
BUILDING EVIDENCE-BASED ARGUMENTS

**DEVELOPING CORE PROFICIENCIES
ENGLISH LANGUAGE ARTS / LITERACY UNIT**

GRADE 6

“Energy Crossroads”

EVIDENCE-BASED ARGUMENTATION

Literacy – the integrated abilities to read texts closely, to investigate ideas and deepen understanding through research, to make and evaluate evidence-based claims, and to communicate one’s perspective in a reasoned way – is fundamental to participation in civic life. Thus, the importance of a literate citizenry was understood and expressed by Thomas Jefferson early in the life of our democratic nation. Today, students face the prospect of participating in a civic life that stretches beyond the boundaries of a single nation and has become increasingly contentious, characterized by entrenched polarization in response to complex issues. Citizens have access to a glut of information (some of which is nothing more than opinion passed off as fact) and are often bombarded by bombast rather than engaged in reasoned and civil debate.

Learning the skills and habits of mind associated with argumentation – how to conceive and communicate “arguments to support claims, using valid reasoning and sufficient evidence” [CCSS W1] as well as how to “delineate and evaluate the argument[s]” and “the validity of the reasoning and relevance and sufficiency of the evidence” presented by others [CCSS R8] – is therefore central to students’ civic and academic lives. In order to participate in thoughtful, reasoned, and civil discussion around societal issues, they must learn: 1) to investigate and understand an issue 2) to develop an evidence-based perspective and position; 3) to evaluate and respond to the perspectives and positions of others; 4) to make, support, and link claims as premises in a logical chain of reasoning; and 5) to communicate a position so that others can understand and thoughtfully evaluate their thinking.

Thus, this unit, as the culminating set of instructional activities in the Core Proficiency series, focuses on aspects of argumentation involving evidence, reasoning, and logic, rather than on persuasive writing and speaking. It moves away from an “editorial” approach that asks students to form an opinion, take a stand, and convince others to agree. Instead, students are first expected to understand objectively a complex issue through exploratory inquiry and close reading of information on the topic, then study multiple perspectives on the issue before they establish their own position. From their reading and research, they are asked to craft an argumentative plan that explains and supports their position, acknowledges the perspectives and positions of others, and uses evidence gleaned through close reading and analysis to support their claims. Having developed a logical and well-supported chain of reasoning, they use an iterative process to develop an argumentative “essay” in the spirit in which Montaigne first used that word – as a progression of “attempts” to communicate their thinking and contribute to reasoned debate about the issue.

The unit’s pedagogy and instructional sequence are based on the idea that students (and citizens) must develop a “mental model” of what effective – and reasoned – argumentation entails, to guide them in reading, evaluating, and communicating arguments around issues to which there are many more than two sides (i.e., most issues in our world today). The unit therefore focuses on learning about and applying concepts communicated through terminology such as issue, perspective, position, premise, evidence, and reasoning. Thus, the unit provides numerous opportunities to build students’ academic vocabularies, while emphasizing close reading and research skills, critical thinking, evidence-based discussion, collaborative development, and an iterative approach to writing.



DEVELOPING CORE PROFICIENCIES SERIES

This unit is part of the Odell Education Literacy Instruction: Developing Core Proficiencies program, an integrated set of ELA units spanning grades 6-12. Funded by USNY Regents Research Fund, the program is comprised of a series of four units at each grade level that provide direct instruction on a set of literacy proficiencies at the heart of the CCSS.

Unit 1: Reading Closely for Textual Details
Unit 2: Making Evidence-Based Claims
Unit 3: Researching to Deepen Understanding
Unit 4: Building Evidence-Based Arguments

The Core Proficiencies units have been designed to be used in a variety of ways. They can be taught as short stand-alone units to introduce or develop key student proficiencies. Teachers can also integrate them into larger modules that build up to and around these proficiencies. Teachers can also apply the activity sequences and unit materials to different texts and topics. The materials have been intentionally designed for easy adaptation to new texts.

Unit materials available at
www.odelleducation.com



HOW THIS UNIT IS STRUCTURED

The unit activities are organized into five parts, each associated with a sequence of texts and writing activities. The parts build on each other and can each span a range of instructional time depending on scheduling and student ability.

Part 1 introduces students to the concept of evidence-based argumentation in the context of societal issues. Students read and write about a variety of informational texts to build an understanding of a particular issue.

Part 2 develops student ability to analyze arguments through direct instruction on a set of terms and close reading skills for delineating argumentation. Students read and analyze several arguments associated with the unit's issue.

Part 3 deepens students' abilities with arguments, moving them into evaluation. Students begin to synthesize their analysis and evaluation of other arguments into the development of their own position.

Part 4 focuses students on identifying and crafting the structure of their own arguments, including their sequence of claims and their supporting evidence.

Part 5 engages students in a collaborative, question-based process to develop and strengthen their argumentative essays. Students work with their teachers and peers to draft, revise and publish their own argumentative essay on the unit's issue.



HOW THIS UNIT TEACHES VOCABULARY

This unit draws on a variety of strategies for teaching academic and disciplinary vocabulary. The primary strategy is the way critical disciplinary vocabulary and concepts are built into the instruction. Students are taught words like “claims,” “perspective,” “position,” “evidence,” and “criteria” through their explicit use in activities. Students come to understand and use these words as they think about and evaluate their own analysis and that of their peers. The handouts and tools play a key role in this process. By the end of the unit, students will have developed deep conceptual knowledge of key vocabulary that they can transfer to a variety of academic and public contexts.

The texts and activities also provide many opportunities for academic vocabulary instruction. Many of the activities focus directly on analyzing the way authors use language and key words to develop ideas and achieve specific purposes.

The sequence of topical texts also builds vocabulary knowledge and connections, supporting both textual comprehension and vocabulary acquisition.

The argumentative essays students write at the end of the unit give them the opportunity to immediately use new academic and disciplinary vocabulary they have learned in their reading.



HOW THIS UNIT ALIGNS WITH CCSS FOR ELA/LITERACY

The instructional focus of this unit is on analyzing and writing evidence-based arguments with specific attention to argumentative perspective, position, claims, evidence and reasoning. Accordingly, the primary alignment of the unit – the targeted CCSS – are **RI.1**, **RI.8** and **W.1**, **W.2** and **W.9**.

The sequence of texts and specific instruction emphasize helping students analyze the way different authors’ perspectives and points of view relate to their argumentation. Thus, **RI.6** and **RI.9** are also targeted standards.

In Parts 1-3, students write short pieces analyzing arguments on a societal issue. In Parts 4 and 5, direct instruction supports students in the organization, development, revision and production of a significant and original argumentative essay. As such, **W.4** and **W.5** become targeted standards.

As students develop these primary targeted reading and writing skills, they are also practicing,

their abilities to engage in text-centered discussions. Thus, **SL.1** is also an emerging targeted CCSS as the unit progresses, and takes on a central role in the collaborative process students use in Part 5 for developing and strengthening their writing.

As students develop these primary targeted CCSS skill sets, they also practice and use related reading and writing skills from supporting CCSS. Analysis of texts focuses on interpreting key words and phrases (**RI.4**), determining central ideas (**RI.2**) and the way they interact over the course of a text (**RI.3**), as well as the way authors have structured their particular arguments (**R.5**). The sequence of texts engages students in the analysis of information presented in a variety of media and formats (**R.7**).



UNIT OUTLINE

PART 1: UNDERSTANDING THE NATURE OF AN ISSUE

- The teacher presents an overview of the unit and its societal issue.
- Students read and analyze a background text to develop an initial understanding of the issue.
- Students read and analyze a second background text to expand and deepen their understanding of the issue.
- Students develop text-dependent questions and use them to deepen their analysis.
- Students develop and write an evidence-based claim about the nature of the issue.

PART 2: ANALYZING ARGUMENTS

- The teacher introduces the concept of an argumentative position.
- The teacher leads an exploration of the elements of argumentation.
- Student teams read and delineate arguments.
- The teacher leads an exploration of the concept of perspective.
- Students analyze and compare perspectives in argumentative texts.
- As needed, students read and analyze additional arguments related to the unit's issue.
- Students write short essays analyzing an argument.

PART 3: EVALUATING ARGUMENTS AND DEVELOPING A POSITION

- Students evaluate arguments using objective criteria and their own developing perspective of the issue.
- Students clarify their own emerging perspective and establish a position on the issue.
- If needed, students conduct further research to help develop and support their position.
- Students identify and write about an argument that supports their position.
- Students identify and write about argument that opposes their position.

PART 4: ORGANIZING AN EVIDENCE-BASED ARGUMENT

- Students review their notes and analysis to find evidence to develop and support their position.
- The teacher discusses logical models for building an argument for students to consider.
- Students review and write a sequence of claims to use as premises in their argument.
- Students determine evidence to support their premises.
- Students review and revise their plans for writing with their peers.

PART 5: DEVELOPING AND STRENGTHENING WRITING THROUGH A COLLABORATIVE, QUESTION-BASED PROCESS

- Students learn and practice a collaborative, question-based approach to developing and improving writing, using criteria from the unit and guiding questions to begin the drafting and revision process.
- Students use the collaborative process to revise their writing with a focus on:
 - ◇ articulating their overall ideas with necessary information;
 - ◇ the unity of their initial drafts, coherence among their ideas and information, and logic of their organizational sequence;;
 - ◇ their selection, use, and integration of evidence;
 - ◇ the effectiveness of the connections and transitions they have made, and their use of transitional phrases;
 - ◇ the quality and variety of their sentences, the clarity of their vocabulary, and the impact of their word choices;
 - ◇ writing conventions;
 - ◇ producing a final quality product.

INITIAL DECISIONS TO BE MADE ABOUT THE UNIT'S CONTENT

The unit can be set in any of several content-based contexts. The teacher (and/or students) will need to make direction-setting decisions about which path to follow:

- *If the Building Evidence-Based Arguments unit follows students' previous work in a Researching to Deepen Understanding unit*, then the topic area and texts can be carried forward and students will use their research as the basis for developing a position and building an argument. In this case, any of Texts #2-10 from a Topic Repository (e.g., Technology) can be substituted for Texts in Part 1 of this unit, and either re-analyzed or used as a foundation for further research. The teacher or students will need to focus the research topic into one or more areas and develop a problem-based question. Students might then proceed to Parts 3-5 of this unit to develop their positions, organize their arguments, and produce their final written products – as both a culmination of their research and a demonstration of their skills in argumentation.
- *If the Building Evidence-Based Arguments unit is done on its own*, then teachers and students can use this unit to develop their skills of close reading, analysis of an issue, claim-making, and argumentation. Teachers and students may find it helpful to use some of the tools introduced in the *Researching to Deepen Understanding* unit to organize and archive their work on the various texts in this unit.
- *If the teacher (or students) intend to do the Building Evidence-Based Argument unit in the context of a different topic, issue, problem, or text set*, then texts relevant to that area of study can be substituted the Texts in this unit. In this case, the teacher or students will need to identify a central societal issue, pose a problem-based question, and frame text-specific questions for each of the new texts. They can

then follow the sequence of instructional activities outlined here using the new topic and texts.

- *If students are expected to develop a research-based argument but have not yet done Researching to Deepen Understanding*, they might embark on the *Researching to Deepen Understanding* unit within their work in the argumentation unit, using activities from the Research Unit to deepen their understanding of the issue and analysis of arguments prior to developing their own positions and arguments in Parts 3-5. In this case, the unit will likely be much longer in duration.

It is highly recommended that students keep a portfolio of their work throughout the unit where they will keep all tools, group and class discussion notes, and written claims about the passages. This will greatly aid them in Part 4 where they take inventory of their work in the unit, the arguments developed in the texts, and their own synthesis of these arguments. Teachers and students may find it helpful to use some of the tools introduced in the Researching to Deepen Understanding unit to organize and archive their work on the various texts in this unit.

NOTE: While this unit is developmentally appropriate and aligned with the grade-level expectations of the CCSS, it does incorporate analysis of complex texts and the use of explicit academic concepts. It is recommended that it be taught with students who have been introduced to the concepts and have worked on their literacy proficiencies of reading closely for textual detail and making evidence-based claims. These proficiencies can be developed in students with the Units 1 and 2 of the Core Proficiencies Curriculum.

GRADE 6 ARGUMENTATION UNIT TEXT SETS

This chart lists the unit texts, organized by the “text sets” associated with the progression of instructional activities. Additional texts for some of the sets are indicated with an AT.

As an Open Educational Resource, the unit employs texts that are accessible on the web for free without any login information, membership requirements or purchase. Because of the ever-changing nature of website addresses, links are not provided. Teachers and students can locate these texts through web searches using the information provided.

#	TITLE	AUTHOR	DATE	SOURCE/PUBLISHER
Text Set #1: Background Informational Texts				
1.1	The Story of Energy - Where Does Our Power Come From?	LifeSquared	9/18/2012	LifeSquared.org
1.2	How Much Energy Does the U.S. Use?	Alexis Madrigal	8/5/2013	The Atlantic
1.3	History of Energy Use in the US	Hobart King	NA	Geology.com
Text Set #2: Additional Background Informational Texts				
2.1	Energy and the Environment	NA	NA	US Energy Information Administration– Energy Kids
2.2	Non-Renewable Energy	NA	NA	SolarSchools.net
2.3	One Fracking Minute: An Animated Explainer on Hydraulic Fracturing	Scott Tong and Matt Berger	12/7/2012	Marketplace.org
2.4	Breaking Fuel From The Rock	NA	NA	National Geographic
AT	Natural Gas	NA	1/10/2014	Grolier Online
AT	Alternative Energy	NA	1/10/2014	Grolier Online
AT	Fracking Fury	Janna Palliser	3/12/2014	Science Scope
AT	Energy Resources	NA	NA	Geography 4 Kids
AT	Natural Gas Basics	NA	NA	US Energy Information Administration - Energy Kids
AT	Natural Gas Usage	Marcellus Shale Coalition	NA	Marcellus Shale Coalition.org
Text Set #3: Political Cartoons				
3.1	Fracking Political Cartoons	Multiple	NA	Cagle Cartoons.com
Text Set #4: Seminal Arguments				
4.1	The Costs of Fracking	Environment America Research and Policy Center	3/20/2012	EnvironmentAmerica.org
4.2	Why Cuomo Must Seize the Moment on Hydrofracking	Ed Rendell	3/27/2013	NY Daily News
4.3	Poverty and Fracking	John Harpole	9/28/2013	Denver Post.com
4.4	What the Frack? Natural Gas from Subterranean Shale Promises U.S. Energy Independence-With Environmental Costs	David Biello	3/30/2010	Scientific American
Text Set #5: Contemporary Arguments				
5.1	Obama State of the Union: Safe Fracking will Create 600K Jobs	President Barack Obama	1/24/2012	Marcellus Drilling News
5.2	Don't Frack New York	NA	NA	Don'tfrackny.org
5.3	Natural Gas from Shale: Unlocking Energy From Shale Rock Formations	Chevron	6/2013	Chevron
5.4	A New Day for North Dakota: The Fracking Miracle	IER	6/19/2012	Institute for Energy Research
AT	Renewables and Conservation are Not Enough	Power Worker's Union	3/9/2011	You Tube
AT	Don't let extremists undermine fracking boom	Jack Rafuse	11/25/2013	The Hill.com
AT	Truth About Hydraulic Fracking: Animation of Hydraulic Fracking	Marathon Oil Corp	4/26/2012	You Tube
AT	Natural Gas, Fueling an Economic Revolution	Fareed Zakaria	3/29/2012	Washington Post
AT	It's Time to Move America Beyond Oil	Sierra Club	NA	Sierra Club
AT	Is Fracking a Good Idea?	NA	NA	US News Debate Club
AT	Ban Fracking in Thousand Oaks	NA	NA	CredoMobilize.com