Unit 5 Informational Writing About Science

Content Area: **English Language Arts**
Course(s): **English Language Arts**
Time Period: **Generic Time Period**
Length: **8 Weeks**
Status: **Published**

Unit Overview

This unit is designed to have students build on their enthusiasm about the world around them. Students will not only think like scientists, but also write like scientists. They will be taught the language scientists use, to engage in close observations, problem solving, experimentation, and the same kind of research that scientists in the real world would engage in to teach others about their newly acquired expertise. Students will draft both handwritten pieces as well as pieces using appropriate technology.

Standards

LA.2.CCSS.ELA-Literacy.CCRA.L.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.2.CCSS.ELA-Literacy.CCRA.R.1	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
LA.2.CCSS.ELA-Literacy.CCRA.R.2	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
LA.2.CCSS.ELA-Literacy.CCRA.R.7	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
LA.2.CCSS.ELA-Literacy.CCRA.R.8	Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
LA.2.CCSS.ELA-Literacy.CCRA.R.9	Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
LA.2.CCSS.ELA-Literacy.CCRA.R.10	Read and comprehend complex literary and informational texts independently and proficiently.
LA.2.CCSS.ELA-Literacy.CCRA.W.2	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
LA.2.CCSS.ELA-Literacy.CCRA.W.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LA.2.CCSS.ELA-Literacy.CCRA.W.5	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
LA.2.CCSS.ELA-Literacy.CCRA.W.6	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
LA.2.CCSS.ELA-Literacy.CCRA.W.7	Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
LA.2.CCSS.ELA-Literacy.CCRA.W.8	Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

LA.2.CCSS.ELA-Literacy.CCRA.W.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.
LA.2.CCSS.ELA-Literacy.CCRA.W.10	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
LA.2.CCSS.ELA-Literacy.CCRA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
LA.2.CCSS.ELA-Literacy.CCRA.SL2	Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
LA.2.CCSS.ELA-Literacy.CCRA.SL3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
LA.2.CCSS.ELA-Literacy.CCRA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
LA.2.CCSS.ELA-Literacy.CCRA.SL5	Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
LA.2.CCSS.ELA-Literacy.CCRA.SL6	Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.
CCSS.ELA-Literacy.L.2.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
CCSS.ELA-Literacy.L.2.1.f	Produce, expand, and rearrange complete simple and compound sentences (e.g., The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy).
CCSS.ELA-Literacy.L.2.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
CCSS.ELA-Literacy.L.2.2.a	Capitalize holidays, product names, and geographic names.
CCSS.ELA-Literacy.L.2.2.e	Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.
CCSS.ELA-Literacy.L.2.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
CCSS.ELA-Literacy.L.2.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.
CCSS.ELA-Literacy.L.2.4.a	Use sentence-level context as a clue to the meaning of a word or phrase.
CCSS.ELA-Literacy.L.2.4.e	Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases.
CCSS.ELA-Literacy.L.2.5	Demonstrate understanding of word relationships and nuances in word meanings.
CCSS.ELA-Literacy.W.2.2	Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.
CCSS.ELA-Literacy.W.2.5	With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.
CCSS.ELA-Literacy.W.2.6	With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
CCSS.ELA-Literacy.W.2.7	Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
CCSS.ELA-Literacy.W.2.8	Recall information from experiences or gather information from provided sources to answer a question.
CCSS.ELA-Literacy.RF.2.4.a	Read grade-level text with purpose and understanding.

CCSS.ELA-Literacy.RF.2.4.b	Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.
CCSS.ELA-Literacy.RF.2.4.c	Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
CCSS.ELA-Literacy.RI.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
CCSS.ELA-Literacy.RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
CCSS.ELA-Literacy.RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
CCSS.ELA-Literacy.RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
CCSS.ELA-Literacy.RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.
CCSS.ELA-Literacy.RI.2.7	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
CCSS.ELA-Literacy.RI.2.8	Describe how reasons support specific points the author makes in a text.
CCSS.ELA-Literacy.RI.2.9	Compare and contrast the most important points presented by two texts on the same topic.
CCSS.ELA-Literacy.RI.2.10	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
CCSS.ELA-Literacy.RL.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
CCSS.ELA-Literacy.RL.2.7	Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.
CCSS.ELA-Literacy.SL.2.1	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
CCSS.ELA-Literacy.SL.2.1.a	Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
CCSS.ELA-Literacy.SL.2.1.b	Build on others' talk in conversations by linking their comments to the remarks of others.
CCSS.ELA-Literacy.SL.2.1.c	Ask for clarification and further explanation as needed about the topics and texts under discussion.
CCSS.ELA-Literacy.SL.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
CCSS.ELA-Literacy.SL.2.3	Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
CCSS.ELA-Literacy.SL.2.6	Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Essential Questions

What are ways to present all that I know about a topic?

How do I become an expert in my area of study?

What kinds of writing can be included in my presentation on one topic?

Application of Knowledge: Students will know that...

- it is important in informational writing to also use mentor texts to emulate an authors ideas or approach
- they can work with partners to get ideas for information that would be helpful
- they grow knowledge by thinking like scientists
- they need strategies to revise for elaboration
- writers gather information about their topic through a variety of ways

Application of Skills: Students will be able to...

- grow knowledge by thinking like scientists, historians, mathematicians, artists, and of course writers
- participate in a common class study
- learn to observe closely, ask big questions, and follow procedures to find out about those questions

Teaching Points and Suggested Activities

The following teaching points and activities are adapted from Units of Study, If.....Then, Grade 2 (Calkins et al., 2013) and serve as a loose framework for teachers, who will add and or emphasize based on their student's needs.

****Mentor Texts, such as the ones listed in "Resources", will be shared in whole or in part throughout the unit. This share time may at times be outside of the Workshop but then referred to during Workshop. Excerpts can be reproduced for close inspection or projected with the use of a document camera.*

Teaching Points:

- scientists record as much information as they can while they are observing and studying their topics
- scientists can use specific tools to help them write and collect information
- scientists conduct experiments they want to keep detailed accurate notes
- scientists may even conduct their experiment more than once to see if they get similar results and to help them capture all the information that they need
- talking about science is a lot like talking about books
- as we observe, record and grow ideas about our topics we can also create questions that we want to pursue
- working with our partners, we need to decide whether or not an experiment is possible to test
- use our book talk charts to grow different kinds of ideas in science
- scientists revisit as they observe, record and grow ideas about their topics they can also create questions that they want to pursue
- use everything that we remember from our class experiments to support us

- writing like a scientist, we want to think about: asking a question, including background research, constructing a hypothesis, testing your hypothesis by doing an experiment, analyzing your data and drawing a conclusion and communicate your results
- writers can revise our writing with partners to add more specific information, additional steps, or to take away unnecessary parts
- when we are revising, we want to make sure that our steps match and sometimes we need to take away parts that don't match or are not clear
- writers plan information/experiment books by rereading notes and thinking about the big things that they learned and the experiments that they conducted
- working with partners can help us remember and decide on the information that is most important to include in our writing
- use mentor text to help make writing look and sound like other science books in the world
- writers can choose or design our paper choice to match a mentor text
- writers use everything that we know to revise and say more in their writing
- writers can include an introduction and conclusion to their writing
- writers glance back at mentor texts to get ideas
- writers keep their readers in mind and make sure that their writing is as easy to read as possible
- teach about ways to make writing as visually attractive as possible for our readers. Some things we can include in our books are photographs, changing the size of text, designing an eye-catching cover, writing an intriguing blurb for the back, and creating an author's page that includes other books they have written
- scientists and writers celebrate published work

Activities to Support Teaching Points

- create anchor charts
- study pages from exemplar writer's notebooks
- provide and present mentor texts as models
- provide checklists to assess on-going writing goals
- use writer's notebook for daily writing
- creating mental movies and acting out a story in order to make writing come alive
- use figurative language and sparkle words to improve descriptions of character and setting
- use dialogue to make character's come to life
- set mini-writing goals as you move through the writing process
- tap, sketch, or jot across the pages as a way of planning stories
- explore a variety of leads and endings
- write long and strong to build stamina
- teach children to read like writers using mentor texts
- teach paragraphing to separate groups of ideas and sentences to separate ideas
- celebrate the conclusion of a writing unit
- use technology to research information about a specific topic
- make an on-going class book as a model of the writing process

Assessments

Assessment in this unit takes three forms: diagnostic, formative, and summative. Assessment rubrics are available in Lucy Calkins' Reading and Writing Project resource kits, but teachers may also develop their own

rubrics in order to include more specific elements of knowledge and skills listed in this unit summary.

Student self-assessment and peer assessment should take place whenever possible--again, in all three forms: diagnostic, formative, and summative. Removing the traditional emphasis on teacher assessment enables students to take more initiative and become self-directed.

On-going teacher assessment will take place in the context of a conference. Conferences, both small group and one-to-one conferring, are used to reinforce expectations, provide advice and/or assistance, and ultimately, to support growth.

Diagnostic Assessments

If there is a student new to the class the original On-Demand Assessment can be administered:

Prompt: E.g. "Think of a topic that you have studied about or that you know a lot. Tomorrow, you will have 45 minutes to write an informational text that teaches others interesting and important information and ideas about the topic. If you want to find and use information from a book, you may bring it with you tomorrow. You will need to plan, draft, revise and edit in one sitting. Write in a way that shows all that you know about informational writing." - Taken from *Writing Pathways: Performance Assessments and Learning Progressions, K-2*)

Formative Assessments (Informal)

Daily observation of students' participation during the active engagement segment of each mini-lesson.

Students' conversation with partners during Turn and Talk segment of mini-lessons.

Comments, corrections, and records from peer conferences between students.

Observation of daily writing progress in writing notebooks and/or folders.

Formative Assessments (Formal)

Teacher-student conferences

Summative Assessment

Summative writing will take the form of both handwritten pieces and pieces generated using appropriate technology.

Published Writings

Completed unit writing projects

On-Demand Performance Assessment Prompt (Same prompt as the diagnostic on-demand)

Activities to Differentiate Instruction

- provide support as needed during individual teaching sessions
- provide feedback in small group setting
- provide modified writing paper
- provide modified and/or alternate grade level checklists and rubrics to scaffold or stretch learning
- provide personal copies of teaching charts
- provide appropriate writer partners
- provide support as needed through conferencing
- provide support as needed through writing strategy groups
- scaffold or stretch learning through the use of various strategies such as digital media and resources

Challenge gifted students to incorporate more complex writing techniques in each writing piece based on the 4th grade Writing Learning Progressions:

- writer groups information into sections and paragraphs
- writer includes different facts and details about a subject
- writer uses word families and spelling rules to edit the piece
- writer uses commas in long sentences

Integrated/Cross-Disciplinary Instruction

Reading Workshop

- apply language and ideas from read alouds and independent reading
- apply spelling strategies
- identify areas of spelling needs
- apply grammar skills
- identify areas in need of addressing (spelling, grammar, mechanics)
- expand written vocabulary from read alouds and independent reading
- model sentence and paragraph structure after mentor texts

Science, Engineering, and Math

- write journal entries related to scientific observation in animal unit

- write research lab book of animal/habitat for Safari Park
- use a notebook to log activities
- write narratives that include a math problem being solved
- write math problems tied to personal experiences

Study Skills

- use graphic organizers to plan writing
- use checklists and rubrics to monitor progress
- use Venn diagrams and t-charts to gather, compare, and contrast events
- use highlighters, note cards, post-its, and other tools during revision and editing process

The Arts

- turn narratives from Social Studies/Health into posters
- add illustrations to further convey meaning

Houghton Mifflin Social Studies Neighborhoods

- *w*rite personal narratives about life in Green Brook
- write narratives involving following rules
- write journal entries about in and around the US
- write narratives about being good citizens

Macmillan/McGraw-Hill Health and Wellness

- use a notebook to log experiences
- write information concerning family relationships
- write information posters dealing with getting along with others
- write letters to friends and family about topics you care about
- write journal entries about health goals and practices
- write information posters involving consequences to poor health and safety practices

Suggested Mentor Texts and Other Resources

Resources

Crafting True Stories by Lucy Calkins and Marjorie Martinelli

Launching the Writing Workshop, Grades K-2; Lucy Calkins and Marjorie Martinelli

A Guide to the Common Core Writing Workshop, Intermediate Grades; Lucy Calkins

Writing Pathways, Grades K-5, Performance Assessments and Learning Progressions; Lucy Calkins

If...Then... Curriculum, Grade 2 (Assessment-Based Instruction) by Lucy Calkins, Julia Mooney and Colleagues From the TCRWP

Resources for Teaching Writing (DVD) Units of Study in Opinion, Information, and Narrative Writing; Lucy

Calkins

The Art of Teaching Writing; Lucy Calkins

The Writing Thief; Ruth Culham

Creating Classrooms for Authors; Jerome C Harste, Kathy G Short with Carolyn Burke

Guiding Readers and Writers, Grades K-2 ; Irene C Fountas and Gay Su Pinnell

Smarter Charts; Marjorie Martinelli

Launching the Writing Workshop; Denise Leograndis

Mentor Texts: (Classroom Texts from the district approved science curriculum)

Plant Cycle

Life Along the Food Chain

Animal Life Cycles

Life Cycle of a Butterfly

Life Cycle of a Frog

Soil Basics

Balance and Motion