few minutes, I will read the questions again and you will have time to answer them. The first question on your paper is, 'What is the lesson learned in the story?' The next question is, 'Which sign do you think is most important to be able to read?' After you write or draw the sign, you will have one more question to answer about the sign. The question is, 'Why is the sign you chose the most important?' WHY means you get to say what you think. What you think about something is called your opinion. There are two boxes to answer this question in because the question asks you to give two reasons why you think the sign is the most important one. You will draw or write one reason in each box for why you think the dog sign or the paint sign (or whichever sign you chose) is the most important to be able to read.

Kindergarten Reading and Writing Task
Now, let's go back to the top of your thinking paper. I will read each question to you again, slowly, and give you time to put your answer in the box. Remember, you may draw or use words to answer each question. You may even choose to use words and pictures. Write the words the best you can. Draw the best you can. Your words and pictures do not have to be perfect. This writing is just for you." The teacher will read one question at a time and provide time for most students to respond to each question before moving on to the next question.

Kindergarten Teacher Notes
Oh, How I Wished I Could Read! by John Gile is not the only text summary kindergarteners may hear/read to work toward RL.K.2. Students could engage in a similar Writing to Learn task using nearly any grade-appropriate text. A specific text is named in this sample task in order to provide an example text summary for students to work from. Working from a summary is an expectation of RL.K.2, the reading standard to which this task aligns. The pre-work is intended to be used when students are learning to recognize the key details from a summary to demonstrate understanding of the lesson learned in the story and prior to expecting students to engage in this sample Writing to Learn task.

Grade 3 Writing to Learn Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
RL.3.2 Identify and cite relevant implicit and explicit information from a summary to determine theme, lesson learned and/or moral, including but not limited to fables, folktales and myths from diverse cultures. **C.3.2** Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and provide information.	**ILP 2:** Employ, develop and refine schema to understand and create text. **ILP 5:** Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks.

Grade 3 Reading and Writing Task

Summary of My Rotten Redheaded Older Brother by Patricia Polacco

My Rotten Redheaded Older Brother is a story about sibling rivalry. Richard and Patricia are in constant competition. Patricia, the younger sister, can't stand Richard and is always trying to find ways to outdo him, but it never works. It isn't until she wishes on a shooting star that she could do something - *anything* - better than Richard, that she finally outdoes him, but more importantly, she realizes how much she and her brother really do care about and love each other even though they are rivals.

Read the summary and then answer the provided questions to help you understand what the summary is telling you about the text's theme.

- Who are the siblings in the text? *Richard and Patricia*
- What is sibling rivalry? When brothers and sisters *constantly compete and don't get along*
- What does it mean to 'outdo' someone? *Do something better.*
- How do you know Patricia and Richard care about each other? *At the end something happens that lets Patricia know how much they really do care about and love each other.*

Now, using the provided summary (above), identify the information from the summary that you think best supports the theme that love exists even during sibling rivalry?

Sample Graphic Organizer

Write each detail you identify as support for the theme provided:	For each detail you identified, why do you think it supports the theme?	Theme:
Patricia can't stand Richard and wants to do something better than him.	*They are siblings who have a rivalry.*	**Love exists even during sibling rivalry.**
...she realizes how much she and her brother really do care about and love each other...	*This shows they do love each other even though they usually fight and don't get along.*	

Grade 3 Reading and Writing Teacher Notes

My Rotten Redheaded Older Brother by Patricia Polacco is not the only text summary third graders may read to work toward RL.3.2. Students could engage in a similar task using nearly any grade-appropriate text. A specific text is named in this sample task in order to provide an example text summary for students to work from. Working from a summary is an expectation of RL.3.2, the reading standard to which this task aligns.

The questioning portion of the task introduces students to determining a theme in Grade 3 or when students require more support to determine the theme. This portion of the assignment is not intended to reach the full depth of the standard, but rather serve as an initial steppingstone in the process of attaining the full standard. Writing to Learn is most effective when the task design is intentional. In this task, text dependent questions have been specifically crafted to direct the reader to the important details (both implicit and explicit) in the summary that relate to the story's theme. This approach equips the reader with the skills necessary to determine the theme of the text from the summary rather than being left to sort through the details without any structure or guidance. Without employing intentional, text dependent questions, the reader may not have the schema or disciplinary skills required to identify and cite relevant implicit and explicit information from a summary to determine the theme by the end of third grade. Implementing a Writing to Learn strategy (such as answering text-dependent questions) provides students an opportunity to practice and become comfortable applying the disciplinary skills readers and writers use to make sense of and analyze text. Once students become comfortable reading summaries and answering/discussing theme related text dependent questions that point to both implicit and explicit important details, they are ready to identify the relevant information that supports the theme. In this sample, students Write to Learn using a table format. One column of the table provides the theme for students and then they are asked to identify the information from the summary that best supports the theme. If students have utilized Writing to Learn to answer text dependent questions from the summary, they should be able to identify the information from the summary they think best supports the theme. If they are not able to accurately identify details that support the theme, more time reading the summary for understanding and thinking through text dependent questions may be helpful.

Grade 8 Writing to Learn Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
RL.8.2: Determine themes of a text, and analyze how they are developed through relationships of characters, setting and plot, citing textual evidence, paraphrasing or summarizing. **C.8.2:** 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.	**ILP 4:** Utilize receptive and expressive language arts to better understand self, others, and the world. **ILP 9:** Apply high level cognitive processes to think deeply and critically about a text.

Grade 8 Reading and Writing Task

Complex characters have both good and bad traits that can point to a text's theme. While independently reading narrative short fiction, a novel or a poem that depicts a relationship between two or more individuals, complete the "How do character relationships develop a text's theme?" graphic organizer. This graphic organizer examines the good and bad traits within a character's relationship with another. Finally, use this relationship analysis to make a claim about themes developed in the text.

Grade 8 Reading and Writing Teacher Notes

This graphic organizer can be used with any narrative, literary text and addresses the first part of RL.8.2, "Determine themes of a text, and analyze how they are developed through relationships of characters..." with the understanding that subsequent lessons will address subsequent skills in the standard.

This task relies on the concept of relationship complexity between characters, or that relationships in text–as in real life–can exhibit both positive and negative qualities. Requiring students to look at a relationship through both a positive and negative lens not only promotes critical thinking (ILP 9), but also promotes empathic habits of viewing self, others and the world from two perspectives (ILP 4).

Differentiation Option: The final row of the graphic organizer offers two options for supporting students without changing the complexity of the text. The first question provides more teacher support for students who are early in their progress towards mastery of RL.2. The second question provides less teacher support for students who are able to determine themes independently.

Writing to Learn in Mathematics Instruction

Implementing Writing to Learn in Mathematics Instruction

Writing to Learn in the mathematics classroom should be a regular occurrence. This type of writing provides opportunities for students to think metacognitively and organize their own thoughts with given information, share information with others for feedback and discussion, and continuously revise their thinking as they gain deeper understanding of the task and of mathematics in general.

Writing to Learn can promote student engagement and aid in developing a student's mathematical identity. Strategies that involve embedding systems and routines, such as Routines for Reasoning, allow students to engage in productive struggle and take ownership of their progress toward intended learning outcomes. While routines may vary across contexts, routines can help foster a sense of predictability and safety for students as they learn mathematics.

Writing to Learn strategies can engage students in learning that develops the voice and perspective necessary to engage with mathematics in the world beyond the classroom. When students Write to Learn, look for opportunities for them to respond to primary source documents, such as graphs or situations that deal with current world events. Consider facilitating Writing to Learn within tasks such as Data Talks or slow reveal graphs (demonstrated here). Writing to Learn strategies can even create a space to promote analysis of information, data and facts to help students make reasoned judgments, resulting in more responsible decision making.

Some additional examples of Writing to Learn strategies in the mathematics classroom could include, but are not limited to, the following[5]:

- I Notice, I Wonder Brainstorming
- Mathematical Language Routines such as:
  - Successive Pair Shares
  - Critique a Partial or Flawed Response
  - Always-Sometimes-Never
  - Co-Craft Questions
  - Co-Craft Situations
  - Numbered Heads Together

[5] Source: Understanding Language/Stanford Center for Assessment, Learning and Equity at Stanford University, is licensed under a Creative Commons Attribution 4.0 International License. 2017.

About the Writing to Learn in Mathematics Tasks in this Resource

These Writing to Learn sample tasks address Measurement and Data in Grade 2 and Modeling with Geometry in high school. Each sample shows how Writing to Learn is naturally embedded within a common mathematical instructional framework called Three-Act Tasks.

In Three-Act Tasks, Act 1 is a lesson launch, typically presenting a thought-provoking phenomenon for students to observe and pose questions as they ponder the situation. Writing to Learn in this stage helps students collect their noticings and wonderings about the thought-provoking phenomenon. Act 2 is a period of exploration in which students request clarifying data and then answer their own questions about what they observed in the first act. Students use Writing to Learn in Act 2 as they explore ways of answering their questions. Act 3 brings the problem to a conclusion and offers students the opportunity to reflect on their written solutions. See Math for All's description of Three Act Tasks for more information.

The purpose of these Writing to Learn tasks is to give students an opportunity to use informal writing exercises to capture their thinking, ultimately sharing through discussion in order to promote individual and collective learning and deepen understanding of content throughout the process of modeling with mathematics.

In both sample tasks, the instructional emphasis remains on the content and practice standards within the *KAS for Mathematics*. The *KAS for Mathematics* differs from previous standards in that they intentionally integrate content and practices in such a way that every Kentucky student will benefit mathematically. Put simply, the Standards for Mathematical Content define **what** students should understand and be able to do. Standards for Mathematical Practice define **how** students engage in mathematical thinking.

Grade 2 Writing to Learn Sample for Mathematics

Mathematics Content Standards Alignment	Standards for Mathematical Practice Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Cluster: Relate addition and subtraction to length. **KY.2.MD.5** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units by using drawings and equations with a symbol for the unknown number to represent the problem. **Target of the Standard:** Conceptual Application	Students calculate the two different lengths based on the paths they will run. Students will make sense of who will win the race and how far they will run **(MP.1)** using a linear representation **(MP.4)**.	**RI.2.1** Ask and answer such questions as who, what, where, when, why, and how, and make and support logical inferences to construct meaning from the text. **C.2.6** Collect information from real world experiences or provided sources to answer or generate questions.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 2 Mathematics Task

Task: The Race

ACT 1: Engage and Perplex
After showing the 7-second video engaging students in a notice and wonder routine, ask, "What do you notice and wonder? Record their noticings and wonderings on chart paper. Some potential noticings and wondering could be:

- There are two girls.
- One girl is taller than the other.
- The girls are running.
- Why are the girls running?
- Where are they running to?
- Who will win the race?
- How far did each girl run?

Students record some of these on their Three-Act Task graphic organizer. Graham Fletcher's Version 3 graphic organizer for Three Act Tasks are suitable for use. Next, the teacher and students discuss and come to a consensus on what they would like to solve. They then estimate solutions, recording these on the graphic organizer. For example, if the class decides to focus on solving how far each girl ran, students would estimate a low and high number and then commit to the estimate on the number line provided on the recording sheet.

ACT 2: Seek Information and Solutions
In Act 2, students work on finding solutions to their problems through Writing to Learn. Provide students with the following directions:

We are trying to solve the question, "Where did they run?" Using the information provided in the Race Route and the additional information below, use strategies that make sense to you to help solve how far each girl ran and who won.

Additional information:

- The race started in the bottom right corner, and the girls started running left.
- The race finished in the same spot.

ACT 3: Reveal, Discuss, Extend (Extension Optional)

In Act 3, students share their written work, thinking and solutions with one another. If using the 3 Act Task graphic organizer, the teacher will direct students to sections 6 and 7 of the organizer as this is where they will be sharing their thinking from and also Writing to Learn when confirming or adjusting their arguments. Explain the purpose of Act 3 to the students by saying, "Now it is time to explain your conclusions to each other. You will get to share your thinking with classmates, and they will get to share their thinking with you. Listen closely as your classmates explain their arguments (or read their arguments closely) because it is your job to decide whether they make sense and ask useful questions to clarify or improve the arguments. (MP.3) You will confirm or adjust your thinking/arguments based on the discussions you have with your classmates." Allow time for students to engage in this communication and then reconvene as a whole class to bring conflicting ideas together and reconcile. This is also when the teacher will generalize the math involved and introduce formal mathematical vocabulary. Students continue to use Writing to Learn at this time as they make final adjustments, such as corrections to their math computation or applying a more efficient solution strategy, and additions, such as including formal math vocabulary, to their written work.

Grade 2 Mathematics Teacher Notes

Implementation Ideas for Act 3:

The student discussion time can be structured in a variety of ways. Consider these ideas below from the San Francisco Unified School District Mathematics Department:

- Students might compare their solutions to each other and to the reveal (if the teacher has shared the solution).
- Students might compare their solutions to their estimates and discuss the comparison.
- Students might discuss the assumptions that were made in the work.
- Students might think of other questions they could pursue next.

For additional insight around the alignment of the selected task to the *KAS for Mathematics*, access the Annotated Assignment Review Protocol. Designed to guide educators through the process of reviewing a single task/assignment by examining the alignment with the Mathematical Content alignment, engagement in the Mathematical Practices, attention to Relevance and analyzing Student Performance, the Assignment Review Protocol is intended to help teachers, leaders, and other stakeholders answer the question, "Does this task give students the opportunity to meaningfully engage in worthwhile grade-appropriate content?"

High School Geometry Writing to Learn Sample

Mathematics Content Standards Alignment	Standards for Mathematical Practice Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Cluster: Apply geometric concepts in modeling situations. **KY.HS.G.30** Apply concepts of density based on area and volume in modeling situations, using appropriate units of measurement. **Target of the Standard:** Application For additional insight on standard KY.HS.G.30, access the Annotated Breaking Down a Standard Sample.	**MP.1: Make sense of problems and persevere in solving them.** Students start by explaining the meaning of a problem and look for entry points to its solution. They analyze given constraints, relationships and goals. **MP.4: Model with mathematics.** Students are able to identify important quantities in a practical situation. They can analyze relationships mathematically to draw conclusions. **MP.6: Attend to precision.** Students calculate accurately and efficiently and express answers with a degree of precision appropriate to the context.	**Supports learning toward:** **RI.9-10.1** Cite relevant and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **C.9-10.6** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	**ILP 2:** Employ, develop and refine schema to understand and create text. **ILP 6:** Collaborate with others to create new meaning. **ILP 8:** Engage in specialized, discipline specific literacy practices.

High School Geometry Task

Task: World's Largest Hot Coffee

ACT 1: Engage and Perplex

In Act 1, the teacher shares the 57-second video with the students.

The teacher poses questions to the class: "What do you notice? What do you wonder?" Students are encouraged to record their observations (perhaps using a graphic organizer) and generate questions to ask about the situation. The situation for this task is: The Gourmet Gift Baskets team wants to break the record for the biggest coffee cup. Once students have had the opportunity to independently consider the situation, students collectively decide on a question to focus on answering as a class and make estimates about the likely solution. In this example, the class asks, "How many gallons of coffee do you think will fit inside?" Below are suggested prompts to guide the process of making estimates:

- Guess as close as you can. Write your guess down.
- Write down a guess you know is too high.
- Write down a guess you know is too low.
- How long do you think it'll take them to fill up the cup?
- How many regular-size cups of coffee would fit inside that super-size cup of coffee?

ACT 2: Seek Information and Solutions

In Act 2, students work on finding solutions to their problems. Students use information they have and ask for more information as needed.

The task suggests asking students: What information would help solve this problem?

Resources provided that the teacher may share to support thinking:

- An image containing the dimensions of the cup
- A link to the news story about the old record
- An image conveying the rate at which the cup is filling up
- A link to the conversion from cubic feet to gallons
- A file containing the Guinness World Record guidelines

ACT 3: Reveal, Discuss, Extend (Extension Optional)

In Act 3, students share their work, thinking and solutions. Once students have had the opportunity to formulate their thinking, allowing students to have discussion about their strategies can deepen understanding of content. The discussion can be structured in a variety of ways, including these considerations below from the San Francisco Unified School District Mathematics Department:

- Students might compare their solutions to each other's and to the reveal (if the teacher has shared the solution).
- Students might compare their solutions to their estimates and discuss the comparison.
- Students might discuss the assumptions that were made in the work.
- Students might think of other questions they could pursue next

High School Geometry Teacher Notes

ACT 1: Engage and Perplex
Engaging students in tasks that promote mathematical reasoning and problem solving is a critical element of effective mathematics teaching. Teachers should consider how to offer all students an entry point into mathematics. In this case, Act 1 attempts to lower barriers to entry. As an additional strategy, educators can utilize routines, such as I Notice, I Wonder, which may support students as they

- Understand the story, the quantities and the relationships in the problem.
- Understand what the problem is asking and what the answer will look like.
- Have some ideas to begin to solve the problem.

The graphic organizer provides a brief, informal way to capture student thinking and learning and allows students to jot down their ideas to promote learning and understanding of content. After developing a class list of noticings and wonderings, decide on a question to focus on answering as a class and make estimates about the likely solution. After noticing and wondering, students should be able to:

- Tell the story of the problem in their own words.
- Give a reasonable estimate or high and low boundaries for the answer.
- Work independently on carrying out steps or generating more data toward solving the problem.

ACT 2: Seek Information and Solutions
During Act 2, students may use different ways to communicate and understand, such as objects, drawings, diagrams, charts, lists, graphic organizers, visual representations, etc. Within the graphic organizer, there is space for students to construct a viable argument (Standard for Mathematical Practice 3). Students understand and use stated assumptions, definitions and previously established results in constructing arguments.

ACT 3: Reveal, Discuss, Extend (Extension Optional)
Students justify their conclusions, communicate them to others and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Students at all grades can listen or read the arguments of others, decide whether they make sense and ask useful questions to clarify or improve the arguments. (MP.3)

Ultimately, Act 3 is where the math is formalized and consolidated. Conflicting ideas are brought together and reconciled. Formal mathematical vocabulary is introduced.

For additional insight around the alignment of the selected task to the *KAS for Mathematics*, access the Annotated Assignment Review Protocol. Designed to guide educators through the process of reviewing a single task/assignment by examining the alignment with the Mathematical Content alignment, engagement in the Mathematical Practices, attention to Relevance and analyzing Student Performance, the Assignment Review Protocol is intended to help teachers, leaders, and other stakeholders answer the question, “Does this task give students the opportunity to meaningfully engage in worthwhile grade-appropriate content?”

Writing to Learn in Science Instruction

Implementing Writing to Learn in Science Instruction

Writing to Learn in the science classroom should be a regular occurrence as this type of writing allows students to formulate ideas, organize thoughts and share information with others for feedback and discussion, continuously revising as they gain deeper understanding of the phenomenon and/or problem. While there are many more Writing to Learn strategies that fit well in science classrooms, some **examples include**, but are not limited to, the following:

- Organizing information into a table
- Representing data on a chart
- Developing models
    - Images
    - Flowcharts
    - Analogies
    - Mathematical Equations
- Designing Solutions
- Critiquing Arguments

Science teachers implement Writing to Learn strategies when their students engage in the science and engineering practice (SEP), a dimension of the Kentucky Academic Standards for Science. These practices define the "doing" of science; that is, how students come to understand the natural and designed world. Writing to Learn supports students as they engage in the "doing" and can help advance their understanding of the disciplinary core ideas. These eight practices are the science literacy skills students use that will lead them to being scientifically literate citizens. To generate more ideas for how to utilize Writing to Learn in a science classroom, review the components of the practices found in the tables at the end of each practice description in **Appendix F: Science and Engineering Practices**. Through the regular use of these practices, students gain a deeper understanding of the core ideas of science.

The SEPs interact with one another and are not used in a linear way. This provides numerous opportunities for writing to learn to occur in the science classroom. The task descriptions for these samples incorporate writing to learn opportunities that support the sample writing to learn tasks.

About the Writing to Learn in Science Tasks in this Resource

The Grade 2 unit on plant growth begins with students exploring the mystery of their harvest corn, something they initially saw as decoration, beginning to sprout what appears to be leaves and roots. As students made observations of the dried corn, this led to the question, "Why is our corn changing?" Leading up to this task, the students were actively engaged in collaborative planning and carrying out investigations and making independent observations in order to see patterns. From the previous investigation the students have questioned the needs of plants and noticed that the plant structures are bending toward the window to get light. They design another investigation to answer, "Does corn need light to keep growing?" The students place some of their plants in the dark and some in the light.

The Grade 6 task is part of a unit exploring the phenomenon of a change in height of Mt. Everest after an earthquake has occurred. As students begin to investigate this phenomenon, they relate this change to mountain ranges around the world, leading to the question, "Why do some mountains grow higher while other mountains are losing height?"

Grade 2 Writing to Learn Sample for Science

Disciplinary Core Idea Alignment	Science and Engineering Practices Alignment	Crosscutting Concepts Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Supports learning towards LS2.A Interdependent Relationships in Ecosystems: **Plants depend on light** and water to grow.	***Planning and Carrying Out Investigations*** **Make observations (firsthand or from media) and/or measurements to collect data that can be used to make comparisons.** ***Engaging in Argument from Evidence*** **Construct an argument with evidence to support a claim.**	***Patterns:* Patterns in the natural world can be observed.** ***Cause and Effect:* Events have causes that generate observable patterns.**	**RI.2.3** Describe the connection between individuals, historical events, scientific ideas or concepts or steps in technical procedures over the course of a text. **C.2.6** Collect information from real-world experiences or provided sources to answer or generate questions **C.2.2** Compose informative and/or explanatory text, using writing and digital resources, to establish a topic and provide information about the topic.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 2 Science Task

Students will engage in Writing to Learn experiences throughout the investigation to build knowledge and answer the question, "Does corn need light to keep growing?" During the plant observation period, students will collect data through drawings and descriptions or measurement data (height of the plants in light and dark environments). They will look for patterns across all the data samples, focusing on the purpose of the investigation. Students will write a claim, with evidence, in response to the question, "Does light cause plants to grow and remain healthy?"

Provide students with this language to begin the investigation: **Use your science notebook to collect observational data (drawings or descriptions) or measurement data (height) of the plants in the light and the plants in the dark for two weeks.** During the observation period, facilitate thinking/learning by asking students what they notice about the data they are collecting. Ask how the data for plants in the dark are different from data collected for plants in the light. After two weeks, prompt students to process their thinking/learning through Writing to Learn using language such as: **Now that we have collected data for two weeks, what patterns do you notice across all the samples?** Using Writing to Learn at this stage of the learning process engages students in data analysis and interpretation. Think: What do these patterns help me discover about what plants need to grow and remain healthy? Students will draft a written response to the investigation question after orally describing the patterns/connections between sunlight and plant growth and health, using their observation data as evidence to support their thinking. Provide students with this language to initiate another opportunity for Writing to Learn: **Does light cause plants to grow and remain healthy? Write a claim supported by evidence from the data you collected. You may use the following sentence starter to begin your claim.**

Light (does not cause/causes) plants to grow and remain healthy. I know this because…

Grade 2 Science Teacher Notes

Writing to Learn is illustrated in this through the collection of data, a component of carrying out the investigation (SEP: Planning and Carrying Out an Investigation) in order to identify trends (CCC: Patterns) across all the samples that can help answer the question being investigated. As they begin to think about the relationship (CCC: Cause and Effect) between light and plant growth (DCI: LS2.A Interdependent Relationships in Ecosystems), the students use their data as evidence to support their thinking (SEP: Engaging in Argument from Evidence).

For guidance on where this fits into the sequence and specific lesson details, access Lesson 6b: Does corn need light to keep growing? of the NextGen Storylines 2nd grade unit: "Why is our corn changing?"

Grade 6 Writing to Learn Sample for Science

Disciplinary Core Idea Alignment	Science and Engineering Practices Alignment	Crosscutting Concepts Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Supports learning towards MS-ESS2.A Earth's materials and Systems **The planet's systems interact over scales that range from microscopic to global in size and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future.**	***Analyzing and Interpreting Data*** **Use graphical displays** (e.g., maps, charts, graphs and/or **tables**) **of large data sets to identify temporal** and spatial **relationships**.	***Patterns*** **Patterns can be used to identify cause and effect relationships.** Graphs, **charts** and images **can be used to identify patterns in data.**	**RI.6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **C.6.2** 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.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 8:** Engage in specialized, discipline-specific literacy practices

Grade 6 Science Task

As a class, students are asked to identify the types of data that would be needed to help determine how mountains change over time. Once the class comes to an agreement on a type of datum, the teacher will write it on the board. Students will use the agreed upon information to develop their data table. Students are then provided a set of six data cards describing the characteristics of six different mountains including maps of their locations.

The teacher will initiate students' first opportunity to Write to Learn using oral or written directions such as, "**Using your science journal, design a table, individually or collaboratively, to organize the data determined by the class that will help us in answering our question."** Once the data tables have been designed, the data cards will be distributed, and the teacher will set students up for another Writing to Learn opportunity. The teacher will explain, "The data cards contain information about the various mountains and may include more information than we identified as a class. **Record the appropriate information in your table. You may add the information to your data table if it is relevant to the question being answered. You may also wish to annotate the cards as you read through them.**"

Grade 6 Science Teacher Notes

Writing to Learn is illustrated in this through the organization of the information from the data cards (SEP: Analyze and Interpret Data) into a form that will allow them to identify trends (CCC: Patterns) that can help answer the question being investigated, as they begin to think about potential causal (CCC: Cause and Effect) mechanisms for changes in mountain height (DCI: ESS2.A Earth materials and systems).

For guidance in assisting students in determining appropriate data and organization of their table, access Lesson 1: What is causing Mt. Everest and other mountains to move, grow or shrink? of the OpenSciEd 6th grade unit: What causes Earth's surface to change?

Writing to Learn in Social Studies Instruction

Implementing Writing to Learn in Social Studies Instruction

While there are many more Writing to Learn strategies that fit well in social studies classrooms, some examples include, but are not limited to, the following:

- Graphic organizers
- Graffiti boards
- Annotating texts
- Mind mapping
- Think, Write, Pair, Share
- Source Analysis sheets
- Note taking strategies (Cornell notes, etc.)
- Active reading strategies

About the Writing to Learn in Social Studies Tasks in this Resource

The Grade 2 task requires students to identify cultural elements of the Maya through the creation of a graffiti board. Identifying the cultural elements of the Maya supports students in their investigation of the supporting question (2.I.Q.2) "How did cultural groups connect and interact in the past and today to shape the culture of modern Mexico?" as they compare this group with other diverse North American cultural groups in Mexico from the past and today.

The Grade 5 task engages students in Writing to Learn as they organize their thinking on a graphic organizer while analyzing primary and/or secondary sources to answer the supporting question, "Why did the colonists demand no taxation without representation?"

The Grade 8 Writing to Learn gives students an opportunity to analyze a primary source by using a graphic organizer to record and organize their thinking. Students will use the information learned in this Writing to Learn task to answer the supporting question, "How did the Missouri Compromise temporarily save the Union?"

The World History for Grades 9-10 task requires students to corroborate sources to understand how continuities in the desire for cheap labor led to chattel slavery within the Atlantic System. Students will Write to Learn as they gather information and evidence from credible sources, corroborate these sources and organize their thinking by creating a Mind Map. Students will use the information learned through the Writing to Learn used in this task to answer the supporting question, "What incentives caused individuals, organizations and governments to use slavery and other systems of forced labor for the purpose of production across the globe between 1300-1888?"

Grade 2 Writing to Learn Sample for Social Studies

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
2.H.CH.1 Identify and compare the diverse North American cultural groups of the past and today. *In this task, students are identifying cultural elements of the Maya, which will help them later to compare this group in Mexico from the past and today.*	**2.I.Q.2** Identify supporting questions that help answer compelling questions about communities found in North America. *Students are working toward 2.I.Q.2 by gathering evidence from multiple sources that will help them answer the supporting question.*	**RI.2.1** Ask and answer such questions as who, what, where, when, why, and how, and make and support logical inferences to construct meaning from the text. **C.2.5** Conduct shared research and writing projects that build knowledge about a topic.	**ILP 2:** Employ, develop and refine schema to understand and create text. **ILP 3:** View literacy experiences as transactional, interdisciplinary and transformational.

Grade 2 Social Studies Task

In small groups, create a graffiti board representing Mayan culture using information you have gathered from the sources provided below:

- National Geographic. (2018). *Ancient Maya 101* [video]. https://www.youtube.com/watch?v=Q6eBJjdca14.
- NoticiasMVS. (n.d.). *Pueblos Indígenas en México* [infographic]. http://noticiasmvsfotos.blob.core.windows.net/media/infografias/8a206f5d5c58f9e85b3774ff6fd05a2b.jpg.
- Smithsonian National Museum of the American Indian. (2012). *The Maya People* [video]. https://maya.nmai.si.edu/the-maya/maya-people.

You may use a poster, chart paper or whiteboard and collectively write words, phrases and sentences and draw pictures that represent Mayan culture.

Grade 2 Social Studies Teacher Notes

This Writing to Learn task is a part of the Grade 2 Strongly Aligned Assignment with Teacher Notes from the Social Studies Student Assignment Library.

The graffiti board strategy allows students to organize the information they learn from the sources about the Mayan culture in text and images, allowing students to process their learning through both linguistic and non-linguistic means. Because Writing to Learn is informal writing, this strategy supports students in synthesizing information from the sources and expressing their thinking through text and images. Organizing elements of Mayan culture supports students' learning as they gather evidence to prepare for responding to the supporting question, "How did cultural groups connect and interact in the past and today to shape the culture of modern Mexico?"

Student Examples (continued on next page):

maya
corn
colcher
ink
they se lubrat
with thar the
famall
hand writing
food
made houses befor evry one

Grade 5 Writing to Learn Sample for Social Studies

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
5.H.CO.1 Analyze the role conflict and collaboration played in the founding of the United States.	**5.I.UE.2** Analyze primary and secondary sources on the same event or topic, noting key similarities and differences in the perspective they represent.	**RI.5.6** Analyze multiple accounts of the same event or topic, noting important similarities and differences in the perspective they represent. **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. **RI.5.9** Integrate information from several texts on the same theme or topic. **C.5.5** Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. **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. *See Teacher Notes for an explanation of the *KAS for Reading and Writing* reading strand and how these standards align to the task.	**ILP 8:** Engage in specialized, discipline specific literacy practices. **ILP 9:** Apply high level cognitive processes to think deeply and critically about text.

Grade 5 Social Studies Task

With a partner, you will examine the Stamp Act from both the British and Colonists' perspectives. The sources you will utilize are listed below:

- Colonial Williamsburg. (2020). *A Summary of the 1765 Stamp Act.* https://www.history.org/history/teaching/tchcrsta.cfm.
- History.com Editors. (2019). *Stamp Act.* history.com/topics/american-revolution/stamp-act.
- Stamp Act History. (1999). *British View on the Stamp Act.* http://www.stamp-act-history.com/stamp-act/british-view-on-the-stamp-act/.

Read and analyze these sources with your partner. As you work, use the graphic organizer below to guide you as you compare the British and American Colonist perspective:

Stamp Act Summary (include who created it, who it impacted, what it did, and what caused it)	
British Perspective	**Colonists' Perspective**
Do the British have the right to tax the colonists? Cite evidence from the sources.	Do the British have the right to tax the colonists? Cite evidence from the sources.
Do the British believe the colonies have the obligation to help the British? Cite evidence from the sources	Do the colonists believe the British are entitled to the colonists' help? Cite evidence from the sources.
Summarize in detail the OVERALL feelings of the British on the Stamp Act.	Summarize in detail the OVERALL feelings of the colonists on the Stamp Act.
Compare the British and American Colonist perspective on the Stamp Act by analyzing the similarities and differences in their positions.	

Grade 5 Social Studies Teacher Notes

This Writing to Learn task is a part of the Grade 5 Strongly Aligned Assignment with Teacher Notes from the Social Studies Student Assignment Library.

A note about the *Kentucky Academic Standards for Reading and Writing*: Guiding Principles 1-6 give students an opportunity to practice skills in analyzing Key Ideas and Details and Craft and Structure. Guiding Principles 7-9 require readings of multiple texts and assume integrated engagement in Standards 1-6.

This graphic organizer offers multiple Writing to Learn opportunities. Each component requires students to focus on a different aspect of the content and would likely take place over multiple settings/days. For instance, students crafting a summary in the first box is Writing to Learn. Answering each set of perspective questions is also Writing to Learn. Students using what they learned about each group's perspective to analyze the similarities and differences is Writing to Learn as well. Each of these Writing to Learn tasks requires increasingly complex reading, writing and thinking skills and works together to comprise the full graphic organizer. Because this task carries a heavier cognitive load for students, teachers need a firm understanding of the reading strand within the *Kentucky Academic Standards for Reading and Writing*. This knowledge reduces over-identification and misalignment of standards. Seen in the Reading and Writing Standards Alignment box above, the standards in this task focus on integration of knowledge and ideas (Standards 7-9) even though students are responding to questions that require them to explain what the text says explicitly and from inferences (RI.5.1), citing evidence from texts that supports the central ideas (RI.5.2), and thinking about relationships or interactions between the British and Colonists (RI.5.3). These standards require students to analyze a single text at a time, which is happening in this sample Writing to Learn task; however, they are also required to go beyond single texts, aligning more closely to Guiding Principles 7-9. Standards 7-9 require readings of multiple texts, expecting the reader to apply Standards 1-6 as needed in each singular text to then integrate knowledge and ideas across multiple texts.

In short, this task requires both analysis (required by all reading standards) and synthesis (required by Standards 7-9, Integration of Knowledge and Ideas). When a task such as this one demonstrates this level of complexity, teachers should recognize the task as synthesis and align instruction to the appropriate Integration of Knowledge and Ideas standard.

Student example:

Stamp Act Summary

(include who created it, who it impacted, what it did, and what caused it)

The stamp act was created in 1765 by British Parliament. It was a tax put upon the American Colonies. The tax was on legal paper goods like marriage licences,and other documents.This caused the colonies to be upset and started a boycott.

British Perspective	Colonist Perspective
Do the British have the right to tax the colonists? Yes because they are under the rule of the king. The king had the right to tax and make laws however he wanted to.	Do the British have the right to tax the colonists? Yes, the British had a right to tax them, but the colonists wanted to be represented.
Do the British believe the colonies have the obligation to help the British? Yes because they got the same rights as the British people under the rule of the king.	Do the colonists believe the British are entitled to the colonists' help? Yes because the understand that they are under the rule of the king.
Summarize in detail the **overall** feelings of the British on the Stamp Act. They feel like they had the right to tax them on whatever they wanted.	Summarize in detail the **overall** feelings of the colonists on the Stamp Act. The said they would pay the tax but they needed representation.

Compare the British and colonists perspective on the Stamp Act by analyzing the similarities and differences in their positions.

They both had a government that taxed them. The British had representation in Parliament, but the Colonies did not. They were both under the the rule of the king.

Grade 8 Writing to Learn Sample for Social Studies

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
8.H.CO.2 Describe the conflicts and compromises that shaped the development of the U.S. government between 1783-1877.	**8.I.UE.3** Gather relevant information from multiple sources while using the origin, authority, structure, context and corroborative value of the sources to guide the selection to answer compelling and supporting questions. *Students are working toward 8.I.UE.3 by examining a primary source related to the supporting question and determining its origin, authority, structure and context.*	**RI.8.1** Cite relevant textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **C.8.5** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating new avenues for inquiry.	**ILP 8:** Engage in specialized, discipline specific literacy practices. **ILP 9:** Apply high level cognitive processes to think deeply and critically about text.

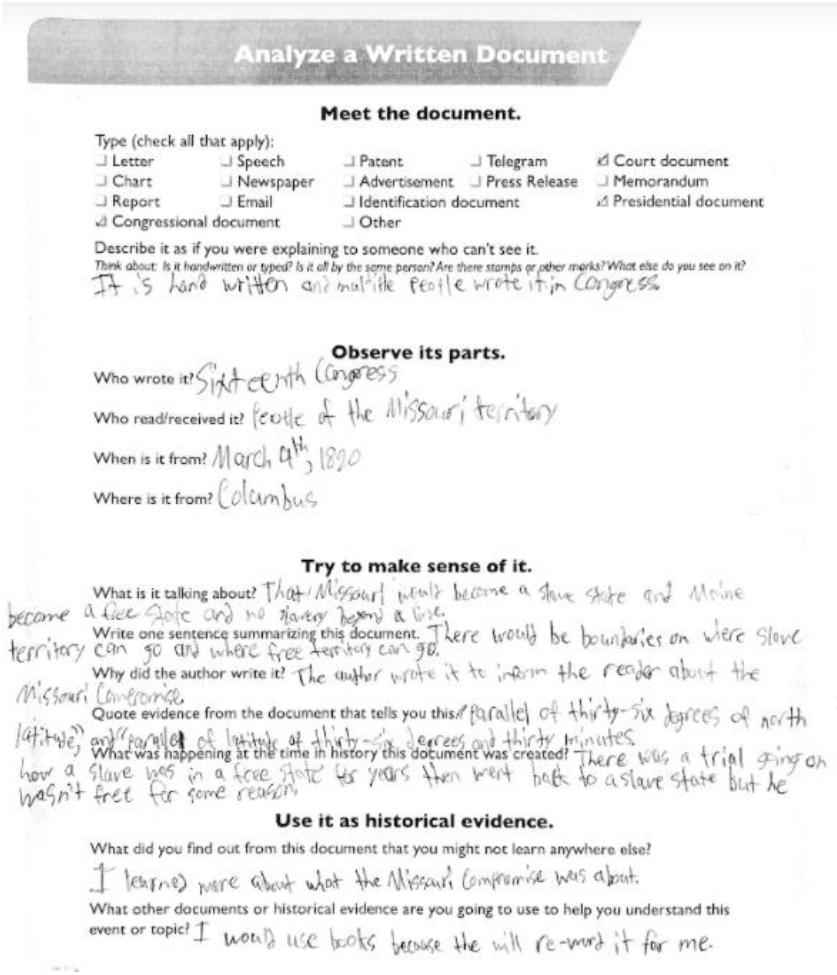
Grade 8 Social Studies Task
Examine the Missouri Compromise of 1820 using the Analyze a Written Document tool. You may work independently or in small groups to answer the questions provided on the tool.

Grade 8 Social Studies Teacher Notes
This Writing to Learn task is a part of the Grade 8 Strongly Aligned Assignment with Teacher Notes from the Social Studies Student Assignment Library.

Grade 8 Social Studies Teacher Notes

In this task, students use Writing to Learn to gather information from a primary source document. Students are asked to observe the parts of the document, make sense of it and determine how to use it as historical evidence. Sourcing the Missouri Compromise and recording their analysis will support students in comprehending the document and understanding its purpose and significance. This knowledge will support students as they investigate the supporting question, "How did the Missouri Compromise temporarily save the Union?"

Student example:



Analyze a Written Document

Meet the document.

Type (check all that apply):
- ☐ Letter
- ☐ Speech
- ☐ Patent
- ☐ Telegram
- ☑ Court document
- ☐ Chart
- ☐ Newspaper
- ☐ Advertisement
- ☐ Press Release
- ☐ Memorandum
- ☐ Report
- ☐ Email
- ☐ Identification document
- ☑ Presidential document
- ☑ Congressional document
- ☐ Other

Describe it as if you were explaining to someone who can't see it.
Think about: Is it handwritten or typed? Is it all by the same person? Are there stamps or other marks? What else do you see on it?
It is hand written and multile people wrote it in Congress

Observe its parts.

Who wrote it? Sixteenth Congress

Who read/received it? people of the Missouri territory

When is it from? March 4th, 1820

Where is it from? Columbus

Try to make sense of it.

What is it talking about? That Missouri would become a slave state and Maine become a free state and no slaves beyond a line.

Write one sentence summarizing this document. There would be boundaries on where slave territory can go and where free territory can go.

Why did the author write it? The author wrote it to inform the reader about the Missouri Compromise.

Quote evidence from the document that tells you this: "parallel of thirty-six degrees of north latitude," and "parallel of latitude of thirty-six degrees and thirty minutes"

What was happening at the time in history this document was created? There was a trial going on how a slave was in a free state for years then went back to a slave state but he wasn't free for some reason.

Use it as historical evidence.

What did you find out from this document that you might not learn anywhere else?
I learned more about what the Missouri Compromise was about.

What other documents or historical evidence are you going to use to help you understand this event or topic? I would use books because the will re-word it for me.

High School Social Studies Writing to Learn Sample

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
HS.WH.CH.5 Analyze how continuities in the desire for cheap labor led to slavery and other systems of forced labor across the globe between 1300-1888.	**HS.WH.I.UE.2** Gather information and evidence from credible sources representing a variety of perspectives relevant to compelling/supporting questions in world history.	**RI.9-10.7** Analyze various accounts of a subject presented in different print and non-print formats, determining which details are emphasized in each account. **C.9-10.6** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. *See Teacher Notes for an explanation of the *KAS for Reading and Writing* reading strand and how these standards align to the task.	**ILP 6:** Collaborate with others to make new meaning. **ILP 7:** Utilize digital resources to share and learn with others. **ILP 8:** Engage in specialized, discipline specific literacy practices.

High School Social Studies Task

To investigate how continuities in the desire for cheap labor led to chattel slavery within the Atlantic System, students will gather information and evidence from the following sources and create a Mind Map:

- Chocolate Class. (2019) One Thousand Years of Sugar: The Transition from Medicine and Elite Consumption, to Everyday Life in Great Britain. *Chocolate Class.* https://chocolateclass.wordpress.com/2019/03/15/one-thousand-years-of-sugar-the-transition-from-medicine-and-elite-consumption-to-everyday-life-in-great-britain/.
- Earls, Averill. (2020, January 19). Bittersweet: Sugar, Slavery, Empire and Consumerism in the Atlantic World. [audio podcast]. *Dig: A History Podcast.* https://digpodcast.org/2020/01/19/bittersweet-sugar-slavery-empire-and-consumerism-in-the-atlantic-world/.
- Godoy, M. (2015). Tea Tuesdays How Tea + Sugar Reshaped the British Empire. *National Public Radio*. https://www.npr.org/sections/thesalt/2015/04/07/396664685/tea-tuesdays-how-tea-sugar-reshaped-the-british-empire.
- Rice, A. (n.d.). The Economic Basis of the Slave Trade. *Revealing Histories.* http://revealinghistories.org.uk/africa-the-arrival-of-europeans-and-the-transatlantic-slave-trade/articles/the-economic-basis-of-the-slave-trade.html.

High School Social Studies Teacher Notes

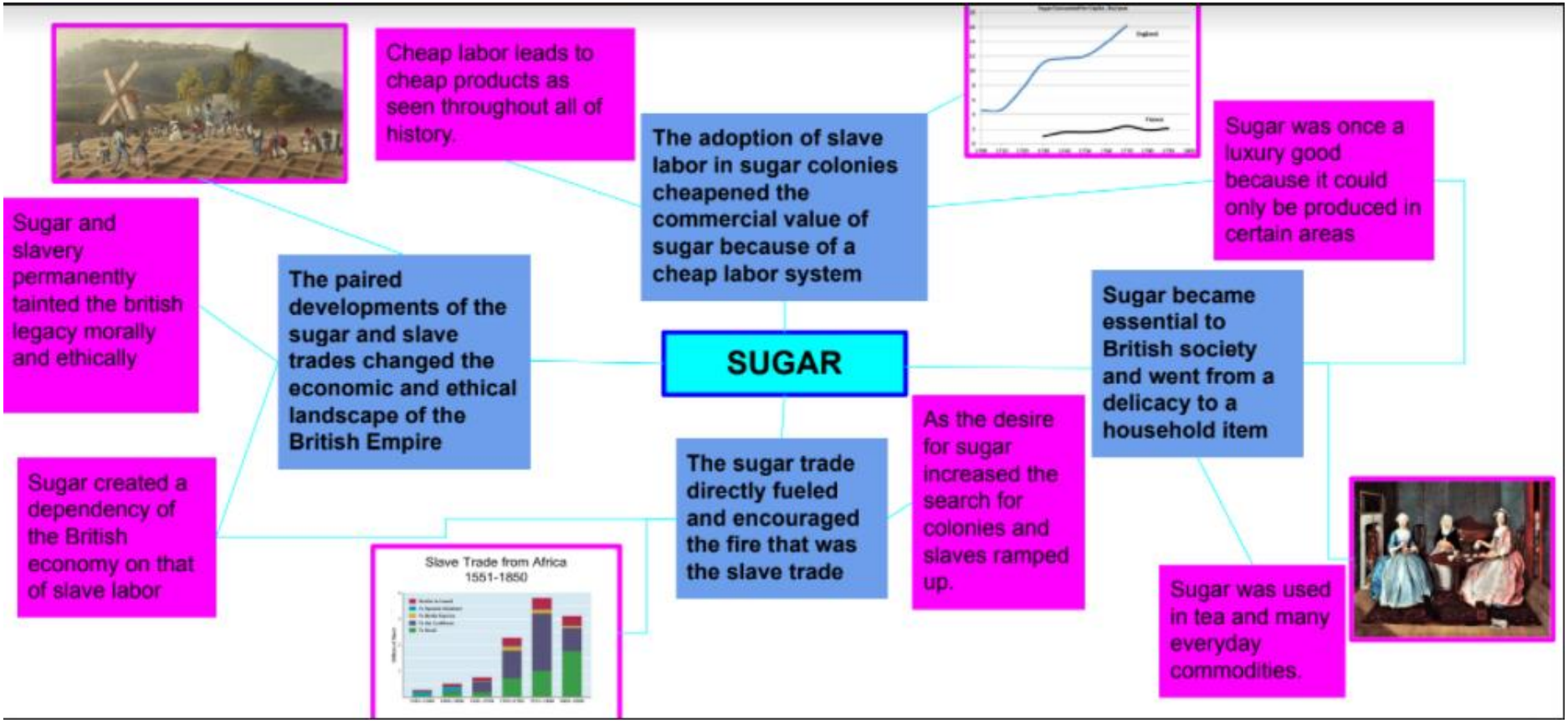
As students engage with the sources, they should corroborate the sources. The Stanford History Education Group (SHEG) states that "Corroboration asks students to consider details across multiple sources to determine points of agreement and disagreement." According to SHEG, a student who engages in corroboration asks the following questions of the sources:

- What do other documents say?
- Do the documents agree? If not, why?
- What are other possible documents?
- What documents are most reliable?

As students are corroborating these sources, have them create a Mind Map to visually organize their information. Mind mapping is a non-linear, graphic way of organizing information that allows students to focus on the relationships between ideas. For more information on Mind Mapping, watch this Mind Mapping video or visit the Mind Mapping website. For the purposes of this assignment, students would identify sugar as their main topic of study. Students would then complete the following:

- Have students identify sugar as the main topic of their map by placing it in the center and drawing a circle around it.
- Have students write down the main ideas that stem from sugar based on the information students read in the sources.
- Have students provide evidence for the main ideas that stem from sugar based on the information students read in the sources.
- Have students be creative and add visual interest by having students use both printed and sketched images to support their exploration of the main topic.

Student example:



Writing to Learn in Visual and Performing Arts Instruction

Implementing Writing to Learn in Visual and Performing Arts Instruction

The *KAS for Visual and Performing Arts* emphasizes four arts processes universal across all five disciplines: Creating, Performing/Producing/Presenting, Responding and Connecting. Writing to Learn happens most often in the arts process of Creating, as this is a continuous process when students conceive and develop artistic ideas and work, which may require space for thinking and reflecting throughout the artistic process. Writing to Learn when Creating may include:

- Outlining the elements of a specific arts discipline
- Documenting the development of a piece of artistic work
- Detailing how history influenced art or vice versa

The arts process of Performing is specific to the performing arts of music, dance and theatre. Producing is the process of sharing work in the area of media arts and will often utilize "product" as its final form. Presenting is often associated with sharing in more formal settings such as exhibitions in the visual arts. Writing to Learn can be an important aid to students as they plan their performances, products or presentations. Using Writing to Learn as a vehicle to drive these processes may mean students:

- Maintaining planning journals
- Recording notes about details they want to include in performances, products or presentations

Writing to Learn is an effective strategy for engaging Visual and Performing Arts students in Connecting, or relating artistic ideas and work with personal meaning and external context. Some Writing to Learn ideas for Connecting include, but are not limited to:

- Comparing and contrasting two or more arts disciplines
- Quick writing about how an artistic piece relates to the student

Responding as an artistic process of Visual and Performing Arts addresses students as audience members. This provides authentic opportunities for students to respond to their own art and the art of others. Writing to Learn may also serve as students reflect or respond on their work as artists as well as audience members. Writing to Learn for this purpose may look like:

- Responding to their own work or the work of others at any point in the artistic process
- Critiquing their own work or the work of others to set goals for improvement of their future work

About the Writing to Learn in Visual and Performing Arts Tasks in this Resource

The *Kentucky Academic Standards (KAS) for Visual and Performing Arts* include five contrasting arts disciplines connected through Anchor Standards. The elementary and secondary sample Writing to Learn tasks below both work towards mastery of Anchor Standard 2: Organize and develop artistic ideas and work. Students also interact with Performing, Responding and Connecting (relating artistic ideas and work with personal meaning and external context) in these tasks, allowing for connection to multiple areas outside of the discipline presented. Some connections to other content areas are included, but educators may make connections to other disciplines and contexts when possible.

Grade 1 Visual and Performing Arts Writing to Learn Sample (Dance)

Visual and Performing Arts Standards Alignment	Artistic Process Alignment	Additional Standards Alignment: Physical Education	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
DA:Cr2.2.1 Choose movements that express an idea or emotion, or follow a musical phrase. **Extension of Learning** DA:Pr5.1.1 (Perform) DA.Re9.1.1 (Respond) Da: Cn10.1.1 (Connecting)	**Artistic Processes Connection:** Creating **Process Component:** Plan **Anchor Standard 2:** Organize and develop artistic ideas and work.	**Standard 1:** Demonstrate competency in a variety of motor skills and movement patterns. **Locomotor: 1.1.L1.** Perform a variety of locomotor movements using different body parts. **Non-Locomotor: 1.1NL1.** Perform a variety of non-locomotor skills, using different body parts at different levels. **Body Management: 1.1.BM1.** Perform a variety of balances using different body parts.	**RL.1.3** Describe characters, settings and major events in a story, using key details in order to make meaning of the story development. **C.1.6** With guidance and support, collect information from real-world experiences or provided sources to answer or generate questions.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 6:** Collaborate with others to create new meaning.

Grade 1 Dance Task

In preparation for students to respond to a whole-class read aloud, students will be divided into two groups: "Character 1" note-takers and "Character 2" note-takers. The teacher will read the text at least one time without interruptions to ensure comprehension of the overall story prior to a deeper analysis of the characters. On subsequent reads, each group will be told to focus on key details that will help them make sense of their assigned character's feelings. The teacher will pause at predetermined points to allow time for students to identify Character 1 and Character 2's feelings and record their character's feelings on a graphic organizer.

More Writing to Learn takes place when the teacher allows time for students to also think about and **record what is happening in the story when the character experiences that feeling**. After recording the character's feelings and **documenting how they know the character is feeling that way**, Character 1 and Character 2 note-takers will be paired up to choreograph, or translate, their character's feelings into movements. They will use their graphic organizer to help them plan the order of the choreography they design and later perform. After choreographing and rehearsing their movements, students will perform the dance for each contrasting character, allowing the audience of classmates to compare the movements of each character. Audience members should be able to recognize the feelings, experiences or adventures of the characters in the text from the choreography presented.

Grade 1 Dance Teacher Notes

For this task, the teacher will select a text with at least two characters who exhibit contrasting or changing feelings throughout the text. The teacher may need to review the story sequence to assist students in remembering the story well enough to choreograph their character's feelings throughout the entire story. Teachers may choose to focus each character's movement on either locomotor or non-locomotor to emphasize contrasting movements. Example: character 1 uses only locomotor movement (i.e., jumping or skipping when excited) while character 2 uses only non-locomotor movement (i.e. bouncing or twisting when excited). Students may also require instruction on locomotor and non-locomotor movements and time to practice designing choreography prior to engaging in this task.

Questioning Opportunities:

- How do you know your character was experiencing that feeling?
- What does that movement communicate about your character?
- When you perform that movement, what are you hoping the audience will understand about your character?
- How can your partner's character help you understand your character and their movement?

Potential Classroom Settings for this Task: General elementary music, physical education, elementary dance or theatre, as an expansion of reading & writing instruction in a self-contained classroom

High School Media Arts Writing to Learn Sample

Visual and Performing Arts Standards Alignment	Artistic Process Alignment	Additional Standards Alignment: Theatre	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
MA:Cr2.1 **HS Proficient: MA:Cr2.1.I** Apply aesthetic criteria in developing, proposing, and refining artistic ideas, plans, prototypes, and production processes for media arts productions, considering original inspirations, goals, and presentation context. **HS Accomplished MA:Cr2.1.II** Apply a personal aesthetic in designing, testing, and refining original artistic ideas, prototypes, and production strategies for media arts productions, considering artistic intentions, constraints of resources, and presentation context. **HS Advanced MA:Cr2.1.III** Integrate a sophisticated personal aesthetic and knowledge of systems processes in forming, testing, and proposing original artistic ideas, prototypes, and production frameworks, considering complex constraints of goals, time, resources, and personal limitations.	**Artistic Processes Connection:** Creating **Process Component:** Develop **Anchor Standard 2:** Organize and develop artistic ideas and work.	**Anchor Standard 4:** Select, analyze, and interpret artistic work for presentation **Artistic Process:** performing **TH:Pr4.1.I.** - b. Shape character choices using given circumstances in a drama/theatre work. **TH:Pr4.1.II.** - b. Identify essential text information, research from various sources, and the director's concept that influence character choices in a drama/theatre work. **TH:Pr4.1.III.** - b. Apply a variety of researched acting techniques as an approach to character choices in a drama/theatre work.	**RL.9-10.3** Analyze how complex characters develop over the course of a text, interact with other characters and advance the plot or develop themes. **C.9-10.4** Use digital resources to create, publish and update individual or shared products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically. Use a variety of formats to cite sources.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 7:** Utilize digital resources to learn and share with others.

High School Media Arts Task

While reading an excerpt from a drama or dialogue students will make notes about the characters' changing emotions or moods throughout the text on a T-chart. Students should identify at least 3 moods from the scene and cite page numbers to support their ideas.

Using their notes, students will develop voicing for each character to match their personalities and changing moods throughout the story.

Students will then record the voice over for the scene and share the final product as an opportunity to Respond to the arts.

High School Media Arts Teacher Notes

For Grades 9-12, the *KAS for Visual and Performing Arts* includes high school proficiency levels–Proficient, Accomplished and Advanced–to illustrate what mastery might look like for students at various stages of learning. These proficiency levels address the reality that secondary VPA courses often have students of varying grade levels within one class. Additionally, within those mixed-grade level courses, students may have a variety of ability levels or experiences with the arts inside or outside of their school arts programs. The expectation for the proficiency level obtained by each student is dependent upon their current mastery of each standard.

For this task, the teacher will choose a text that contains dialogue between multiple characters. Teachers can select a scene from a play, a narrative poem or fiction that includes dialogue. Teachers may also choose to partner with an elementary school requesting recordings of books read aloud and select a children's book with substantial dialogue. While students are developing their character voice, circulate the room and allow students to brainstorm openly, listening to the voice they are trying for their character. Give feedback on their voicing and encourage students to continue developing their artistic ideas based on their story notes.

Questioning Opportunities:

- What does vocal inflection communicate about your character?
- How does the vocal inflection you're using point to the excerpt's theme that you wrote down?
- When you add that emphasis to the text, what are you hoping the audience will understand about your character?
- When you record your lines, how can you use cadence to convey character?

Potential Classroom Settings for This Task: Media Arts, Theatre, Visual and Performing Arts (Survey Course), English/language arts

Writing to Demonstrate Learning in Reading and Writing Instruction

Implementing Writing to Demonstrate in Reading and Writing Instruction

Writing in conjunction with reading is an expectation of English/language arts classrooms beginning in kindergarten and becoming progressively more sophisticated as the grade levels increase. Teachers must intentionally provide opportunities for students of all ages to write daily about what they are reading and learning with ample opportunities to employ Writing to Demonstrate Learning. The learners' developmental levels and intended learning goals, particularly what content or skills the assignment intends to assess, are key to selecting how students will engage in Writing to Demonstrate Learning. Understanding that the *Kentucky Academic Standards for Reading and Writing* defines text as anything that communicates a message remains important as well. While traditional print may often be an appropriate medium for Writing to Demonstrate Learning, particularly in English/language arts classrooms, and is certainly one that students should be well versed in, students should also be exposed to and have opportunities to demonstrate their learning using a variety of formats, including but not limited to verbal and visual representations.

The Composition strand (formerly named Writing strand) supports text as anything that communicates a message. To reiterate from the introductory section, at all ages, student composition should not be limited to writing on paper or drafting in a word processing document; instead, students should use digital resources to create, publish, research and update 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 text.

Because Kindergarten and first grade students are not yet writing full paragraphs, students may combine a variety of communication methods in their compositions. Their writing typically consists of drawing and/or forming letters to make words using paper and pencil and digital platforms (spelling may be invented, having words with extra or omitted vowels and consonants). More intentional and sophisticated multimodal writing is common in the upper grades as students express more complex ideas and content when they Write to Demonstrate Learning. At any age this writing may take the form of composing auditory and video recordings as well as dramatizations or other visual representations. While these and other compositions may not always include written text, they are often developed from written text – such as prewriting notes – and tend to communicate more clearly to audiences when accompanied by written text. Most importantly, students' Writing to Demonstrate Learning should incorporate age-appropriate and sufficient forms of text to clearly communicate the content or skills they've learned.

Once students reach the intermediate grades and certainly for middle and high school students, the goal of instruction goes beyond learning to read and write and towards using reading and writing as tools for learning and demonstrating learning. *Composition in the Classroom* emphasizes text-based and evidence-based writing experiences. Text-based writing greatly benefits reading comprehension by encouraging students to review and reflect on what they have read. Reading and writing should be viewed as complementary learning rather than as separate subjects.

Implementing Writing to Demonstrate in Reading and Writing Instruction

According to Graham, Harris and Herbert (2010)[6], writing practices that strengthen students' reading include having students write about the text they read, teaching students the writing skills and processes that go into creating text, and increasing how much students write. Students should have opportunities to engage in sustained, independent grade-level reading and writing in response to their reading. Though some adolescent students are proficient readers who may complete literacy tasks with relative independence, the Institute for Education Sciences What Works Clearinghouse Practice Guide for *Teaching Secondary Students to Write Effectively*[7] recommends explicit instruction of reading and writing skills for adolescent students. Therefore, middle and high school reading instruction should also explicitly model the academic vocabulary, dispositions, strategies and patterns of thinking typically applied when analyzing increasingly complex literature and informational text. Consider providing middle and high school students opportunities to develop and demonstrate reading and thinking skills with frequent feedback from peers and instructors to refine skills.

This resource provides three samples of Writing to Demonstrate Learning to clarify what implementing Writing to Demonstrate Learning in reading and writing classrooms may look like across grade levels. As described above, writing that demonstrates learning in the reading and writing classroom takes many forms as there are many ways in which students can communicate their comprehension and analysis of text. Some examples include, but are not limited to, the following:

- Short answer and extended responses to Text-Dependent Questions (TDQs)
- On-demand prompts
- Exit slips and Quick Writes
- Reflective writing
- Student-created text
    - Posters
    - Slides
    - Pamphlets
    - Websites
    - Infographics
- Mind Maps and other graphic organizers
- Discussion board posts

Teachers are also encouraged to leverage writing as a tool for deeper learning using Writing to Learn tasks described in Writing to Learning in Reading and Writing.

[6] Graham, S., Harris, K. & Herber, 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.

[7] Graham, S., Bruch, J., Fitzgerald, J., Friedrich, L., Furgeson, J., Greene, K., Kim, J., Lyskawa, J., Olson, C.B., & Smither Wulsin, C. (2016). Teaching secondary students to write effectively (NCEE 2017-4002). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. Retrieved from the NCEE website: http://whatworks.ed.gov.

About the Writing to Demonstrate Learning Tasks in this Resource

In the previously released Writing to Learn tasks, aligning to the same standards across grade levels was an intentional decision to highlight the standard progression of Reading Literature Standard 2 from kindergarten to grade 8. The Writing to Learn publication clarifies what it may look like in the primary grades to work from a summary to determine theme and then gradually build towards summarizing to analyze the development of theme in later grades.

In contrast, these Writing to Demonstrate Learning Tasks do not represent one Reading Literature standard across multiple grade levels. Instead, the developers chose to publish tasks aligned to Reading Informational standards. Offering standard balance was more important than standard progression. Grade level needs were considered when selecting to which reading informational standards the tasks would align. Both the grade 5 and 9-10 tasks align to RI.8 while the kindergarten task aligns to RI.7. Often, ELA classrooms are reported as spending more time reading and analyzing literature than informational texts. Grades 5 and 10 align to RI.8 to bring awareness to this standard since Guiding Principle 8 is not applicable to literature standards. While standard 8 is equally important in kindergarten, the kindergarten task aligns to RI.7 as this standard has students describe the relationship between visuals and text. Providing a sample task focused on the relationship between visuals and text at an early grade is an opportunity to model instruction around how visuals and text work together while not depending on visuals alone to make meaning, which may be a tendency for some early readers if not intentionally taught to rely on decoding primarily and visuals secondarily.

The Writing to Demonstrate Learning Task for kindergarten is part of a series of lessons focusing on how authors use pictures and printed text to help their readers understand what they are writing about. In the example below, students create their own poster to demonstrate their learning of the relationship between visuals and text.

In the Grade 5 Writing to Demonstrate Learning sample, students closely read an informational text about Pittsburgh's famous Hispanic baseball player, Roberto Clemente. Then, students analyze the authors' claims in a short answer response. Before students are expected to demonstrate their understanding of how the author uses evidence and reasons to support claims, they practice identifying the reasons and evidence found in the article using a coding system to mark the evidence and reasons.

The task for Grade 10 represents an example of Writing to Demonstrate Learning as students read Martin Luther King, Jr.'s "Letter from a Birmingham Jail" as a part of a text set also including three thematically related poems. The sample below comes from a unit requiring students to closely read 2-3 paragraphs per day. Students practice one specific standards skill each day, and the unit culminates in a longer analytical essay requiring students to integrate skills and ideas from each of the four texts. The Writing to Demonstrate Learning task below is a quick write for students to demonstrate their ability to delineate an argument and provide an explanation of the validity of a writer's claims.

Kindergarten Writing to Demonstrate Learning Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
RI.K.7 With prompting and support, describe the relationship between visuals and the text. **C.K.2** Compose informative and/or explanatory texts, using a combination of drawing, dictating, writing and digital resources, to establish a topic and supply information about the topic.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 2:** Employ, develop and refine schema to understand and create text.

Kindergarten Reading and Writing Task
After reading an informational text such as *From Caterpillar to Butterfly* by Deborah Heligman, students will create a poster, using pictures and words, to explain the journey from an egg to a butterfly. The task will require students to make decisions about usage and placement of pictures and words and demonstrate understanding of the relationship between the visuals and the text. Each student will share their poster with their teacher and peers, focusing on describing why they used certain pictures and words together or in certain places to teach the process of metamorphosis. Present the Writing to Demonstrate Learning task using language such as, “I am going to give you paper to make your own poster. Your job will be to use pictures and words to make a poster that teaches others how a caterpillar changes into a butterfly. I will give you an envelope with pictures inside of it and an envelope with words inside of it. You may use the pictures and words in the envelopes to help you or you may choose to draw and write your own words. The important part is that you choose pictures and words that work together to explain how a caterpillar becomes a butterfly and that you choose the best spots on your poster to place the pictures and words in a way that makes it easy for readers to understand what happens on the journey from an egg to a butterfly.”

Kindergarten Teacher Notes

This task is suitable for kindergarteners who may not have any letter recognition all the way to students who recognize every letter in the alphabet and are able to read some words. The task works well for varying abilities because students are able to demonstrate their understanding of the relationship between visuals and words without being able to read or write independently. Students may use the pictures and words from the envelopes with or without the support of a reader or scribe to complete the task or they may choose to draw and/or write words of their choosing on their own. Whatever the case, in addition to assessing student understanding of the relationship between visuals and text, this task offers an opportunity for teachers to assess a student's orthographic processing skills, too.

The teacher may consider asking questions like the ones below to probe students' thinking as they describe why they used certain pictures and words together or in certain places to teach the process of metamorphosis.

Questioning Opportunities: Why do you think this picture is a good choice to show that part of the butterfly's journey? How does the picture you chose help show the idea you're sharing on your poster? How do the words and pictures you chose help show the butterfly's journey?

Grade 5 Writing to Demonstrate Learning Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
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). **C.5.2** Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and convey ideas and information clearly.	**ILP 5:** Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 5 Reading and Writing Task
You read about how Roberto Clemente overcame “barriers” and built a “legacy” for himself. Explain how the author used evidence and reasons to support the claims that Clemente overcame “barriers” and left a “legacy."

Grade 5 Teacher Notes
This task is adapted from a grade five ELA EngageNY unit that has students read and analyze informational text about the importance of sports in American culture, answering evidence-based selected response and short answer text-dependent questions. EngageNY is a free, online high-quality instructional resource (HQIR) for reading and writing available to all educators. Many districts in Kentucky have adopted HQIRs for reading and writing and may consider using a resource such as EngageNY to address gaps in their existing curriculum. EngageNY is a helpful resource also for districts that have not yet adopted HQIRs. For access to the article, “Roberto Clemente’s Gifts from the Heart,” open Grade 5: Module 3A: Unit 3: Lesson 2. The lesson link includes step-by-step directions for using annotation tools (a form of Writing to Learn) to help students understand the Roberto Clemente article. There are also questions for students to analyze the article in small groups. Some students may be able to read and respond to this type of task independently or with little instructional support. However, explicit instruction of literacy skills remains best practice to support all learners, even if they are proficient readers and writers. The annotation tools students are taught to use as they read the Roberto Clemente article and identify various barriers and legacies of his life, is explicit instruction of the analysis skills required in RI.5.8.

Grade 10 Writing to Demonstrate Learning Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
RI.9-10.8 Evaluate the argument, specific claims and evidence in a text, assessing the validity, reasoning, relevancy and sufficiency of the evidence; identify false statements and fallacious reasoning. **C.9-10.2** Compose informative and/or explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization and analysis of content.	**ILP 5:** Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 10 Reading and Writing Task
Using your annotations on "Letter from a Birmingham Jail" by Martin Luther King, Jr., compose a paragraph delineating the argument and specific claims in paragraphs 10–11. Assess whether King's evidence is relevant and sufficient.

Grade 10 Teacher Notes
This task is adapted from an EngageNY unit that leverages a text set including Martin Luther King, Jr.'s "Letter from a Birmingham Jail" and three short poems. EngageNY is a free, online high-quality instructional resource (HQIR) for reading and writing available to all educators. Many districts in Kentucky have adopted HQIRs for reading and writing, and EngageNY is a helpful resource for districts that have not yet adopted an HQIR. EngageNY's Grade 10 Module 2, Unit 1: How Do Authors Use Rhetoric and Word Choice to Develop Ideas and Claims? details the entire learning sequence for this unit, while Lesson 5 specifically addresses instruction and assessment of **RI.9-10.8 and C.9-10.2.** **Tools to Support Teacher and Student Content Knowledge:** Some students may be able to write a response to this task independently or with little instructional support. However, explicit instruction of literacy skills remains best practice to support all learners, even if they are proficient readers and writers. Below are tools to provide explicit instruction of the analysis skills required in RI.9-10.8. Notice how Writing to Learn can support Writing to Demonstrate Learning:

Grade 10 Teacher Notes
1. Argument Delineation Tool: An example of Writing to Learn that demonstrates to teachers and students how to delineate an argument with grade 10 standards expectations in any informational text. 2. Central Ideas Tracker: Another example of Writing to Learn that demonstrates to teachers and students not only how to determine a central idea but how to analyze how specific textual details can shape and refine a central idea over the course of a text (RI.9-10.2). 3. Short Response Rubric and Checklist: An assessment tool that helps teachers and students follow grade 10 standards expectations for reading informational text and responding to the task above. This tool helps teachers and students answer the questions, "How well am I applying the skills I learned in this lesson? To what level am I demonstrating my learning?"

Writing to Demonstrate Learning in Mathematics Instruction

Implementing Writing to Demonstrate Learning in Mathematics Instruction

Writing to Demonstrate Learning in the mathematics classroom should be a regular occurrence. This type of writing provides opportunities for students to employ critical thinking, analytical skills and logical reasoning to reveal the depth of their knowledge.

Writing to Demonstrate Learning can cultivate opportunities for students to analyze situations by breaking them into cases or looking for generalizations, using counterexamples and clarifying misconceptions when appropriate. Writing to Demonstrate Learning in mathematics may invite students to explain or analyze a process. For example, the four-step investigative process students experience in middle school provides a foundation for students as they continue to model increasingly complex real-world situations with mathematics. When making mathematical models, students can use technology to visualize the results of varying assumptions, explore consequences and compare predictions with data. Writing to Demonstrate Learning may invite students to justify their conclusions, communicate them to others and critique the conclusions of others.

These and other Writing to Demonstrate Learning opportunities help teachers understand how well students are learning. In mathematics, Writing to Demonstrate Learning opportunities might assist teachers in determining whether students can explain correspondences between equations, verbal descriptions, tables and graphs, or draw diagrams of important features and relationships, graph data and search for regularity or trends. This type of writing may also be used to evaluate students' abilities to apply the mathematics they know to solve problems that arise in everyday life, including providing opportunities for students to routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Some additional examples of Writing to Demonstrate Learning in the mathematics classroom could include, but are not limited to, the following:

- **Which One Doesn't Belong** or **Would You Rather Math** prompts which engage students in explaining their approach to a problem, critiquing the solutions of others and comparing the different approaches in terms of whether they are accurate and efficient.
- **Mathematical Language Routines**, such as:
  - **Stronger and Clearer Each Time:** Students write individually about a response and slowly refine their writing through conversation and questioning. Subsequent drafts should show evidence of incorporating new evidence or reasoning to demonstrate learning in communicative precision as well as mathematical concepts.
  - **Convince Yourself, a Friend, a Skeptic:** Students demonstrate learning by writing three versions of a mathematical argument or justification for three different audiences.

(Source: Understanding Language/Stanford Center for Assessment, Learning and Equity at Stanford University, is licensed under a Creative Commons Attribution 4.0 International License. 2017.)

Teachers are also encouraged to leverage writing as a tool for deeper learning using Writing to Learn tasks described in Writing to Learn in Mathematics.

About the Writing to Demonstrate Learning in Mathematics Tasks in this Resource

These Writing to Demonstrate learning sample tasks engage students in Standard for Mathematical Practice 3, construct viable arguments and critique the reasoning of others. These tasks also teach content in the Grade 3 domain "Number and Operations – Fractions" and in the high school conceptual category "Functions." Each sample shows how Writing to Demonstrate Learning can be a tool to assess student mastery by inviting students to justify their conclusions, communicate them to others and respond to the arguments of others. Mathematically proficient students also compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed and—if there is a flaw in an argument—explain what it is.

Elementary students engage in Writing to Demonstrate Learning when they construct arguments using concrete referents such as objects, drawings, diagrams and actions. This can be seen in part B of the Fractions and Rectangles task. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Students at all grades can listen to or read the arguments of others, decide whether they make sense and ask useful questions to clarify or improve the arguments.

As high school students build on middle school understanding about functions, students might analyze cases to look for generalizations to determine the effects of transformations on the graph of a function. Within the What's My Transformation Desmos activity, students use technology to explore how changing the value of a constant impacts the graph of the function and use graphical representations to create plausible arguments about the effects of transformations, instead of relying on computational rules.

The purpose of these Writing to Demonstrate Learning tasks is to give students an opportunity to apply conceptual understanding to demonstrate mastery, ultimately receiving more formal feedback about long term growth towards mastery of mathematics.

In both sample tasks, the instructional emphasis remains on the content and practice standards within the *KAS for Mathematics*. The *KAS for Mathematics* differs from previous standards in that they intentionally integrate content and practices in such a way that every Kentucky student will benefit mathematically. Put simply, the Standards for Mathematical Content define **what** students should understand and be able to do. Standards for Mathematical Practice define **how** students engage in mathematical thinking.

Grade 4 Writing to Demonstrate Learning Sample for Mathematics

Mathematics Content Standards Alignment	Standards for Mathematical Practice Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Cluster: Extend understanding of fraction equivalence and ordering. **KY.4.NF.1** Understand and generate equivalent fractions. a. Use visual fraction models to recognize and generate equivalent fractions that have different numerators/ denominators even though they are the same size. b. Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{n \times a}{n \times b}$. **Target of the standard**: Conceptual Understanding For additional insight on standard KY.4.NF.1, access the Annotated Breaking Down a Standard Protocol.	**MP.3 Construct viable arguments and critique the reasoning of others.** Students engage with MP.3 by critiquing the reasoning of Laura and justifying why she is correct. **MP.6 Attend to precision.** Students have to attend to precision in the way they partition and see that $\frac{3}{12}$ is equivalent to $\frac{1}{4}$. .	**RI.4.8** Explain how an author uses reasons and evidence to support particular claims the author makes in a text. **C.4.2** Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and convey ideas and information clearly. *See Teacher Notes for an explanation of the *KAS for Reading and Writing* reading strand and clarification of RI.4.8.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Task: Fractions and Rectangles By: Illustrative Mathematics

Student View

Task

a.
What fraction of the rectangle below is shaded?

b. Laura says that $\frac{1}{4}$ of the rectangle is shaded. Do you think she is correct? Explain why or why not by using the picture.

Grade 4 Mathematics Teacher Notes

A note about the *Kentucky Academic Standards for Reading and Writing*: RI.4.8 states students will explain how an "author" uses reasons and evidence to support particular claims the author makes in a text. In this task, the author is Laura, the individual – assumed peer – who says that $\frac{1}{4}$ of the rectangle is shaded. The text is the task, including the image in part A of the shaded rectangle and the statement in part B that says Laura claims the shaded portion is equivalent to $\frac{1}{4}$ of the rectangle.

Part A of the task addresses the conceptual understanding of equivalent fractions that KY.4.NF.1 calls for. This task builds conceptual understanding allowing students to connect prior knowledge to new ideas and concepts from KY.3.NF.3. Students conceptually see fraction equivalence by subdividing the whole into smaller equal-sized pieces, or $\frac{1}{12}$ pieces as seen in the area model. Students realize the shaded amount that represents the fraction has not changed. Students conceptually recognize the equivalencies by seeing the three pieces of the fraction model partitioned into fourths. This task helps students on the path of understanding that if they divide the numerator and denominator by the same whole number, they get an equivalent fraction. KY.4.NF.1 uses a rectangle model to show the equivalent fractions, just like this task. This is not the only model, but there are lots of connections between the fraction progression and using the area model with rectangles. We can see this by simply re-arranging the shaded parts of the rectangle to form a single row. To clarify, three $\frac{1}{12}$ pieces is the same amount of the whole as one row of the whole. Since it takes four rows to complete the whole, one row is $\frac{1}{4}$ of the whole rectangle.

Part B allows students to engage with MP.3 intentionally to justify why Laura is correct using the picture to explain. Mathematically proficient students understand and use stated assumptions, definitions and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They analyze situations by breaking them into cases or looking for generalizations, using counterexamples and clarifying misconceptions when appropriate. They justify their conclusions, communicate them to others and respond to the arguments of others. They reason inductively about data, making plausible arguments that consider the context from which the data arose. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Students at all grades can listen to or read the arguments of others, decide whether they make sense and ask useful questions to clarify or improve the arguments.

For additional insight around the alignment of the selected task to the *KAS for Mathematics,* access the Annotated Assignment Review Protocol. Designed to guide educators through the process of reviewing a single task/assignment by examining the alignment with the Mathematical Content alignment, engagement in the Mathematical Practices, attention to Relevance and analyzing Student Performance, the Assignment Review Protocol is intended to help teachers, leaders and other stakeholders answer the question, "Does this task give students the opportunity to meaningfully engage in worthwhile grade-appropriate content?"

High School Functions Writing to Demonstrate Learning Sample

Mathematics Content Standards Alignment	Standards for Mathematical Practice Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Cluster: Build new functions from existing functions. **KY.HS.F.8** Understand the effects of transformations on the graph of a function. a. Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx) and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. b. Experiment with cases and illustrate an explanation of the effects on the graph using technology. **Target of the Standard:** Conceptual Understanding For additional insight on standard KY.HS.F.8, access the Annotated Breaking Down a Standard Sample.	**MP.3 Construct viable arguments and critique the reasoning of others.** Students can make conjectures and build a logical progression of statements to explore the truth of their conjectures. Students are able to generalize and formalize arguments. **MP.5 Use appropriate tools strategically.** Students are able to use technological tools to explore and deepen their understanding of concepts. **MP.8 Look for and express regularity in repeated reasoning.** Students notice if calculations are repeated and look both for general methods and shortcuts.	**RI.9-10.8** Evaluate the argument, specific claims and evidence in a text, assessing the validity, reasoning, relevancy and sufficiency of the evidence; identify false statements and fallacious reasoning. **C.9-10.2** Compose informative and/or explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization and analysis of content.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 7:** Utilize digital resources to learn and share with others.

Task: What's My Transformation Desmos Activity

In this activity, students explore the idea that all lines are related to each other, as are all parabolas. They extend this idea to a new function type and manipulate it to gain skill with symbolic representations of function transformations. Students are given a series of fourteen screens, each showing transformations (described below). The final screens, screens 13 and 14, expect students to demonstrate their learning through writing.

Description of Screens leading up to the Writing to Demonstrate Learning Task:
Screens 1-7 offer students the opportunity to engage with visual representations of a variety of functions, beginning with lines (screen 1), parabolas (screen 2) and parangulas (screen 3) before entering a more focused exploration of a variety of transformations of a specific parangula. Students interact with the graphical representations of the transformations before shifting to look at the algebraic representations using function notation on screen 6.

On screen 7, students look for and express regularity in repeated reasoning by using symbols to move the parangula, paying careful attention to the vertex of the parangula and how that will be evident in the symbolic representation. The graph shows several parangulas: a red one with vertex at (3, 0), an orange one with vertex at (-4, 0), a green one with vertex at (0, -4) and a blue one with vertex at (-6, 0). Students use symbols to match each of the remaining parangulas.

Graph	Function
Red	
Orange	
Green	
Blue	

Sample student responses might be:

- Red: $f(x-3)$
- Orange: $f(x+4)$
- Green: $f(x)-4$
- Blue: $f(x)+6$

Students are asked to summarize their thoughts about how to transform the graph of a function f(x) using symbols instead of movable points on screen 8. A sample student response might be: To move a function left or right, subtract a number from x inside the function definition. To move it up or down, add a number outside the parentheses. So, $f(x-1)$moves it to the right one unit (subtracting positive one). But $f(x)-1$ moves the function down one unit (adding a negative one).

On screens 9-11, students look for and express regularity in repeated reasoning by using symbols to stretch the parangula. Students interact with the graphical representations of the transformations before shifting to look at the algebraic representations using function notation on screens 10 and 11. In a manner similar to screen 7, the graph shows several parangulas, each with vertex at (0, 0). The black parangula's elbow is at (-1, 1). The red parangula's elbow is at (-1, 3), the orange parangula's elbow is at (-1, 0.5), and the blue parangula's elbow is at (-4, 1). Students use symbols to match each of the remaining parangulas.

Graph	Function
Red	
Orange	
Blue	

Sample student responses might be:

- Red: $3 \times f(x)$
- Orange: $\frac{1}{2}f(x)$
- Blue: $f\left(\frac{1}{4}x\right)$

Students are asked to summarize their thoughts about how to transform the graph of a function f(x) using symbols instead of movable points on screen 12. A sample student response might be: To stretch a function vertically, multiply the whole function by a constant, such as $2 \times f(x)$ or $\frac{1}{10}f(x)$. To stretch it horizontally, multiply the x inside the function definition by a constant, such as $f(2x)$ or $f\left(\frac{1}{10}x\right)$.

Students are "putting together" their conceptual understandings on screen 13. The graph shows several parangulas. The black parangula has vertex at (0, 0) and elbow at (-1, 1). The red parangula has vertex at (-0.5, 3) and elbow at (-1, 4). The orange parangula has vertex at (5, 0) and elbow at (4, 0.5). The blue parangula has vertex at (-6, -3) and elbow at (-7, -4). Students are instructed to use their summaries about moving (Screen 8) or stretching (Screen 12) functions using symbols to match each of the parangulas on this screen.

Graph	Function
Red	
Orange	
Blue	

Sample student responses might be:

- Red: $f(2x + 1) + 3$
- Orange: $\frac{1}{2}f(x - 5)$
- Blue: $-1 \times f(x + 6) - 3$

High School Functions Task

Students are given one last transformation to look at on screen 14. The graph shows two parangulas, each with vertex at (0, 0). The black parangula's elbow is at (-1, 1), while the blue parangula's elbow is at (-1, -1). They have symmetry across the horizontal axis. Malcolm says that the blue parangula is a reflection over the x-axis. Jamal says that the blue parangula is a vertical stretch using 1 as the multiplier. Who is correct?

Students are given the option to select Malcolm, Jamal, Both or Neither. Once students select one of the choices, they are asked to "Explain your thinking." A sample student response might be: Both are correct. I can see the reflection over the x-axis visually. I also notice that multiplying each of the y-coordinates of the black parangula by -1 gives me the corresponding y-coordinates of the blue parangula. Therefore, the blue parangula is a vertical stretch using -1 as the multiplier.

High School Functions Teacher Notes

Writing to Demonstrate Learning helps teachers understand how well students are learning. Within this task, screens 8 and 12 offer opportunities for students to engage with Writing to Learn before demonstrating their learning on frames 13 and 14.

This task emphasizes building the understanding that while familiar families of functions may help students get a sense for the transformations, it is important that students understand the ideas for any function.

Throughout the activity teachers can pause the class and lead discussion around whether it is possible to match all the functions on the screen and which is most challenging. During discussion teachers may ask students to describe the necessary transformations in words. Start with informal math language and reasoning, then help them to move towards more formal responses. As teachers use the dashboard to monitor student progress, they can identify and address any typographical errors.

On screens 8, 12, 13 and 14, students formalize their ideas. Consider using teacher pacing to have everyone linger here for a minute or two. Students may find the horizontal translations counterintuitive. When the classes are exploring together, look for strategies that might elevate unique perspectives, such as when students are finding ways to shift the parangula to the left some may use F(x−−4) to match the orange parangula.

The Teacher Guide provided with the activity offers recommendations for ensuring student success.

For additional insight around the alignment of the selected task to the *KAS for Mathematics,* access the Annotated Assignment Review Protocol. Designed to guide educators through the process of reviewing a single task/assignment by examining the alignment with the Mathematical Content alignment, engagement in the Mathematical Practices, attention to Relevance and analyzing Student Performance, the Assignment Review Protocol is intended to help teachers, leaders, and other stakeholders answer the question, "Does this task give students the opportunity to meaningfully engage in worthwhile grade-appropriate content?"

Writing to Demonstrate Learning in Science Instruction

Implementing Writing to Demonstrate Learning in Science Instruction

Writing to Demonstrate Learning in the science classroom provides students the opportunity to illustrate learning in meaningful ways. In the science field, learning is generally exhibited in peer-reviewed journal articles in which researchers share their findings and understanding about a phenomenon or problem with peers. Students may Write to Demonstrate Learning in the science classroom in many ways, including, but not limited to, the following **examples**:

- Data analysis
- Developing models images, flowcharts, analogies, mathematical equations)
- Designing solutions
- Constructing scientific explanations
- Constructing and/or critiquing scientific arguments

Science teachers engage students in Writing to Demonstrate Learning when they utilize the science and engineering practices (SEPs) as the vehicle for demonstrating understanding of the Disciplinary Core Ideas (DCIs) and Crosscutting Concepts (CCCs). These three dimensions compose the *Kentucky Academic Standards for Science*. Use of key SEPs not only provides the teacher with information about the students' understanding of a particular practice but also about their current understanding of the other two dimensions as they move towards mastery.

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.

About the Writing to Demonstrate Learning Tasks in this Resource

The Grade 5 unit on Space Systems begins with a phenomenon observed in a video of tree shadows in a forest. When watching this video, students will observe tree shadows changing direction while the sun appears to move in the sky over the course of the day. As students make observations of tree shadows, they will complete a notice and wonder t-chart (a Writing to Learn strategy) leading to the students asking questions related to the phenomenon such as, "Why do shadows move?" Leading up to this task, the students are actively engaged in collecting qualitative and quantitative data of the shadows (another Writing to Learn strategy) at regular intervals during the day from independent observations of the flagpole, sun and the flagpole's shadow. The students draw models of their observations and use a protractor to measure the altitude of the sun and represent the data in tables and graphs (again, a Writing to Learn strategy). From their data, the students will be able to identify patterns in the movement of the shadow and how the patterns relate to the movement of the sun. Following the collection and analysis of data, students will use Writing to Demonstrate Learning to synthesize and draw conclusions from their data as they look for patterns across all the data samples, keeping focused on the purpose of the observations, to answer, "Why do shadows change?"

In this high school unit on ecosystem dynamics, students are exploring how the population of large herbivores on the Serengeti plain has been changing rapidly since 1960, marked by a rapid increase of herbivores (buffaloes and wildebeests) and then a rapid decline of the buffaloes. Students begin by posing and recording questions to investigate (a Writing to Learn Strategy) related to the rapid increase and decline of the buffalo population in the Serengeti. Students develop an initial model and an initial hypothesis of what could explain the population changes. The students develop a plan to investigate each of their hypotheses and collect data (another Writing to Learn strategy) related to predator-prey relations, migrations, climate, human impacts and disease. Students explore and manipulate a simulation that helps them put together their ideas about the ecosystem dynamics and create models during the learning process as new information is revealed. This Writing to Demonstrate Learning task will allow students to synthesize what they have learned about the mechanisms of the Serengeti ecosystem through the development of a scientific model. More information about scientific models and their role in the instructional design process leading up to this Writing to Demonstrate Learning task are provided in the teacher notes section below.

Grade 5 Writing to Demonstrate Learning Sample for Science

Disciplinary Core Idea Alignment	Science and Engineering Practices Alignment	Crosscutting Concepts Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
ESS1.B: Earth and the Solar System The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year.	***Constructing Explanations and Designing Solutions*** **- Construct an explanation of observed relationships** (e.g., the distribution of plants in the back yard). **- Use evidence** (e.g., **measurements, observations, patterns**) **to construct or support an explanation** or design a solution to a problem.	***Cause and Effect*** Cause and effect relationships are routinely identified, tested, and used to explain change.	**RI.5.9** Integrate information from several texts on the same theme or topic. **C.5.2** Compose informative and/or explanatory text, using writing and digital resources, to establish a topic and provide information about the topic.	**ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 8:** Engage in specialized, discipline specific literacy practices.

Grade 5 Science Task

Students will construct an explanation using evidence from their observations, angle measurements and noticeable patterns in response to the question, “Why do shadows change direction throughout the day?” Prompt students to demonstrate their learning through writing by assigning a task such as:

Use the evidence from the observations made over the past few days, patterns you identified, and angle measurements to construct an explanation to answer the question, “Why do shadows change direction throughout the day?”

Grade 5 Teacher Notes

Students will engage in Writing to Learn experiences throughout the instructional sequence in order to build knowledge about why shadows change. Writing to Demonstrate Learning is illustrated through the constructing of the scientific explanation as they synthesize information across all the data samples to answer the question. As they begin to think about the relationship (CCC: Cause and Effect) between the sun's movement across the sky and the movement of the shadows (DCI: ESS1.B Earth and the Solar System), the students use their data as evidence to support their thinking (SEP: Constructing Explanations). Teachers can use this task to formatively assess the students' ability to construct a scientific explanation as well as the students' current understanding of how the sun's movement across the sky causes observable patterns in the direction of shadows.

This learning is a progression of science ideas from the first grade. In the first grade, students learned that patterns of sunrise and sunset can be observed, described and predicted (1-ESS1-2). Students also learn that some materials block the light and form a shadow (1-PS4-3). Both of these ideas are prerequisites for this learning. If students do not have a good understanding of these concepts, teachers may need to build that understanding.

For more guidance on using this phenomenon and instructional moves see NSTA instructional materials: Tree Shadows Phenomenon.

High School Life Science Writing to Demonstrate Learning Sample

Disciplinary Core Idea Alignment	Science and Engineering Practices Alignment	Crosscutting Concepts Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
LS2.C: Ecosystem Dynamics, Functioning, and Resilience **A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modes biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (I.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any populations, however, can challenge the functioning of ecosystems in terms of resources and habitat availability.**	***Developing and Using Models*** **Develop**, revise, and/or use **a model based on evidence to illustrate** and/or predict **the relationships** between systems or **between components of a system**.	***Cause and Effect: Mechanism and Prediction*** **Empirical evidence is required to** differentiate between cause and correlation and **make claims about specific causes and effects.** ***Stability and Change*** **Much of science deals with constructing explanations of how things change and how they remain stable.** .	**Supports instruction toward:** **RI.9-10.7** Analyze various accounts of a subject presented in different print and non-print formats, determining* which details are emphasized in each account. *Determining which details are emphasized in an account is a prerequisite skill for synthesis. Students synthesize information from various print and non-print accounts in this lesson. **C.9-10.2** Compose informative and/or explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization and analysis of content.	**ILP 1:** Understand that text is anything that communicates a message. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

High School Life Science Task

In this storyline, students are exploring what is happening to the large herbivores in the Serengeti by examining predator-prey relations, migrations, climate, human impacts, and disease. After learning about the decline of water buffalo on the Serengeti via data, videos and reading, students explore possible causal mechanisms for the change in population in both the buffalo and the wildebeest. After completing the series of lessons focused on the Serengeti ecosystem dynamics, prompt students to demonstrate their learning through writing with the task below:

Consider the storyline about what is happening to the large herbivores in the Serengeti and data collected from texts and computer simulations. Use what you have learned to develop a scientific model that demonstrates your understanding of the mechanisms of the Serengeti ecosystem and the possible cause of the population change on the Serengeti. Use images, labels, and words to clearly communicate the possible cause(s) of the population change.

High School Life Science Teacher Notes

Scientific models are sense-making tools that help us predict and explain the world. The **scientific model** in this task is used to show relationships between components of the system and provide a mechanistic account within that system. Scientists use models to demonstrate their current understanding of a system being studied, to help develop questions and explanations, and to communicate their ideas with others. For students to engage in the Writing to Demonstrate Learning task, they must first engage in learning about the system being studied. Once the students have collected data on the system, they will use their model to explain how the parts of the system are interconnected and communicate their ideas. The written component may be a formal explanation, descriptions of mechanistic factors, or other necessary support to communicate the intended meaning of the scientific model. Finally, in the subsequent lesson, students will use their developed models to consider how they may apply to other ecosystems.

This Writing to Demonstrate Learning task provides the teacher with information not only in students' ability to model, but, through the model, student understanding of the mechanisms which result in change in the Serengeti ecosystem. Writing to Demonstrate Learning is illustrated in this task through the development of a model (SEP: Developing and Using Models) to show possible causal mechanisms, and their results (CCC: Cause and Effect) on the Serengeti ecosystem (DCI: Ecosystem Dynamics, Functioning and Resilience).

The Serengeti ecosystem storyline provides an overview of the individual lessons, which includes specific phenomena, what students are figuring out, new questions and next steps. The task above represents what students would complete during Lesson 9 of the storyline. For the full unit, including data, readings and teacher guidance, access Ecosystems Unit Bend 1: Serengeti. For a sample modeling rubric, and student samples, see Modeling Rubric (SLO) (pages 6-8). For more information about scientific modeling, see The Framework for K-12 Science Education.

Writing to Demonstrate Learning in Social Studies Instruction

Implementing Writing to Demonstrate Learning in Social Studies Instruction

In Social Studies, Writing to Demonstrate Learning showcases student learning for teachers to assess mastery of the *Kentucky Academic Standards (KAS) for Social Studies*. Within social studies, a student's ability to effectively communicate their own conclusions and listen carefully to the conclusions of others can be considered a capstone of social studies disciplinary practices. Students may demonstrate their learning through traditional essays, reports, tables, diagrams, graphs and multimedia presentations. In a world of ever-expanding communication opportunities inside and outside their school walls, students should also be able to utilize newer media forms in order to share their conclusions and hear the voices of those whose conclusions may differ from their own.

All valid claims must be based on relevant and logical evidence. For students to construct coherent arguments and explanations in the social studies disciplines, they must substantiate those claims using evidence. This skill requires students to collect, evaluate and synthesize evidence from primary and secondary sources to develop and support a claim. Writing to Demonstrate Learning provides teachers the opportunity to ascertain whether students understand the content and concepts taught. This kind of writing helps teachers understand how well students are learning. Writing to Demonstrate Learning in the social studies classroom is essential in supporting Kentucky students when learning how to develop and substantiate evidence-based claims while considering multiple perspectives.

Writing to Demonstrate Learning can take many forms in the social studies classroom, as there are many ways in which students can communicate their conclusions and the explanations and arguments they construct. Some of these ways include, but are not limited to, the following:

- Quick writes , entry or exit slips
- Multimodal and digital communications
- PowerPoint/Google Slides presentations
- Videos, speeches or posters
- Answers to short answer and extended-response prompts
- Summaries of reading or an activity
- Explanation or analysis of a process, content or text(s) that have been read
- Essays or research papers primarily presenting or explaining information
- Responses to Tasks Aligned to Supporting Questions
- Responses to Tasks Aligned to Compelling Questions

Teachers are also encouraged to leverage writing as a tool for deeper learning using Writing to Learn tasks described in Writing to Learn in Social Studies.

About the Writing to Demonstrate Learning in Social Studies Tasks in this Resource

The elementary task below is designed for Grade 3 students and requires students to answer the supporting question "Why do countries depend on each other to produce products?" To prepare students to answer the supporting question, students explore concepts of economic interdependence and how physical and cultural characteristics impact a region. During their exploration of sources, students discover the connection between the resources available in a region and the products regions produce and trade. At the conclusion of their investigations, students are required to complete the Task Aligned to the Supporting Question. The Task Aligned to the Supporting Question requires students to demonstrate their knowledge of the disciplinary strand standards and the inquiry practice standards to construct their response. Responding to this task requires students to synthesize their understanding of the disciplinary strand standards and inquiry standards because students are required to answer the supporting question while explaining the relationship between two or more sources in their response.

The middle school task below is for Grade 6 students and requires students to answer the supporting question, "What characteristics do River Valley Civilizations have in common?" To prepare students to answer the supporting question, students examine a variety of sources that address the origins, functions and structures of governments in River Valley Civilizations, how they were shaped by their physical environments, and how these civilizations compare. At the conclusion of their investigations, students are required to complete the Task Aligned to the Supporting Question. The Task Aligned to the Supporting Question requires students to demonstrate their knowledge of the disciplinary strand standards and the inquiry practice standards to construct their response. Responding to this task requires students to synthesize their understanding of the disciplinary strand standards and inquiry standards because students are required to answer the supporting question while citing relevant evidence and using maps and/or spatial thinking to determine similarities and differences among complex societies.

The high school task below is aligned to US History and requires students to answer the supporting question, "How have global interactions resulting from September 11, 2001, impacted American culture and society from 2001 to the present?" To prepare students to answer the supporting question, students examine multiple sources to investigate how global interactions and legislative, executive and judicial decisions resulting from September 11, 2001, have impacted American culture and society. At the conclusion of their investigations, students are required to complete the Task Aligned to the Supporting Question. The Task Aligned to the Supporting Question requires students to demonstrate their knowledge of the disciplinary strand standards and the inquiry practice standards to construct their response. Responding to this task requires students to synthesize their understanding of the disciplinary strand standards and inquiry standards because students are required to answer the supporting question while using appropriate evidence to construct and revise claims in their responses.

Grade 3 Writing to Demonstrate Learning Sample for Social Studies

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
3.E.ST.1 Describe examples of economic interdependence. **3.G.GR.1** Explain how physical and cultural characteristics of world regions affect people, using a variety of maps, photos and other geographic representations.	**3.I.UE.2** Explain the relationship between two or more sources on the same theme or topic.	**RI.3.9** Explain the relationship between information from two or more texts on the same theme or topic. **C.3.2** Compose informative and/ or explanatory texts, using writing and digital resources, to examine a topic and provide information.	**ILP 5:** Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 3 Social Studies Task

Task Aligned to the Supporting Question:
Using your knowledge of economic interdependence and how physical and cultural characteristics of world regions affect people, answer the supporting question.

Supporting question: **Why do countries depend on each other to produce products?**

Be sure to explain the relationship between two or more sources in your response.

Grade 3 Social Studies Teacher Notes

This example of Writing to Demonstrate Learning is a synthesis task intended to occur after students have engaged in numerous learning opportunities and is part of the Grade 3 Strongly Aligned Assignment with Teacher Notes from the Social Studies Student Assignment Library.

The Assignment with Teacher Notes linked above explains the instructional process and sequence, showing how students engage with both disciplinary strand standards and inquiry standards through a series of tasks to investigate the supporting question: "Why do countries depend on each other to produce products?" To demonstrate students' mastery of these standards and ability to answer the supporting question with evidence from the sources they analyzed, students are asked to respond to a Task Aligned to the Supporting Question. This task provides students an opportunity to answer the supporting question guiding the investigations, while demonstrating their mastery of the aligned disciplinary strand standards and inquiry standards. For this task, students are asked to demonstrate their knowledge of economic interdependence and how a region is affected by its physical and cultural characteristics. Additionally, students are asked to explain the relationship between two or more sources in their response.

The sample student response below comes from a third grade Kentucky classroom where students were using traditional text, or paragraph composition, to Demonstrate Learning. However, this is not the only way students may Write to Demonstrate Learning. The *Kentucky Academic Standards* Interdisciplinary Literacy Practice 1 states that, "Text is anything that communicates a message." This is important for social studies educators to know and consider as they assign Writing to Demonstrate learning. While traditional print may often be an appropriate medium, and even most used writing, when asking students to Write to Demonstrate their Learning, students should be exposed to and have opportunities to demonstrate their learning using a variety of text formats, including but not limited to verbal and visual representations and multiple formats when necessary to communicate more clearly.

In this example, the student responds to the supporting question, "Why do countries depend on each other to produce products?" by explaining that countries have different resources available to them. This student response can be used to assess whether the student has demonstrated mastery of the aligned disciplinary strand standards and inquiry practices. Some questions to consider when evaluating this task include:

- Did the student's response describe examples of economic interdependence?
- Did the student's response explain how the physical and cultural characteristics of a region affect people?
- Did the student's response explain the relationship between two or more sources on the same topic?

Student example:

> *Countries depend on each other to produce products because certain countries have things that other countries don't. For example, South America produces a lot of oranges because it is always warm there. So, South America has to trade with other countries that need oranges but can't grow them. The reason some countries can't grow oranges is because their weather is not warm all year long, or, even worse, their weather is cold all year long. We rely on South America to give us oranges. However, South America relies on the USA to give them things like oil. That is why countries depend on each other to produce products. Some countries have things that other countries can't have.*

Note that in this example, the student did not demonstrate mastery of 3.I.UE.2, "Explain the relationship between two or more sources on the same theme or topic." In order to successfully demonstrate mastery of this standard, the response should include two sources to support the claim, such as using a map in conjunction with a chart to explain why countries depend on each other to produce products.

Grade 6 Writing to Demonstrate Learning Sample for Social Studies

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
6.C.CP.1 Explain the origins, functions and structures of governments in River Valley Civilizations and Classical Period Empires between 3500 BCE-600 CE. **6.G.HE.1** Analyze how physical environments shaped the development of River Valley Civilizations and Classical Empires between 3500 BCE-600 CE. **6.G.GR.1** Use maps and other geographic representations, geospatial technologies, and spatial thinking to determine similarities and differences among River Valley Civilizations and Classical Empires between 3500 BCE-600 CE.	**6.I.UE.1** Develop claims, citing relevant evidence, in response to compelling and supporting questions.	**RI.6.7** Integrate information presented in print and non-print formats to develop a coherent understanding of a topic or issue. **C.6.2** 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.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 6 Social Studies Task

Task Aligned to the Supporting Question:
Using your knowledge of the origins, functions and structures of governments and how physical environments shaped the development of River Valley Civilizations, develop a claim, citing relevant evidence, to answer the following question: "What characteristics do River Valley Civilizations have in common?" Be sure to use maps and/or spatial thinking to determine similarities and differences among complex societies.

Grade 3 Social Studies Teacher Notes

This Writing to Demonstrate Learning task is a synthesis task intended to occur after students have engaged in numerous learning opportunities and is part of the Grade 6 Strongly Aligned Assignment with Teacher Notes from the Social Studies Student Assignment Library.

The assignment with Teacher Notes linked above explains the instructional process and sequence, showing how students will complete a series of tasks to investigate the supporting question: "What characteristics do River Valley Civilizations have in common?" Throughout these tasks, students will be examining the origins, structure and functions of governments of River Valley Civilizations and how the physical environment shaped their development. Additionally, students will utilize maps and other geographic representations to compare these civilizations. The Task Aligned to the Supporting Question asks students to write a claim to respond to this question, citing relevant evidence. Since this task requires students to synthesize their understanding of the disciplinary strand standards and inquiry standards aligned to this task, this response is considered Writing to Demonstrate Learning.

Below is an example from a Kentucky classroom of a student's response to this task. This response includes two common characteristics among River Valley Civilizations: each had a form of monarchy as their government, and they all formed along rivers. The student provides evidence of these commonalities from the sources they investigated. This piece of writing can be used to assess students' mastery of the disciplinary strand standards and inquiry practices aligned to this task. Some questions to consider when evaluating this task include:

- Does the student's response explain the origins, functions and structures of governments in River Valley Civilizations?
- Does the student's response analyze how physical environments shaped the development of River Valley Civilizations?
- Does the student's response demonstrate that maps or spatial thinking were utilized?
    - Note: The *KAS for Social Studies Glossary of Terms* defines "spatial" as the relationships and interactions that occur within a place, anchored in a physical location; arrangement of a phenomenon (such as people or density) across the Earth's surface. Spatial thinking asks students to use the tools of geographers, such as maps and graphs, to support reasoning and solve problems.
- Does the student's response include a claim that cites relevant evidence to answer the supporting question?

Student example:

All the river valley civilizations had some kind of monarcy. According to source B, egypt had a theocratical monarchy. Mesopotamia had city states with a king and assembly. China had a dynasty which is a type of monarchy. India had a king that led the three branches of government. This proves that all the river valley civilizations had a type of monarchy.

All the river vally civilizations formed along a river. According to the map, Mesopotamia formed along the tigris river. Egypt formed along the Nile. India formed along the Indus river. China formed along the yangtze river. This proves that all the river valley civilizations formed along a river.

High School Social Studies Writing to Demonstrate Learning Sample

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
HS.C.CP.2 Analyze legislative, executive and judicial branch decisions in terms of constitutionality and impact on citizens and states. **HS.UH.CE.6** Analyze how global interactions impacted American culture and society from 1890-present.	**HS.UH.I.UE.3** Use appropriate evidence to construct and revise claims and counterclaims relevant to compelling and/or supporting questions in U.S. history. **HS.UH.I.CC.2** Engage in disciplinary thinking and construct arguments, explanations or public communications relevant to compelling and/or supporting questions in U.S. history.	**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. **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.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 9:** Apply high level cognitive processes to think deeply and critically about text.

High School Social Studies Task

Task Aligned to the Supporting Question:
How have global interactions resulting from September 11, 2001, impacted American culture and society from 2001 to the present?

Answer the supporting question, using your understanding of:

- Global interactions and how they impacted American culture and society from 2001 to the present; and
- Legislative, executive and judicial branch decisions in terms of constitutionality and impact on citizens and states.

In your response, analyze legislative, executive and judicial branch decisions due to September 11, 2001, in terms of constitutionality and impact on citizens and states. Be sure to use appropriate evidence to construct and revise claims in your response.

High School Social Studies Teacher Notes

This Writing to Demonstrate Learning task is a synthesis task intended to occur after students have engaged in numerous learning opportunities and is part of the High School Strongly Aligned Assignment 3 with Teacher Notes from the Social Studies Student Assignment Library.

The assignment with Teacher Notes linked above explains the instructional process and sequence, showing how students engage with a series of tasks to investigate the supporting question: "How have global interactions resulting from September 11, 2001, impacted American culture and society from 2001 to the present?" Throughout these tasks, students will investigate multiple sources to analyze the constitutionality of legislative, executive and judicial decisions resulting from the events of September 11, as well as how these events impacted American culture and society. To demonstrate students' mastery of these standards and ability to use evidence to support a claim, students are asked to construct a response to the Task Aligned to the Supporting Question. Since this task requires students to synthesize their understanding of the disciplinary strand standards and inquiry standards aligned to this task, this response is considered Writing to Demonstrate Learning.

Below is an example of a student response to this task from a Kentucky classroom. In their response, they state the claim that provides several ways the events of September 11, 2001, impacted American culture and society, including ongoing wars, immigration and deportation, the "friendly-ish" skies and big surveillance. The student explains each of these impacts in more detail, providing information from the sources they examined. The teacher can use this piece of writing to determine how well students were able to demonstrate their mastery of the aligned disciplinary strand standards and inquiry practices by assessing this piece. Some questions to consider when evaluating this task include:

- Does the student's response successfully analyze how the global events of September 11, 2001, impacted American society and culture?
- Does the student's response analyze how the constitutionality of legislative, executive and judicial decisions resulting from September 11, 2001, impacted citizens and states?
- Does the student's response include a claim to answer the supporting question using appropriate evidence?
- Does the student's response demonstrate disciplinary thinking with relevant arguments?

Student example:

Global interactions that has resulted from September 11, 2001, that has impacted American Culture and Society from 2001 to the present is on going wars, immigration and deportation, the friendly-ish skies and big surveillance.

First, the ongoing wars that still impacts us today is how the citizens of America are constantly risking their lives to protect America from these ongoing wars. The effects of 9/11 have caused many wars on terror. According to George W. Bush, a former US President he states that "Any nation that continues to harbor or support terrorism will be regared by the United States as a hostile regime."

Secondly, the effect 9/11 have caused with immigration and deportation. The United States have set up tighter immigration and to keep terriosts out of the country. While this has kept us become a more secure country this is also racial profiling. Meaning that not all people that immigrate to look for a better life is a terroist, they just want a betta life.

Thirdly, the friendly-is skies has impacted us in many different was to this day because of 9/11. This is meaning that our airports have become a lot more secure with full body scans, searche, and cargosearches. Which has made our skies a safer place it has kept our airports hostile and alot of trouble just to fly on a plane.

Fourthly, big surveillance has also still affects us in the present. While surveilance across the country has increased significantly since the tragedy of 9/11 you can get checked for weapons just going to work, schools or eventh mall. While according to the author of "How 9/11 changed America" states that "our surveillance state was a fraction of its current size." So, this means that citizitizens have alot less freedoms while also loosing a lot of trading with the hassle of it all.

All in all they are many different ways that global interactions have impacted American culture and society from 2001 to the present. These include ongoing wars, immigration and deportation, the friendlyish skies, and big surveillance.

Writing to Demonstrate Learning in Visual and Performing Arts Instruction

Implementing Writing to Demonstrate Learning in Visual and Performing Arts Instruction

The *Kentucky Academic Standards (KAS) for Visual and Performing Arts* emphasizes four arts processes universal across all five disciplines: Creating, Performing/Producing/Presenting, Responding and Connecting.

Creating is a continuous process when students conceive and develop artistic ideas and work, which may require space for thinking and reflecting throughout the artistic process. Writing to Demonstrate Learning when Creating may include:

- Generating artistic ideas based on prior knowledge
- Organizing a plan for production
- Refining an artistic work

The arts process of **Performing** is specific to the performing arts of music, dance and theatre. **Producing** is the process of sharing work in the area of media arts and will often utilize "product" as its final form. **Presenting** is often associated with sharing in more formal settings such as exhibitions in the visual arts. Writing to Demonstrate Learning allows students to reflect on previous learning and plan their next steps in Performing, Producing or Presenting. Using Writing to Demonstrate Learning as a vehicle to drive these processes may mean students are regularly:

- Maintaining reflection journals
- Providing peer reviews

Writing to Demonstrate Learning happens most often in the arts process of **Responding**, as students reflect on their learning as artists and audience members. Due to the cyclical nature of the arts processes, students can demonstrate their learning throughout the artistic process. Writing to Demonstrate Learning for this purpose may look like:

- Engaging in performance reflections
- Creating exhibition texts

Writing to Demonstrate Learning is an effective strategy for engaging Visual and Performing Arts students in **Connecting** or relating artistic ideas and work with personal meaning and external context. Some Writing to Demonstrate Learning ideas for Connecting include, but are not limited to:

- Comparing and contrasting two or more arts disciplines
- Engaging in a quick write about how an artistic piece relates to the student

The essence of Visual and Performing Arts is for the artist to communicate ideas and experiences to the audience. Similarly, writers also communicate ideas and experiences to the reader. When student artists likewise engage in writing, they can strengthen their understanding of what they learned throughout the artistic process. Just as artists demonstrate their learning through the four arts processes, arts teachers can create opportunities for student artists to demonstrate their learning through the written word.

Implementing Writing to Demonstrate Learning in Visual and Performing Arts Instruction

Writers in the arts contribute to the field professionally in various forms. The examples that follow represent Writing to Demonstrate Learning and may be used by educators to assess student artists' understanding of content and skills; however, in professional settings, these forms of writing are more representative of Writing for Publication as professional artists are not likely to write very often for the sole sake of demonstrating their learning. Writing for Publication will be addressed in the third section (coming soon) of this resource.

- Artist Statements
- Peer Critiques
- Exhibition reviews
- Artist interviews
- Blogs
- Gallery handouts

About the Writing to Demonstrate Learning in Visual and Performing Arts Tasks in this Resource

The *Kentucky Academic Standards (KAS) for Visual and Performing Arts* include five contrasting arts disciplines connected through Anchor Standards. The elementary and secondary sample Writing to Demonstrate Learning tasks below both work towards mastery of Anchor Standard 9: Apply criteria to evaluate artistic work. Students also interact with Performing, Responding and Connecting (relating artistic ideas and work with personal meaning and external context) in these tasks, allowing for connection to multiple areas outside of the discipline presented. Educators may make connections to other disciplines and contexts when possible.

Middle School Visual Art Writing to Demonstrate Learning Sample

Visual and Performing Arts Standards Alignment	Artistic Process Alignment	Additional Standards Connections	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
DA:Cr2.2.1 Choose movements that express an idea or emotion, or follow a musical phrase. **Extension of Learning** DA:Pr5.1.1 (Perform) DA.Re9.1.1 (Respond) Da: Cn10.1.1 (Connecting)	**Artistic Processes Connection:** Creating **Process Component:** Plan **Anchor Standard 2:** Organize and develop artistic ideas and work.	**Standard 1:** Demonstrate competency in a variety of motor skills and movement patterns. **Locomotor: 1.1.L1.** Perform a variety of locomotor movements using different body parts. **Non-Locomotor: 1.1NL1.** Perform a variety of non-locomotor skills, using different body parts at different levels. **Body Management: 1.1.BM1.** Perform a variety of balances using different body parts.	**RL.1.3** Describe characters, settings and major events in a story, using key details in order to make meaning of the story development. **C.1.6** With guidance and support, collect information from real-world experiences or provided sources to answer or generate questions.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 6:** Collaborate with others to create new meaning.

Middle School Visual Art Task

In preparation for students to respond to a whole-class read aloud, students will be divided into two groups: "Character 1" note-takers and "Character 2" note-takers. The teacher will read the text at least one time without interruptions to ensure comprehension of the overall story prior to a deeper analysis of the characters. On subsequent reads, each group will be told to focus on key details that will help them make sense of their assigned character's feelings. The teacher will pause at predetermined points to allow time for students to identify Character 1 and Character 2's feelings as the story develops and to Write to Learn, or record their character's feelings on a graphic organizer.

More Writing to Learn takes place when the teacher allows time for students to also think about and **record what is happening in the story when the character experiences that feeling**. After recording the character's feelings and **documenting how they know the character is feeling that way**, Character 1 and Character 2 note-takers will be paired up to choreograph, or translate, their character's feelings into movements. They will use their graphic organizer to help them plan the order of the choreography they design and later perform. After choreographing and rehearsing their movements, students will perform the dance for each contrasting character, allowing the audience of classmates to compare the movements of each character. Audience members should be able to recognize the feelings, experiences or adventures of the characters in the text from the choreography presented.

Middle School Visual Art Teacher Notes

In preparation for students to respond to a whole-class read aloud, students will be divided into two groups: "Character 1" note-takers and "Character 2" note-takers. The teacher will read the text at least one time without interruptions to ensure comprehension of the overall story prior to a deeper analysis of the characters. On subsequent reads, each group will be told to focus on key details that will help them make sense of their assigned character's feelings. The teacher will pause at predetermined points to allow time for students to identify Character 1 and Character 2's feelings as the story develops and to Write to Learn, or record their character's feelings on a graphic organizer.

More Writing to Learn takes place when the teacher allows time for students to also think about and **record what is happening in the story when the character experiences that feeling**. After recording the character's feelings and **documenting how they know the character is feeling that way**, Character 1 and Character 2 note-takers will be paired up to choreograph, or translate, their character's feelings into movements. They will use their graphic organizer to help them plan the order of the choreography they design and later perform. After choreographing and rehearsing their movements, students will perform the dance for each contrasting character, allowing the audience of classmates to compare the movements of each character. Audience members should be able to recognize the feelings, experiences or adventures of the characters in the text from the choreography presented.

High School Music Writing to Learn Sample

Visual and Performing Arts Standards Alignment	Artistic Process Alignment	Additional Standards Alignment: Theatre	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
MA:Cr2.1 **HS Proficient: MA:Cr2.1.I** Apply aesthetic criteria in developing, proposing, and refining artistic ideas, plans, prototypes, and production processes for media arts productions, considering original inspirations, goals, and presentation context. **HS Accomplished MA:Cr2.1.II** Apply a personal aesthetic in designing, testing, and refining original artistic ideas, prototypes, and production strategies for media arts productions, considering artistic intentions, constraints of resources, and presentation context. **HS Advanced MA:Cr2.1.III** Integrate a sophisticated personal aesthetic and knowledge of systems processes in forming, testing, and proposing original artistic ideas, prototypes, and production frameworks, considering complex constraints of goals, time, resources, and personal limitations.	**Artistic Processes Connection:** Creating **Process Component:** Develop **Anchor Standard 2:** Organize and develop artistic ideas and work.	**Anchor Standard 4:** Select, analyze, and interpret artistic work for presentation **Artistic Process:** performing **TH:Pr4.1.I.** - b. Shape character choices using given circumstances in a drama/theatre work. **TH:Pr4.1.II.** - b. Identify essential text information, research from various sources, and the director's concept that influence character choices in a drama/theatre work. **TH:Pr4.1.III.** - b. Apply a variety of researched acting techniques as an approach to character choices in a drama/theatre work.	**RL.9-10.3** Analyze how complex characters develop over the course of a text, interact with other characters and advance the plot or develop themes. **C.9-10.4** Use digital resources to create, publish and update individual or shared products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically. Use a variety of formats to cite sources.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 7:** Utilize digital resources to learn and share with others.

High School Music Task

While reading an excerpt from a drama or dialogue students will make notes about the characters' changing emotions or moods throughout the text on a T-chart. Students should identify at least 3 moods from the scene and cite page numbers to support their ideas.

Using their notes, students will develop voicing for each character to match their personalities and changing moods throughout the story.

Students will then record the voice over for the scene and share the final product as an opportunity to Respond to the arts.

High School Music Teacher Notes

For Grades 9-12, the *KAS for Visual and Performing Arts* includes high school proficiency levels–Proficient, Accomplished and Advanced–to illustrate what mastery might look like for students at various stages of learning. These proficiency levels address the reality that secondary VPA courses often have students of varying grade levels within one class. Additionally, within those mixed-grade level courses, students may have a variety of ability levels or experiences with the arts inside or outside of their school arts programs. The expectation for the proficiency level obtained by each student is dependent upon their current mastery of each standard.

For this task, the teacher will choose a text that contains dialogue between multiple characters. Teachers can select a scene from a play, a narrative poem or fiction that includes dialogue. Teachers may also choose to partner with an elementary school requesting recordings of books read aloud and select a children's book with substantial dialogue. While students are developing their character voice, circulate the room and allow students to brainstorm openly, listening to the voice they are trying for their character. Give feedback on their voicing and encourage students to continue developing their artistic ideas based on their story notes.

Questioning Opportunities:

1) What does vocal inflection communicate about your character?
2) How does the vocal inflection you're using point to the excerpt's theme that you wrote down?
3) When you add that emphasis to the text, what are you hoping the audience will understand about your character?
4) When you record your lines, how can you use cadence to convey character?

Potential Classroom Settings for This Task: Media Arts, Theatre, Visual and Performing Arts (Survey Course), English/language arts

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.

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[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 Unit 4, Lesson 5 in *Fishtank Learning*, a free, online, open-source product that earns green ratings on EdReports. In this Kindergarten unit, students read a series of picture books and write various responses to explore the topic "Falling in Love with Authors and Illustrators." In each of the first four lessons, students will read (or listen to a read aloud) a picture book written by Grace Lin. The students will engage in classroom discussions after reading each book. These discussions will be centered around retelling key details and events. Students may use details and illustrations when retelling aspects from the books. In lesson 5, students will choose one of the books they read in the previous lessons as their favorite. They will write a letter to local librarians in the community telling which story was their favorite and why. They will use details and possibly illustrations from the book to support their opinion.

The Grade 4 Writing for Publication sample is adapted from Unit 5, Lesson 6 in *Fishtank Learning*, a free, online, open-source product that earns green ratings on EdReports. In this Grade 4 unit, students explore the topic of "Learning Differently." In lessons 1-5, students learn about ADHD and how it influences a person's life through the fictional character Joey Pigza who lives with ADHD in the novel *Joey Pigza Swallowed the Key.* Readers experience how different people and situations in Joey's life deal with his condition and how their actions affect Joey's behavior. During these lessons students engage in literary analysis to understand Joey and how his character develops. Readers get to know how Joey's mind works and see how his relationships with others impact what he thinks about himself. Students also spend time critiquing and analyzing the reasoning of others. Then in Lesson 6, students are expected to write a literary analysis/opinion in the form of a multiple paragraph essay about ADHD and how it influences a person's life. In the Grade 4 sample below, the task has been adapted so that students engage in Writing for Publication instead of Writing to Demonstrate Learning. Rather, students are asked to create a Public Service Announcement (PSA) instead of multiple paragraphs. PSAs are written for an audience outside of the classroom, shifting the assignment from Writing to Demonstrate Learning to Writing for Publication. Students still use their character analysis of Joey to help them write the PSA so that others understand ADHD and how it influences a person's life.

Similarly, the Grade 7 Writing for Publication sample is adapted from Unit 5, Lesson 9 in *Fishtank Learning,* a free, online, open-source product that earns green ratings on EdReports. In this Grade 7 unit, students explore the topic of "Understanding Identity: *American Born Chinese*." In lessons 1-8, students learn how to read a graphic novel (a novel written in the style of a comic strip) and begin engaging with Chinese stereotypes depicted in various articles and within graphic novel, *American Born Chinese* by Gene Luen Yang. For this composition, students must integrate knowledge and ideas from multiple informational texts (RI.7.9) in order to raise awareness of racial harassment and violence towards Asian Americans via a published infographic. These infographics are intended for an audience outside of the classroom, shifting the assignment from Writing to Demonstrate Learning to Writing for Publication.

Kindergarten Writing for Publication Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
RL.K.2 With prompting and support, orally recognize key details from a summary to demonstrate understanding of the lesson learned in the story. **RL.K.6** With prompting and support, identify the author and illustrator of a story and explain how each tells the story **C.K.1** Compose opinion pieces, using a combination of drawing, dictating, writing and digital resources, to state the topic and an opinion. **C.K.6** With guidance and support, collect information from real-world experiences or provided sources to answer or generate questions.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 3:** View literacy experiences as transactional, interdisciplinary and transformational. **ILP 5:** Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks. **ILP 6:** Collaborate with others to create new meaning.

Kindergarten Reading and Writing Task
Adapted from *Fishtank Learning* Kindergarten Unit 4, Lesson 5: Falling in Love with Authors and Illustrators. We have just read four books by author Grace Lin: *Kite Flying*, *Dim Sum*, *Fortune Cookie* and *Ugly Vegetables.* We have also discussed details and events in those books in the last four lessons. Now, you will write a letter to local librarians explaining which of her stories is your favorite and why. This can help local librarians decide which of Grace Lin's books to purchase for the libraries we use in our community.

Kindergarten Teacher Notes

The original writing prompt from *Fishtank Learning* Kindergarten Unit 4, Lesson 5: Falling in Love with Authors and Illustrators tasks students with writing a letter to author Grace Lin to tell her which of her books they read is their favorite and why they chose that book. Note, this prompt has been modified to a more authentic audience, local librarians, because they frequently interact with students, and students may more directly see the action prompted by their published letters. The original prompt aligns with Kentucky's reading literature and composition strands and provides an opportunity for students to demonstrate their learning to the teacher and publish writing with an authentic audience..

The teacher may choose to read each of Grace Lin's books from lessons 1-4 aloud to the students since independent reading may not be possible for all kindergarten students. Grace Lin's books can be displayed around the room and be accessible to students to refer to as they are writing their letters.

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.

You may choose to use sentence stems such as, "My favorite book is _____ because _____" in addition to the modeled letter format.

Grade 4 Writing for Publication Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
RL.4.3 Describe in depth a character's thoughts, words and/or actions, the setting or event(s) in a story or drama, drawing on specific details to analyze their interaction over the course of the text. **RI.4.3** Explain the individuals, events, procedures, ideas or concepts in a historical, scientific or technical text, including what happened and why, based on specific information over the course of a text. **C.4.2** Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and convey ideas and information clearly. *See **Teacher Notes** for an explanation of the *KAS for Reading and Writing* reading strand and how these standards align to the task.	**ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 8:** Engage in specialized, discipline specific literacy practices. **ILP 9:** Apply high level cognitive processes to think deeply and critically about text.

Grade 4 Reading and Writing Task

Adapted from Fishtank Learning Grade 4, Unit 5, Lesson 6, Learning Differently: Joey Pigza Swallowed the Key

Create a public service announcement (PSA) to help others understand ADHD and how having ADHD may influence a person's life. Collaborate with appropriate school staff and local establishments to receive permission to post the PSA. Appropriate locations within the school may include the cafeteria, library, school auditorium/gym, front office, nurse's office, counselor's door and hallway cork boards. Consider community locations where children spend time such as, pediatrician doctor offices, afterschool programs, children's counseling offices and or the local library's children and teen areas.

Your PSA must include:

- Clearly introduce the topic with a heading that reflects the purpose and audience;
- Organization that helps readers understanding the message of the PSA;
- At least three ways ADHD may influence a person's life;
- Provide information (facts, definitions, details, quotations and more) from at least 3 of Joey's relationships in *Joey Pigza Swallows the Key* to help demonstrate how ADHD influences his life;
- At least one sentences that correctly uses a conjunction;
- Transition words we have learned when appropriate to the text structure;
- Precise language and domain-specific vocabulary to inform about or explain the topic;
- Closure: a section or overall indication that the announcement is complete.
- Revising and editing with guidance and support from peers and adults that leads to a rewritten, clean copy.

Grade 4 Teacher Notes

The original writing prompt from *Fishtank Learning, Grade 4, Unit 5, Lesson 6* tasks students with writing a literary analysis that answers the essential question, "What is ADHD? How does having ADHD influence a person's life?" The original prompt aligns with Kentucky's reading literature and composition strands and provides an opportunity for students to demonstrate their learning to the teacher. The task has been adapted from its original form to show how educators may use their adopted High-Quality Instructional Resource as a springboard for developing a supplemental task when a gap in the curriculum is identified. Minimal but intentional adjustments may be necessary to ensure students have opportunities to practice all three types of writing described in *Composition in the Classroom* and expanded upon in this resource, *Reading and Writing Across Disciplines*.

A Note About the *Kentucky Academic Standards for Reading and Writing*: Both the literary and informational strands for reading standard three align to this task as students build their background knowledge on ADHD through reading the article About ADHD Overview. Students refer to the article as they read the fictional story *Joey Pigza Swallows the Key* to help them understand Joey's relationships with other characters. They use the article to reflect on whether or not the other characters are helping to make things more equal for Joey or more challenging based on what they have learned about ADHD or ADD.

An explanation of each connected Interdisciplinary Literacy Practice is provided below to demonstrate the relationship between the task and selected practices. **ILP 4:** Utilizing receptive and expressive language arts to better understand self, others and the world is an embedded practice as reading about and discussing – receptive and expressive - how ADHD impacted Joey's life may help students understand themselves and/or others they encounter who have ADHD. Creating the PSA is an example of expressive language arts and those who see the PSA will engage in receptive language arts, hopefully feeling like they have a better understanding of themselves and/or others they encounter who have ADHD. **ILP 8:** Engaging in specialized, discipline specific literacy practices happens when students perform a literary analysis (a specialized practice of English/Language Arts scholars) and then convert their analysis to the PSA (a specialized practice in the field of public relations). **ILP 9:** Applying high level cognitive processes to think deeply and critically about text occurs when students engaged in high level thinking while reading Joey's story. Class discussions required them to think deeply and critically about how ADHD influenced Joey's life, including his relationships.

Grade 7 Writing for Publication Sample for Reading and Writing

Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
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. **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. **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. **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.	**ILP 2:** Employ, develop and refine schema to understand and create text. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 7:** Utilize digital resources to learn and share with others. **ILP 10:** Develop a literacy identity that promotes lifelong learning.

Grade 7 Reading and Writing Task

Adapted from *Fishtank Learning*, *Grade 7, Unit 5, Lesson 9,* Exploring Identity: *American Born Chinese*

Consider your reflections on Jin Wang's experiences in *American Born Chinese* as you read the following articles:

- Article: "The recent rise in Asian American hate crimes could have impacts beyond the pandemic" by Candice Wang (originally published in *Popular Science,* September 2020)
- Article: "Anti-Asian Hate Has Surged During the Coronavirus Pandemic, Reports Find" by Sara Li (originally published in *Teen Vogue,* September 2020)
- Article: "'You have Chinese virus!': 1 in 4 Asian American youths experience racist bullying, report says" by Claire Wang (originally published on *NBC News,* September 2020)
- Article: "Stop AAPI Hate: Safety Tips for Those Experiencing or Witnessing Hate" (originally published by Stop AAPI Hate civil rights group, March 2021)

In *American Born Chinese*, Gene Luen Yang explores the dangerous power of stereotypes and bias in the lives of his characters. Since the start of the COVID-19 pandemic, there has been a surge in racial harassment and violence toward Asian Americans. According to the Anti-Defamation League, "These incidents include being told to 'Go back to China,' being blamed for 'bringing the virus' to the United States, being referred to with racial slurs, spat on, or physically assaulted." ("Reports of Anti-Asian Assaults, Harassment and Hate Crimes Rise as Coronavirus Spreads" by Anti-Defamation League).

Consider information you have read in literature (*American Born Chinese*) as well as in informational texts (the articles above). Create an infographic to share online in which you explain how racism has impacted the lives of young Asian Americans since the start of the COVID-19 pandemic.

Your infographic must:

- Clearly introduce the topic with a heading;
- State at least three effects or impacts of racial harassment and violence;
- Provide information from all four informational texts
  (You may integrate examples from *American Born Chinese*, but this is not required);
- Provide examples, facts/statistics, and quotations from experts cited in the articles;
- Include at least three linking words that clarify the relationship between ideas;
- Include a suggestion on how to protect human rights or civil rights;
- Maintain a formal style;
- Include correct citations to show where information was obtained.

Grade 7 Teacher Notes

The original writing prompt from *Fishtank Learning* Grade 7, Unit 5, Lesson 9, Exploring Identity: *American Born Chinese* tasks students with writing an informational essay to answer the unit essential question, "Where do stereotypes come from and how do they affect people?" The original prompt aligns with Kentucky's reading informational text and composition strands and provides an opportunity for students to demonstrate their learning to the teacher. The task has been adapted from its original form to show how educators may use their adopted High-Quality Instructional Resource as a springboard for developing a supplemental task when a gap in the curriculum is identified. Minimal but intentional adjustments may be necessary to ensure students have opportunities to practice all three types of writing described in *Composition in the Classroom* and expanded upon in this resource, *Reading and Writing Across Disciplines*.

Analyzing and synthesizing information from four articles may present a challenge for students. Engage students in Writing to Learn to support comprehension and synthesis as they read the articles using a graphic organizer such as this Infographic Planning Tool. Note students may need support with the MLA in-text citation and works cited.

Students may create the infographic on paper or with digital tools such as Canva, Google Slides, Venngage or Piktochart. These tools provide templates for students to use as examples as well as an opportunity to display information flexibly and dynamically.

Writing for Publication in Mathematics Instruction

Implementing Writing for Publication in Mathematics Instruction

Writing for Publication in the mathematics classroom should be a regular occurrence. This type of writing provides opportunities for students to engage an authentic audience with their stories, ideas or research beyond the classroom.

Writing for Publication can engage students in learning mathematics in a way that allows them to develop voice and perspective to participate in an authentic context beyond the classroom more fully. Ideally, students make decisions about audience, purpose and/or form based on their interests, experiences or inquiry. This type of writing is grounded in authentic context, promoting the use of primary source documents or lessons, such as graphs, situations, etc. that deal with current world events. For example, students might be asked to apply proportional reasoning to plan a school event or analyze a problem in the community (MP.4).

Writing for Publication offers an opportunity to bring in students' funds of knowledge by ensuring mathematics tasks have a connection with learners while also providing opportunities to learn about the broader world. Well-developed ideas reflect the student's thinking, understanding of mathematics, and the ability to explain to help readers and to accomplish the purpose. Students develop ideas with depth and complexity to provide insight, support, and clarification of the topic through the use of appropriate and effective examples, details, facts, explanations, descriptions or arguments.

The Modeling Cycle and Writing for Publication: The *KAS for Mathematics* declare Mathematical Modeling is a process made up of the following components:

- **Identify the problem:** Students identify something in the real world they want to know, do or understand. The result is a question in the real world.
- **Make assumptions and identify variables:** Students select information important in the question and identify relations between them. They decide what information and relationships are relevant, resulting in an idealized version of the original question.
- **Do the math:** Students translate the idealized version into mathematical terms and obtain a mathematical formulation of the idealized question. This formulation is the model. They do the math to derive insights and results.
- **Implement the model:** Students report results to others and implement the solution as part of real-world, practical applications.
- **Iterate:** Students iterate the process as needed to refine and extend a model.
- **Analyze and assess the solution:** Students consider the following questions: Does it address the problem? Does it make sense when applied in the real world? Are the results practical? Are the answers reasonable? Are the consequences acceptable?

Implementing Writing for Publication in Mathematics Instruction

Products that result from engaging in the modeling process, such as data visualizations, diagrams, blueprints, computer programs, etc. might be examples of Writing to Publish if those artifacts are shared with an authentic audience beyond the classroom. Some additional examples of Writing for Publication in the mathematics classroom could include, but are not limited to:

- **News articles, Op-eds, Infographics, Brochures, Videos, Social Media Posts, Letters/Emails to community leaders** can offer students opportunities to make a reasoned judgment after analyzing information, data, facts. These artifacts, along with an authentic audience can encourage students to consider how making responsible decisions can promote systemic change within their local context and beyond.
- **Mathematical Argument/Critique of a Mathematical Argument** can offer students opportunities to justify their conclusions, communicate them to others and respond to the arguments of others.

Writing for 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 Mathematics. See Writing to Demonstrate Learning in Mathematics for tools for assessing and monitoring progress towards mastery of skills and concepts.

About the Writing for Publication in Mathematics Tasks in this Resource

The Writing for Publication sample tasks engage students in understanding and applying the statistical process across Measurement and Data in Grade 5 and Statistics and Probability in Grade 6 and in high school. Each sample shows how Writing for Publication can be a natural result of engaging in the four-step investigative process for statistical reasoning:

a. Formulate Questions: Formulate a statistical question as one that anticipates variability and can be answered with data.
b. Collect Data: Design and use a plan to collect appropriate data to answer a statistical question.
c. Analyze Data: Select appropriate graphical methods and numerical measures to analyze data by displaying variability within a group, comparing individual to individual and comparing individual to group.
d. Interpret Results: Draw logical conclusions and make generalizations from the data based on the original question.

Elementary students begin exploring the statistical process in Grade 1 (KY.1.MD.4), with the investigations increasing in depth and complexity moving forward.

Writing for Publication must demonstrate an awareness of the needs of an authentic audience. Mathematicians demonstrate audience awareness by:

- providing specific details;
- conveying ideas of relevance;
- providing background information;
- revealing critical thinking;
- employing an appropriate tone; and
- organizing ideas.

As such, attention will need to be given to supporting students in telling the story of the data they investigated to their specific audience. One way to encourage audience awareness might be to have students create a slow reveal graph. The process of deconstructing their data visualization would encourage students to consider which specific details to highlight, how ideas are organized and how the information is relevant to themselves and to the audience.

In both sample tasks, the instructional emphasis remains on the content and practice standards within the *KAS for Mathematics*. The *KAS for Mathematics* differs from previous standards in that they intentionally integrate content and practices in such a way that every Kentucky student will benefit mathematically. Put simply, the Standards for Mathematical Content define what students should understand and be able to do. Standards for Mathematical Practice define how students engage in mathematical thinking.

Grade 5 Writing for Publication Sample for Mathematics

Mathematics Content Standards Alignment	Standards for Mathematical Practice Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Cluster: Understand and apply the statistics process. **KY.5.MD.2** Identify and gather data for statistical questions focused on both categorical and numerical data. Select an appropriate data display (bar graph, pictograph, dot plot). Make observations from the graph about the questions posed. **Target of the Standard:** Application	**MP.4 Model with Mathematics.** The four-step investigative process provides a structure for students to follow that allows them to model many real-world situations with a model. **MP.5 Use appropriate tools strategically.** Students informally determine whether a selected model is appropriate for a set of data and use technology when appropriate to do so. **MP.6 Attend to precision.** Students choose precisely which graph best represents the data in order to make sense of the real-world problem.	**RI.5.9** Integrate information from several texts on the same theme or topic. *In this task, students are interpreting and integrating data collected from various sources into a graph.* **C.5.2** Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and convey ideas and information clearly.	**ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 5 Mathematics Task

Task Adapted from EngageNY: Types of Data

Now that we have learned about statistical questions, consider how data can help you take action to make changes in our school or community. Statistics is about using data to answer questions.

Think about a statistical question that you could answer for our school leadership that would provide helpful information to make our school a better place.

You will pose and answer a question based on data using the four-step process below.

Prepare to Write for Publication:

Step 1: Pose a question that can be answered by data.
Consider these examples from our learning about statistical questions:

- *What is the favorite subject of fifth graders at my school?*
- *How many hours do students typically play video games in my school?*
- *What is the typical distance (in miles) from school to home for students in my school?*

What question might you pose and answer to help make our school a better place?

Step 2: Determine a plan to collect the data.
For this project, we will be collecting data from our class to share with our school leadership.

Step 3: Summarize the data with graphs and numerical summaries.
Think about what information your audience will need and how you might display the information for them to understand clearly.

Write for Publication:

Step 4: Answer the question posed in Step 1 using the data and summaries.
Publish your findings by sharing your data with the school leadership.

Students begin a study of statistics by learning to recognize a statistical question such as:

- What is the favorite subject of fifth graders at my school?
- How many hours do students typically play video games in my school?
- What is the typical distance (in miles) from school to home for students in my school?

They develop an understanding of what data could be collected to answer a statistical question. Students engage in a four-step process for posing and answering questions based on data.

As students begin to explore data, they see the need to organize and summarize the data. Students see the idea that a data distribution can be represented graphically and there are several types of graphs, including dot plots and histograms, commonly used to represent a distribution of numerical data. Use the prompt below with students.
As Writing for Publication is grounded in student ownership, building on student and community interests and expertise is paramount. As students explore a question of interest to them, the authentic audience may vary as well. Consider finding authentic audiences who meet the following criteria: an individual or group who values student voice and who partner in taking action with students. For example, a student may want to investigate their school/community on how to make their playground ADA compliant and present the information to the local school board on why the playground should meet the needs of their community. A student may want to advocate for an interest group/club within their school and collect data to present to the principal why this group should exist.

A statistical question is one that can be answered by collecting data and where there will be variability in the data. Two types of data are used to answer statistical questions: numerical and categorical. More information about statistical questions, including numerical and categorical data sets, is below.

What is a statistical question?

- A statistical question is one that can be answered by collecting data that vary. All of the data values are not the same.

What is the difference between a numerical data set and a categorical data set?

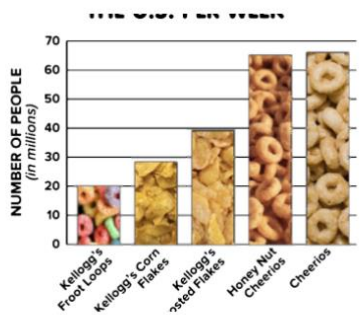
- Every value in a numerical data set is a number. The values in a categorical data set are not numerical. They are categories.

Some examples of data sets that students could use or get ideas from:

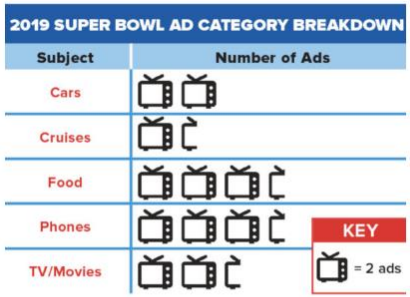
- Favorite types of playground equipment
- Heights of 20 fifth graders (numerical)
- Favorite flavor of ice cream for each of 10 fifth graders (categorical)
- Hours of sleep on a school night for each 30 fifth graders (numerical)
- Type of beverage drunk at lunch for each of 15 fifth graders (categorical)

- Eye color for each of 30 fifth graders (categorical)
- Number of pencils in the desk of each of 15 fifth graders (numerical)

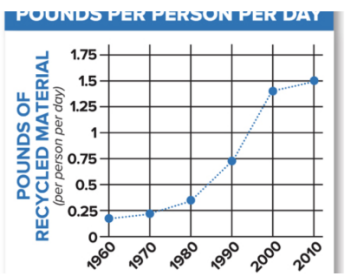
Ideally, students may choose a statistical question that resonates with them as they go through the 4-step process to showcase to an authentic audience, by engaging them with a slow reveal graph (some examples below). Note that slow reveal graphs provide a natural means for students to attune to the needs of an authentic audience processing data for the first time, teaching not only the statistics content but also the mindsets necessary for skilled writing and presentation of data.



Most Eaten Cereals in the US Per Week (2018)



2019 Super Bowl Ad Category Breakdown



Materials Recycled in Pounds per Person per Day (US)

The Number of Female CEOs Is Rising

Grade 6 and High School Statistics Writing for Publication Sample

The statistical process, as mentioned in the Grade 5 sample above, is an ongoing investigation across grade levels within the KAS for Mathematics. In Grade 6 students are working with one-variable data, whereas in high school students are investigating the association between two-variables (including linear, exponential and quadratic relationships). Thus, both the Grade 6 and high school standards will be included within this discussion, with the understanding that the expectations of the task itself can be adjusted to suit either.

Grade 6 Content Standards Alignment	Standards for Mathematical Practice Alignment	Reading and Writing Standards and Interdisciplinary Literacy Practices Connections
Cluster: Develop understanding of the process of statistical reasoning. **KY.6.SP.0** Apply the four-step investigative process for statistical reasoning. a. Formulate Questions: Formulate a statistical question as one that anticipates variability and can be answered with data. b. Collect Data: Design and use a plan to collect appropriate data to answer a statistical question. c. Analyze Data: Select appropriate graphical methods and numerical measures to analyze data by displaying variability within a group, comparing individual to individual and comparing individual to group. d. Interpret Results: Draw logical conclusions and make generalizations from the data based on the original question. **Target of the Standard:** Application	**MP.1 Make sense of problems and persevere in solving them.** Students use the statistical process to seek to understand the world around them, taking time to pursue the entire process in order to gain insights, looping back to make revisions to the question or data gathering if the results they have do not adequately address their question. **MP.3 Construct viable arguments and critique the reasoning of others.** Students draw and discuss conclusions about a statistical question (MP.3) using appropriate mathematical models. **MP.4 Model with Mathematics.** The four-step investigative process provides a structure for students to follow that allows them to model many real-world situations with a model. **MP.5 Use appropriate tools strategically.** Students informally determine whether a selected model is appropriate for a set of data and use technology when appropriate to do so. **MP.7 Look for and make use of structure.** Students discover structures or patterns in data to answer statistical questions using tables or appropriate representations.	**Standards Alignment:** **RI.6.7** Integrate information presented in print and non-print formats to develop a coherent understanding of a topic or issue. **C.6.2** 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. **Interdisciplinary Literacy Practices Connections:** **ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

High School Content Standards Alignment	Standards for Mathematical Practice Alignment	Reading and Writing Standards and Interdisciplinary Literacy Practices Connections
Cluster: Summarize, represent and interpret data on two categorical and quantitative variables. **KY.HS.SP.6** Represent data on two quantitative variables on a scatter plot and describe how the explanatory and response variables are related. a. Calculate an appropriate mathematical model, or use a given mathematical model, for data to solve problems in context. b. Informally assess the fit of a model (through calculating correlation for linear data, plotting, calculating and/or analyzing residuals). **Target of the Standard:** Application	**MP.1 Make sense of problems and persevere in solving them.** Students use the statistical process to seek to understand the world around them, taking time to pursue the entire process in order to gain insights, looping back to make revisions to the question or data gathering if the results they have do not adequately address their question. **MP.3 Construct viable arguments and critique the reasoning of others.** Students draw and discuss conclusions about a statistical question (MP.3) using appropriate mathematical models. **MP.4 Model with Mathematics.** The four-step investigative process provides a structure for students to follow that allows them to model many real-world situations with a model. **MP.5 Use appropriate tools strategically.** Students informally determine whether a selected model is appropriate for a set of data and use technology when appropriate to do so. **MP.7 Look for and make use of structure.** Students discover structures or patterns in data to answer statistical questions using tables or appropriate representations.	**Standards Alignment:** **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. **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. **Interdisciplinary Literacy Practices Connections:** **ILP 1:** Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 6 and High School Statistics Mathematics Task

As you engage in the four-step investigative process for statistical reasoning, you will:

Prepare to Write for Publication

Step 1: Formulate a statistical question of interest to you that impacts you, your school or your community and can be answered with data. Determine a specific audience in our school or community that would benefit from the data you will provide. Include a purpose for how they might use the data.

Below are some sample questions you might consider accompanied by a potential audience and purpose. Note that these represent samples, and you should use the linked Topic Brainstorm to develop a different topic based on your interests.

- *How many minutes do students travel to get to school each day?*
  Audience*: school transportation officials, administrators, community members, families, School Resource Officers (SROs), students*
  Purpose: *to provide and consider the implications of the data to take action about student transportation*

- *What kinds of assignments do students typically do outside of class rather than in class?*
  Audience*: Site-Based Decision Making (SBDM), teachers, principals, parents, students*
  Purpose: *to provide and consider the implications of the data to take action about student workload and supports*

- *What might encourage more young voters?*
  Audience: *local election officials, social studies classes, the community, local politicians and civic organizations*
  Purpose: *to provide and consider the implications of the data to take action about young voter engagement*

Use the Project Topic Brainstorm to identify who might be a part of your life, perhaps from your school (a specific teacher, coach, staff member, principal, athletic director, custodian) or in your community (city commissioners, parks and recreation, business owner, homeowners association, non-profit director) and would be willing to partner with you to influence to take action on the question you are exploring.

Step 2: Design and use a plan to collect appropriate data to answer your statistical question.

Step 3: Select appropriate graphical methods and numerical measures to analyze your data.

Note: In Grade 6 this might mean displaying variability within a group, comparing individual to individual and comparing individual to group. In high school this might mean describing how the explanatory and response variables are related when looking at bivariate data.

Write for Publication

Step 4: Draw logical conclusions and make generalizations from the data based on the original question.

Communicate the results of your four-step investigative process (letter, email, in-person or virtual meeting with presentation slides) to the individual or group in your school or community you identified as your audience to take action in response to the conclusions and generalization you have made based on the data

Grade 6 and High School Statistics Mathematics Teacher Notes

Unlike the Grade 5 task above, this Grade 6/high school task requires students to determine their own audience and purpose based on their selected statistical question. Students may need support identifying an authentic audience and purpose. The linked Project Topic Brainstorm above supports students in posing and answering a statistical question that is both of interest and may provide data to support changes in their school or community. As students explore a question of interest to them, the authentic audience may vary as well. Work with school leadership to determine data that students might collect to address school or community needs.

Additional Examples to Consider:
How many pounds of materials from the school are recycled each week? (Sample Slow Reveal Graph)
Audience: *the school recycling club, local recycling authorities, administrators, parents*
Purpose: *to promote more recycling efforts or raise awareness about recycling at schools*

How do students use cell phones during the school day? (Sample Slow Reveal Graph)
Audience: *students, parents, administrators, school mental health professionals*
Purpose: *to raise awareness about how students use cell phones in the community*

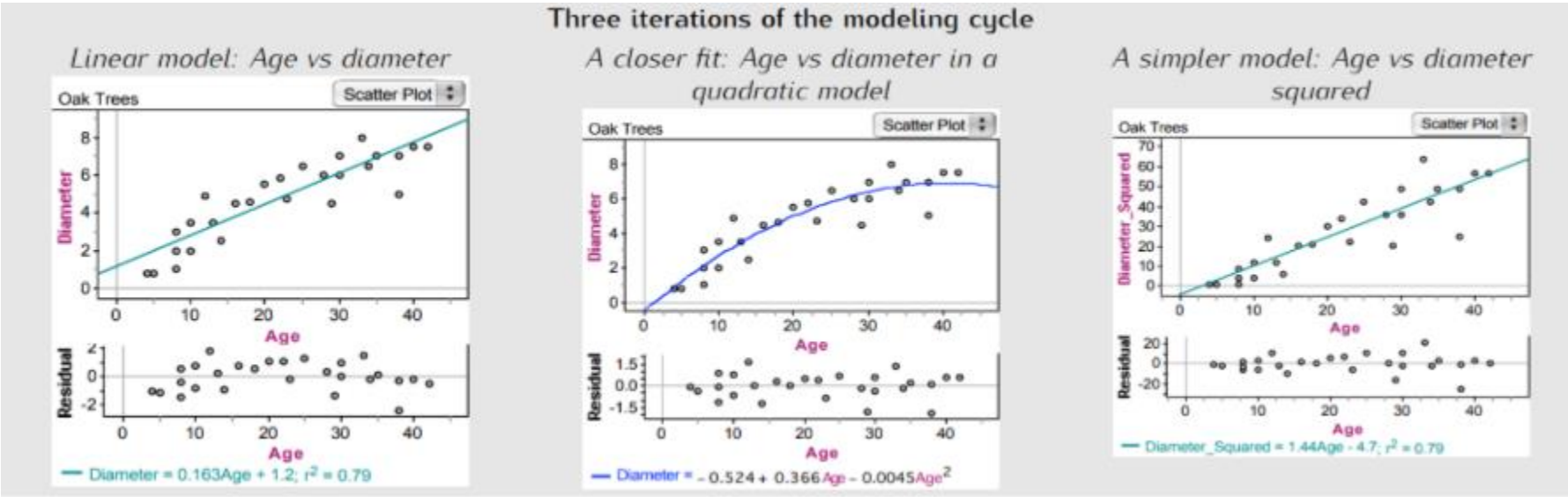
As Writing for Publication is grounded in student ownership, building on student and community interests and expertise is paramount. For support facilitating Writing for Publication at the end of a data science learning experience, consider accessing these slides from Unit 8 of YouCubed's Data Science curriculum on their process. This will be an iterative process mirroring how data scientists work on a project. Students will gather their own data. They will make decisions about how to work with it and describe the choices they have made including what technology tools to use, cleaning moves, visualization selection, univariate or bivariate data choices, combining data, and other content relevant to their project of choice.

Another consideration to support authentic Writing for Publication:
Students bring important knowledge, interests, and experiences from their daily lives to the classroom that teachers should elicit and use to inform instruction. An instructional technique called *self-documentation* is one way to do this. Educators who anticipate students having difficulty selecting a question to explore might consider engaging students in self-documentation prior to beginning the task. STEM Teaching Tools Practice Brief 31, *How to launch STEM investigations that build on student and community interests and expertise,* recommends the following instructional steps for self-documentation:

1. Ask students to "photo document" aspects of their everyday lives (e.g., about a phenomena or topic);
2. Cluster their photos into similar activities;
3. Identify which activities are possible areas of investigation for the unit;
4. Support students in engaging in investigations related to their focus; and
5. Arrange for students to present their results to members of the school or community who are invested in the issues addressed.

An Additional Note on the *KAS for Mathematics:*
In Grade 6, the emphasis is on understanding answering a statistical question and is completed by an investigative process that encompasses questioning, collection, analysis and interpretation of the data gathered.

In high school, emphasis is on linear, quadratic and exponential models as illustrated below.



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
ESS3.B Natural Hazards A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.	**Engaging in Argument from Evidence** 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.	**Cause and Effect** Cause-and-effect relationships are routinely identified, tested, and used to explain change.	**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. **C.3.2** Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and provide information. **C.3.5** Conduct short research projects that build knowledge about a topic. **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.	**ILP 2:** Employ, develop and refine schema to understand and create text. **ILP 3:** View literacy experiences as transactional, interdisciplinary and transformational. **ILP 9:** Apply high level cognitive processes to think deeply and critically about text.

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
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. **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. *(Continued in next column.)*	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. **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.	**Science and Engineering Practices Alignment:** **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. **Crosscutting Concepts Alignment:** **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. **Stability and Change** Systems can be designed for greater or lesser stability.	**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. **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.	**ILP 3:** View literacy experiences as transactional, interdisciplinary and transformational. **ILP 8:** Engage in specialized, discipline specific literacy practices. **ILP 10:** Develop a literacy identity that promotes lifelong learning.

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.

Writing for Publication in Social Studies Instruction

Implementing Writing for Publication Learning in Social Studies Instruction

In Social Studies, Writing for Publication provides students an opportunity to use what they have learned to write for an authentic audience and purpose. The Communicating Conclusions standards found at each grade level within the *Kentucky Academic Standards (KAS) for Social Studies* require students to effectively share their explanations and arguments with others inside and outside their school walls.

When addressing these standards, some learning may result in student products that are Writing to Demonstrate Learning, which are compositions written for the teacher to assess student learning. Other Communicating Conclusions standards should lead to Writing for Publication since these standards require students to take action. Taking action requires students to learn how to engage appropriate authority figure(s) or agencies in their community to create positive change. For example, in Grade 1, students are required to use listening and voting procedures to decide on and take action in their school, local community or Kentucky. For students to successfully take action, they must engage with the appropriate, authentic audience to address a problem or situation that needs to be fixed.

This skill is critical for students to learn how to use civic mindedness to be informed citizens, foster civic dispositions and be life-long participants in the political process. Writing for an authentic purpose and audience with the intent to publish is an expectation throughout a child's elementary and secondary social studies learning experiences. For example, Writing for Publication can be a natural product for even kindergarten students as they too have Communicating Conclusions standards. These standards include constructing an argument to address a problem in the classroom or school (K.I.CC.2), identifying ways to civically engage at school (K.I.CC.3) and using listening skills to decide on and take action in their classrooms (K.I.CC.4).

These knowledge and skills continue to progress through elementary, middle and high school. In Grade 8, students are required to:

- Apply a range of deliberative and democratic procedures to make decisions about ways to take action on current local, regional and global issues. (8.I.CC.4)

In high school, students are required to:

- Engage in disciplinary thinking and construct arguments, explanations or public communications relevant to compelling and/or supporting questions in civics, economics, geography and history.
- Engage in disciplinary thinking and apply appropriate evidence to propose a solution or design an action plan relevant to compelling and/or supporting questions in civics, economics, geography and history.

Writing for Publication is an appropriate approach to address these standards. They can write for an authentic audience, such as, but not limited to, school, community, state or national leaders. They can also write with an authentic purpose, such as proposing a solution to address a problem at school, informing other students in the school how they can civically engage or proposing an action to take that will improve their classroom or community. Note that some components of the Communicating Conclusions standards require students to

identify ways to authentically solve problems. This means that while students are required to write for authentic audiences, the standards may require that students identify the appropriate audience to help solve the problem. Therefore, providing an authentic audience for students may not always be necessary, especially when students are problem-solving on their own to determine their audience.

Writing for Publication in the social studies classroom is essential in supporting Kentucky students learning how to use their knowledge and skills to improve their communities. Writing for an authentic audience beyond the classroom provides an opportunity for students to make decisions and solve problems as responsible members of society. Additionally, communicating their conclusions in authentic ways will help students to be better prepared for the responsibilities and demands of civic life. Students may require additional support when Writing for Publication, particularly with genre conventions, navigating technological or design tools, citing sources and writing with a tone appropriate for their purpose and audience. When planning for Writing for Publication, build time to support these skills and provide feedback cycles for revision before publishing work to an audience beyond the classroom.

Writing for Publication takes many forms in the social studies classroom, as students can communicate their conclusions for an authentic audience and purpose in a variety of forms including but not limited to the following:

- Speeches
- PowerPoint/Google Slide presentations
- Videos
- Editorials
- Letter to the appropriate individual or agency to solve a problem
- Songs written about issues and performed for an audience
- Forums for stakeholders
- Public-facing posters
- Community education pamphlets
- Newspaper editorials
- Social media posts to raise awareness about an issue
- Short public service announcements
- School-wide morning or afternoon announcements
- Debates
- Work collaboratively to write a resolution
- Contact an organization and see how you can get involved.
- Class position statements

Implementing Writing for Publication Learning in Social Studies Instruction

Additionally, there are many authentic audiences that could be utilized in Writing for Publication in social studies. Depending on the action students are taking, some audiences may include, but are not limited to, the following:

- School-Based Decision Making Councils
- Principals
- District superintendents
- Local school board members
- Public officials (mayor, city council members/city commissioners, judge executive, county clerk, attorney governor)
- Kentucky Congress representatives
- United States Congress representatives
- Local/national newspaper
- National and world leaders
- Community businesses
- Corporate leaders (such as CEOs)
- Other local, regional and world leaders and public figures

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

About the Writing for Publication in Social Studies Tasks in this Resource

The elementary task below is designed for kindergarten students and requires them to answer the compelling question, "How can I improve my classroom community?" To prepare students to answer this question, they investigate the rules in their school and community and their purpose. The Task Aligned to the Compelling Question requires students to use their knowledge and conclusions to take action to make their classroom safer. Their Writing for Publication composition is their posters featuring their new classroom rule. The purpose of these products is to inform other students how they can keep themselves safe in their classroom.

The middle school task below is designed for Grade 8 students and requires students to answer the compelling question, "How does a government compromise amidst polarization?" To prepare students to answer the compelling question, students should investigate a variety of related supporting questions, including "How did the Missouri Compromise temporarily save the Union?" The Task Aligned to the Compelling Question requires students to use their knowledge and conclusions about compromising amidst polarization to take action. Students will create an argument in the form of an editorial and will submit it to the local newspaper for consideration.

The high school task below is designed for World History and requires students to answer the compelling question, "How does the desire for inexpensive goods lead to unintended consequences?" To prepare students to answer the compelling question, students should examine multiple related supporting questions, including, "What incentives caused individuals, organizations and governments to use slavery and other systems of forced labor for the purpose of production across the globe between 1300-1888?" Using this knowledge, students will identify a local, regional or global problem that results from the unintended consequences of desiring goods at low prices. To solve the problem, students must engage in disciplinary thinking and apply appropriate evidence to design an action plan that identifies how they can address a local, regional or global problem that results from the unintended consequences of desiring goods. The Task Aligned to the Compelling Question requires students to use their knowledge and conclusions about how the desire for inexpensive goods leads to unintended consequences to take action.

Kindergarten Writing for Publication Sample for Social Studies

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
K.C.PR.1 Identify examples of rules that apply in the school and community, and explain why they exist. **K.G.GR.1** Create maps of familiar areas, such as the classroom, school and community.	**K.I.Q.1** Ask compelling questions about their community. **K.I.UE.2** Construct responses to compelling questions about oneself and one's community. **K.I.CC.2** Construct an argument to address a problem in the classroom or school.	**Part 1:** **RI.K.9** With prompting and support, identify information from two or more texts on similar themes or topics. **C.K.1** Compose opinion pieces, using a combination of drawing, dictating, writing and digital resources, to state the topic and an opinion. **Part 2:** **RI.K.9** With prompting and support, identify information from two or more texts on similar themes or topics. **C.K.2** Compose informative and/or explanatory texts, using a combination of drawing, dictating, writing and digital resources, to establish a topic and supply information about the topic. **C.K.4** With guidance and support from adults, explore a variety of digital resources to create and publish products, including in collaboration with peers. **C.K.6** With guidance and support, collect information from real-world experiences or provided sources to answer or generate questions.	**ILP 3:** View literacy experiences as transactional, interdisciplinary and transformational. **ILP 7:** Utilize digital resources to learn and share with others.

Kindergarten Social Studies Task

Compelling Question: Part One:
Participate in a discussion to identify ways to improve your classroom community.

Compelling Question: Part Two:
In small groups, use the discussion from Part One to create a poster that shows your new classroom rule.

Create a poster to hang in our classroom. The poster must show a new rule that you and your classmates think will improve our classroom community.

Your poster must show the following:

1. The new rule to use in your classroom,
2. Why the rule is needed. What problem does it solve? Use information from two or more sources in the classroom to explain how creating a new rule will improve your classroom community.
3. How following the new rule will improve the classroom community.

Use what you have learned about school and community rules and why they exist to design the new classroom rule.
Use drawing **and** writing that will make your friends want to follow the classroom rule.

Kindergarten Social Studies Teacher Notes

This example of Writing for Publication is a synthesis task intended to occur after students have engaged in numerous learning opportunities from the Kindergarten Strongly Aligned Assignment with Teacher Notes which is in the Social Studies Student Assignment Library.

This task provides Kindergarten students an opportunity to share their conclusions with an audience other than their teacher and for an authentic purpose. To prepare for this task, students are asked to investigate the purpose of rules and laws in their classroom, school and community. Students are also asked to consider areas in their classroom where safety issues may arise and determine new rules to address them. Their learning from these investigations will help students answer the compelling question, "How can I improve my classroom community?" The products produced from the Task Aligned to the Compelling Question will demonstrate to students their ability to use their learning to identify a problem and take action to address this problem.

Grade 8 Writing for Publication Sample for Social Studies

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Since this Writing for Publication example uses Tasks Aligned to the Compelling Question, disciplinary strand standards are not cited in this assignment. Students should engage with multiple supporting questions to answer a compelling question. Since only one supporting question is investigated in this assignment with Teacher Notes to help students answer the Compelling Question, the disciplinary strand standards are not listed. The disciplinary strand standards found in the supporting question task represent only a fraction of the standards that should be addressed through other supporting questions. Students must synthesize the content and skills they engaged with through multiple supporting questions to answer the Task Aligned to the Compelling Question.	**8.I.Q.1** Develop compelling questions related to the development of the United States between 1600-1877. **8.I.UE.1** Use multiple sources to develop claims in response to compelling and supporting questions. **8.I.CC.3** Evaluate how individuals and groups address local, regional and global problems concerning the development of the United States. **8.I.CC.4** Apply a range of deliberative and democratic procedures to make decisions about ways to take action on current local, regional and global issues.	**RI.8.1** Cite relevant textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. ***Teacher's Note:*** *This task requires students to analyze and synthesize information across multiple sources that address the same topic (how governments can compromise amidst polarization). This higher-order level thinking is most consistent with* **RI.8.9 Analyze two or more texts with conflicting information on the same topic and identify where the texts disagree in fact or interpretation**. *While this standard aligns with the cognitive complexity of the task, note that the texts used in this task do not present conflicting information but information that builds knowledge on the same topic.* **C.8.1** Compose arguments to support claims with clear reasons and relevant evidence.	**ILP 2:** Employ, develop and refine schema to understand and create text. **ILP 8:** Engage in specialized, discipline-specific literacy practices. **ILP 9:** Apply high level cognitive processes to think deeply and critically about text.

Grade 8 Social Studies Task

After investigating the conflicts and compromises that shaped the development of the U.S. government between 1783-1877:

Task Aligned to the Compelling Question
How does a government compromise amidst polarization?

Based on your explanation for the supporting question, consider the following video entitled, *"This 60-second animation shows how divided Congress has become over the last 60 years."*

Construct an argument to the following question: In light of the modern division within Congress, how does a government compromise amidst polarization? Draw on what you learned about Henry Clay's civic action and additional compromises in American history to evaluate how individuals or groups might address a local, regional and/or global problem in modern society to write an editorial for the local newspaper. Be prepared to share your thinking through deliberative and democratic procedures, support your argument with evidence from multiple sources and share this product with the intended audience.

Grade 8 Social Studies Teacher Notes

This example of Writing for Publication is a synthesis task intended to occur after students have engaged in numerous learning opportunities and is modified from the Grade 8 Strongly Aligned Assignment with Teacher Notes which is in the Social Studies Student Assignment Library. This linked assignment also features the Analyze a Written Document tool, an example of Writing to Learn in Social Studies featured on the Reading and Writing Across Disciplines webpage.

This task provides Grade 8 students an opportunity to apply their learning about events in history to the modern day. To prepare for this task, students should investigate examples from history where governments have had to compromise amidst polarization. Based on this knowledge, students should apply reasoning to determine how these strategies can be applied to today's Congress. The Task Aligned to the Compelling Question will demonstrate students' ability to make decisions and communicate their conclusions to address local, regional and/or global problems.

High School Social Studies Writing for Publication Sample

Social Studies Disciplinary Strand Standards Alignment	Inquiry Practices Alignment	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
Since this Writing for Publication example uses Tasks Aligned to the Compelling Question, disciplinary strand standards are not cited in this assignment. Students should engage with multiple supporting questions to answer a compelling question. Since only one supporting question is investigated in this assignment with Teacher Notes to help students answer the Compelling Question, the disciplinary strand standards are not listed. The disciplinary strand standards found in the supporting question task represent only a fraction of the standards that should be addressed through other supporting questions. Students must synthesize the content and skills they engaged with through multiple supporting questions to answer the Task Aligned to the Compelling Question.	**HS.WH.I.UE.2** Gather information and evidence from credible sources representing a variety of perspectives relevant to compelling/supporting questions in world history. **HS.WH.I.UE.3** Use appropriate evidence to construct and revise claims and counterclaims relevant to compelling/supporting questions in world history. **HS.WH.I.CC.1** Engage in meaningful discussions/democratic discourse and respect diverse opinions relevant to compelling/supporting questions in world history. **HS.WH.I.CC.2** Engage in disciplinary thinking and construct arguments, explanations or public communications relevant to compelling/supporting questions in world history. **HS.WH.I.CC.3** Engage in disciplinary thinking and apply appropriate evidence to propose a solution or design an action plan relevant to compelling/supporting questions in world history.	**RI.9-10.7** Analyze various accounts of a subject presented in different print and non-print formats, determining which details are emphasized in each account. **C.9-10.1** Compose arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. **C.9-10.5** Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation **C.9-10.6** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	**ILP 8:** Engage in specialized, discipline-specific literacy practices. **ILP 9:** Apply high level cognitive processes to think deeply and critically about text. **ILP 10:** Develop a literacy identity that promotes lifelong learning.

High School Social Studies Task

After engaging in readings and discussions about the unintended consequences of inexpensive goods throughout history:

Task Aligned to the Compelling Question:
How does the desire for inexpensive goods lead to unintended consequences?

Part One: Construct an argument to answer the following compelling question: "**How does the desire for inexpensive goods lead to unintended consequences?**" Gather information and evidence from credible sources and use appropriate evidence to construct claim(s) and counterclaim(s) to answer the compelling question.

Part Two: Based on your argument to the compelling question, investigate your slavery footprint using http://slaveryfootprint.org/. Using this knowledge, identify a local, regional or global problem that results from the unintended consequences of desiring goods at low prices. Be prepared to share your response through meaningful discussions and democratic discourse. In your discussions, respect diverse opinions related to the problems that result from the unintended consequences of desiring goods at low prices.

Part Three: Engage in disciplinary thinking and apply appropriate evidence to design an action plan that identifies how you can address a local, regional or global problem that results from the unintended consequences of desiring goods.

Your action plan should identify an audience you can engage with authentically to create real change. Consider the following to craft the most effective action plan:

- What message do you need to communicate that could create real change around the issue you have identified?
- Who would listen to, read or view your message and would actually take action in response?
- In your ideal world, what might be some outcomes of your communication with this audience?
- What medium might you use to communicate this message with that audience?
- How might you demonstrate your expertise to this audience to gain credibility?
- How do you anticipate this audience responding to your message?

High School Social Studies Teacher Notes

This example of Writing for Publication is a synthesis task intended to occur after students have engaged in numerous learning opportunities and is from the High School Strongly Aligned Assignment 2 with Teacher Notes which is in the Social Studies Student Assignment Library. This linked assignment also features the Mind Mapping visual organization strategy, an example of Writing to Learn in Social Studies featured on the Reading and Writing Across Disciplines webpage.

This task provides high school students the opportunity to apply their learning about events in history to the modern day. To prepare for this task, students should have the opportunity to investigate the incentives that led to slavery and forced labor being implemented throughout the world. Students should use this knowledge, along with the results of their slavery footprint survey, to design an action plan to address the problem of modern day forced labor. When designing this action plan, students should determine the appropriate audience for their proposal, which should be presented to the intended audience upon completion. To support students with determining an appropriate audience, refer to the list of potential audiences in the Implementing Writing for Publication in Social Studies Instruction portion of this resource. As an example, students might decide to take action on reducing their slavery footprint from clothing by designing a Community Education Pamphlet that inspires their peers and other adults to shop at local stores that resell gently used clothing, thus inspiring their local community to reduce their purchases of new clothing. Or students may write a letter to a business leader in their local community or a corporate leader in their regional or global community asking them to commit to address the enslavement of individuals when producing their products. The Task Aligned to the Compelling Question will demonstrate students' ability to take their learning and apply it to a modern-day problem and take action by communicating their ideas for addressing this problem.

A note on supporting students with authentic audiences:
Students may require some support in identifying and personalizing their action plans to address the needs of a narrow, specific audience. Students should engage in strategic, disciplinary thinking to identify an authentic audience, or an audience that would value student voice and be able to take action in response to their writing. See the list of authentic audiences in social studies above in "Implementing Writing for Publication in Social Studies." Consider using BeACitizen.org's civic spaces documents, including: Who are Stakeholders? What Action Can I Take? and Where Can I Share?

Support student success with this task by identifying a rhetorical purpose for their writing: Do they intend to inform? To inform and persuade? Students should strategically consider what outcome they anticipate from their writing and select an appropriate medium to communicate with the audience to achieve that purpose. See the abovelist of potential forms of Writing for Publication.

Finally, students may also need support in personalizing their message to address the needs of their specific audience and to establish their own credibility as disciplinary experts concerning inexpensive goods. Writers may address the needs of an audience by providing details, visuals, research or compelling anecdotes or statistics. Strategic writing anticipates where the audience may need further information or multimodal components to engage with a message.

Writing for Publication in Visual and Performing Arts Instruction

Implementing Writing for Publication in Visual and Performing Arts Instruction

The *Kentucky Academic Standards (KAS) for Visual and Performing Arts* emphasizes four arts processes universal across all five disciplines: Creating, Performing/Producing/Presenting, Responding and Connecting, all of which have possibilities for Writing for Publication

The essence of Visual and Performing Arts is for the artist to communicate ideas and experiences to the audience. Similarly, Kentucky's Interdisciplinary Literacy Practices (part of the *Kentucky Academic Standards for Reading and Writing*) define text as "anything that communicates a message." While we often think of writing as a purely linguistic activity, student artists engage in the complex task of creating and refining messages throughout the artistic processes. Thus, sharing any part of the creative process with an audience beyond the classroom serves as Writing for Publication, even if "writing" as we typically conceive it is not present.

Creating is a continuous process when students conceive and develop artistic ideas and works, which may require space for thinking and reflecting throughout the artistic process.

The arts process of **Performing** is specific to the performing arts of music, dance and theatre. **Producing** is the process of sharing work in the area of media arts and will often utilize "product" as its final form. **Presenting** is often associated with sharing in more formal settings such as exhibitions in the visual arts.

The artistic process of **Responding** allows students to reflect on their learning as artists and audience members. Due to the cyclical nature of the artistic processes, students can showcase their learning throughout the four.

Connecting involves relating artistic ideas and work with personal meaning and external context. Opportunities for connecting are often the most natural means to integrate traditional linguistic writing in the arts classroom as students connect their own expression with an audience beyond the school community. See the examples listed below.

Though student artists are constantly creating "text" (anything that communicates a message) through the five arts disciplines, arts teachers can consider using traditional linguistic writing as a part of instruction. Because writers also communicate ideas and experiences to the reader as artists and performers do with an audience, Writing for Publication lends itself well to the Visual and Performing Arts classroom. When student artists likewise engage in writing, they can strengthen their understanding of what they learned throughout the artistic process.

Implementing Writing for Publication in Visual and Performing Arts Instruction

Writers in the arts contribute to the field professionally through the following forms. These authentic forms of writing serve as strong possibilities for Writing for Publication tasks in the Visual and Performing Arts classroom,

- Artists statements
- Exhibition reviews
- Artist interviews
- Catalog essays
- Museum exhibition texts
- Art theory essays
- Informational texts for artist handbooks
- Newspaper articles, reviews and critiques
- Magazine publications
- Scholarly journals
- Websites or blogs
- Gallery handouts
- Books

Teachers are also encouraged to leverage writing as a tool for deeper learning using Writing to Learn tasks described in Writing to Learn in Visual and Performing Arts. See Writing to Demonstrate Learning in Visual and Performing Arts for tools for assessing and monitoring progress towards mastery of skills and concepts.

About the Writing to Learn in Visual and Performing Arts Tasks in this Resource

The *Kentucky Academic Standards (KAS) for Visual and Performing Arts* include five contrasting arts disciplines connected through Anchor Standards. The elementary and middle school sample Writing for publication tasks below both work towards mastery of different Anchor Standard but the skills include an understanding of all four artistic processes of Creating, Performing/Producing/Presenting, Responding and Connecting in order to complete these tasks, allowing for connection to multiple areas outside of the disciplines presented. Educators may make connections to other disciplines and contexts when possible.

Grade 4 Visual Art Writing for Publication Sample

Visual and Performing Arts Standards Alignment	Artistic Process Alignment	Additional Standards Alignment: Physical Education	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
VA:Cn10.1.4 Create works of art that reflect community cultural traditions.	**Artistic Process:** Connecting **Process Component:** Synthesize **Anchor Standard 10:** Synthesize and relate knowledge and personal experiences to make art. **Note:** The Artistic process of "Connecting" includes elements of the other three Artistic Processes (Creating, Performing/Presenting/Producing, Responding).	**Enduring Understanding:** Through art-making, people make meaning by investigating and developing awareness of perceptions, knowledge and experiences. **Essential Question:** How does engaging in creating art enrich people's lives? How does making art attune people to their surroundings? How do people contribute to awareness and understanding of their lives and the lives of their communities through art-making?	**RI.4.9** Integrate information from two or more texts on the same theme or topic. *For this task, the two or more "texts" are 1) the the words exchanged in the student interviews and 2) the artwork created. Both of these texts (the interviews and the artwork) are on the same topic – the artist's community and cultural traditions – and must be analyzed to successfully complete the task.* **C.4.2** Compose informative and/or explanatory texts, using writing and digital resources, to examine a topic and convey ideas and information clearly.	**ILP 1**: Recognize that text is anything that communicates a message. **ILP 4:** Utilize receptive and expressive language arts to better understand self, others and the world. **ILP 6:** Collaborate with others to create new meaning.

Grade 4 Visual Art Task

Students will interview their partner throughout the Planning, Creating and Presenting processes of developing the assigned artwork. They will then use what they learn from the interviews about their partner's perspective during each step of the artwork development process to write an article that will be displayed alongside their partner's artwork to provide the viewing audience with insight into the artist's perspective.

Students may use an Artist Interview Outline to assist in organizing the information gathered in each of the three interviews.

1. While the artwork is in the planning process, the interview questions should center around the personal perspective of their partner in terms of their community and cultural identity.
2. When the artwork moves into the creating process, the interview questions should focus more on the artist statement perspective such as, why are students making the artistic decisions they are making and how do they relate to their community and cultural experience.
3. As students prepare their art piece for presentation, the interview should conclude with more finite statements about what the student artists hope their piece will communicate about their community and cultural experiences and what the art piece says about them and their unique perspective.

Grade 4 Teacher Notes

The interview process represents the arts process of **Connecting** and should support the other three arts processes in its structure: The **Planning** process, the **Creating** process and the **Presenting** process.

Teachers can utilize or modify the Artist Interview Outline as an additional check-in for student progress throughout this art project as it helps integrate all four arts processes of planning, creating and presenting.

Note that the Artist Interview Outline includes questions about cultural identity, which may be challenging to define for elementary school students. Here is a student-friendly definition of cultural identity: "Cultural identity are the things about our communities and families that help us feel like we belong. Some things that help us feel like we belong are our music, food, appearance, clothing, language, nationality, race, religion, sports, art, hobbies, or other parts of our families or communities that make us unique."

In addition, some of the questions used in the Artist Interview Outline are considered Essential Questions that alight with this specific standard as outlined in the Kentucky Academic Standards for Visual and Performing Arts. These Essential Questions can also be found in this document under the column labeled "Additional Standards Connections."

While the final article can be published as a descriptor of the artwork on display, a complete book of community and cultural art can also be published to include the interviews from all classmates in one place.

Grade 8 Theatre Writing for Publication Sample

Visual and Performing Arts Standards Alignment	Artistic Process Alignment	Additional Standards Connections	Reading and Writing Standards Alignment	Interdisciplinary Literacy Practices Connections
TH:Re9.1.8 a. Respond to a drama/ theatre work using supporting evidence, personal aesthetics, and artistic criteria. b. Apply the production elements used in a drama/theatre work to assess aesthetic choices. c. Assess the impact of a drama/theatre work on a specific audience.	**Artistic Process:** Responding **Process Component:** Evaluate **Anchor Standard 9:** Apply criteria to evaluate artistic work.	**Enduring Understanding:** Theatre artists apply criteria to investigate, explore and assess drama and theatre work. **Essential Question:** How are the theatre artist's processes and the audience's perspectives impacted by analysis and synthesis?	**RL.8. 2** Determine themes of a text, and analyze how they are developed through relationships of characters, setting and plot, citing textual evidence, paraphrasing or summarizing. **C.8.1** Compose arguments to support claims with clear reasons and relevant evidence. *If students read the play script prior to the performance:* **RL.8.7** Analyze the extent to which a filmed/live production of a story or drama stays faithful to or departs from the text or script, evaluating choices made by the director or actors.	**ILP 5:** Apply strategic practices, with scaffolding and then independently, to approach new literacy tasks. **ILP 8:** Engage in specialized, discipline-specific literacy practices.

Grade 8 Theatre Task

Theatre Critique:

After attending a public performance, students will publish their critique as an audience member based on criteria linked to the elements of theatre. The Elements of Theatre Critique document provides questions students can use as pre-writing to plan their argument.

The theatre critique will be published publicly upon completion. Publishing opportunities may include the school newspaper or community newspaper, an online student blog or other website or social media platforms.

Grade 8 Teacher Notes

The Theatre Critique should be completed within the same week as the viewing of the live performance to give students an opportunity to investigate, explore and assess their freshest ideas and feelings about the theatre work.

Response prompts can be catered to current discipline-specific vocabulary or focal points of the production. **Examples:**
How did the costumes help/hinder the portrayal of character in the production?
In what ways did lighting help communicate parts of the story to the audience?

Teachers may wish to distribute the assignment details prior to the performance and allow students to take notes during the live performance or jot their thoughts immediately following the performance to aid in the analysis of the production.

If possible, students can access the script of the play prior to the performance to familiarize themselves with the literary components of the drama and to provide opportunities for alignment to RL.8.7 cited above. Note that even if students do not read the original script prior to the performance, they can still engage in evaluation of the director's and actor's choices through the Theatre Critique.

Teachers can publish theatre critique's publicly through several avenues:

- Online student blog
- School/community paper
- In partnership with community theatre newsletters or playbills
- In partnership with the community theatre website or other social media platform