



Literacy Design
Collaborative

Energy: To Renew or Not, That Is The Question!

★ TASK ★ LADDER

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This module is a culminating activity for students that have studied renewable and nonrenewable energy. Students will use the knowledge they have gained from prior study in addition to various articles to determine the best energy source for their school. The final project will be an argumentative letter to the School Board stating their position.

GRADES

6

DISCIPLINE

 Science

COURSE

 Sixth
Grade
Science

PACING

 N/A

Section 1: What Task?

Teaching Task

Task Template A4 - Argumentation

After reading several informational texts on energy sources, write a letter to the school board in which you argue whether our school should continue to rely on fossil fuels as its primary source of energy or consider a change using a different source or combination of sources. Support your position with evidence from the text/s.

Standards

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

RST.6-8.1

Cite specific textual evidence to support analysis of science and technical texts.

RST.6-8.2

Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

RST.6-8.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6—8 texts and topics.

RST.6-8.10

By the end of grade 8, read and comprehend science/technical texts in the grades 6—8 text complexity band independently and proficiently.

WHST.6-8.1

Write arguments focused on discipline-specific content.

Focus

WHST.6-8.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.5

With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

WHST.6-8.9

Draw evidence from informational texts to support analysis, reflection, and research.

Focus

WHST.6-8.10

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Pennsylvania Draft Common Core Standards

CC.3.5.6-8.A.

Cite specific textual evidence to support analysis of science and technical texts.

CC.3.5.6-8.B.

Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

CC.3.5.6-8.D.

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

CC.3.5.6-8.H.

Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

CC.3.5.6-8.I.

Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

CC.3.5.6-8.J.

By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.

CC.3.6.6-8.A.

Write arguments focused on discipline-specific content.

CC.3.6.6-8.A.2.

Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.

CC.3.6.6-8.A.5.

Provide a concluding statement or section that follows from and supports the argument presented.

CC.3.6.6-8.C.

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CC.3.6.6-8.D.

With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

CC.3.6.6-8.E.

Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

CC.3.6.6-8.G.

Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

CC.3.6.6-8.I.

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

CC.3.6.6-8.H.

Draw evidence from informational texts to support analysis reflection, and research.

CC.3.6.6-8.F.

Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

Pennsylvania Assessment Standards

S.6.A.1.2.

Identify and analyze evidence that certain variables may have caused measurable changes in natural or human-made systems.

S.6.A.2.1.

Focus

Apply knowledge of scientific investigation or technological design in different contexts to make inferences to solve problems.

Next Generation Science Standards

MS-ETS1-2

Focus

Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

Texts

🔗 **Renewable vs. Nonrenewable Energy Resources**

🔗 **Fossil Fuels vs. Renewable Energy Resources**

Student Work Rubric - Argumentation Task - Grades 6-8

	Emerging	Approaches Expectations	Meets Expectations	Advanced
	1	2	3	4
Controlling Idea	Makes an unclear or unfocused claim.	Makes a general claim that addresses the prompt , with an uneven focus .	Establishes and maintains a clear claim that addresses all aspects of the prompt.	Establishes and maintains a clear, specific, and credible claim that addresses all aspects of the prompt.
Selection & Citation of Evidence	Includes minimal details from sources. Sources are used without citation.	Includes details, examples, and/or quotations from sources that are relevant to the claim . Inconsistently cites sources.	Includes details, examples, and/or quotations from sources that are relevant to the claim and supporting ideas. Consistently cites sources with minor formatting errors.	Includes well-chosen details, examples, and/or quotations from sources that support the claim and supporting ideas. Consistently cites sources using appropriate format.
Development / Explanation of Sources	Explanation of ideas and source material is irrelevant, incomplete, or inaccurate.	Explanation of ideas and source material is minimal or contains minor errors .	Accurately explains ideas and source material and how they support the argument.	Thoroughly and accurately explains ideas and source material, using reasoning to support and develop the argument.
Organization	Lacks an evident structure. Makes unclear connections among claim, reasons, and evidence.	Groups ideas and uses some transitions to connect ideas, with some lapses in coherence or organization .	Groups and sequences ideas to develop the controlling idea. Uses transitions to clarify the relationships among claim(s), reasons, and evidence.	Groups and sequences ideas logically to develop the controlling idea and create cohesion. Uses varied transitions to clarify the relationships among claim(s), reasons, and evidence.
Conventions	Major errors in standard English conventions interfere with the clarity of the writing. Language or tone is inappropriate.	Errors in standard English conventions sometimes interfere with the clarity of the writing. Uses language and tone that are sometimes inappropriate for the audience and purpose.	Consistently applies standard English conventions; minor errors, while noticeable, do not interfere with the clarity of the writing. Uses language and tone appropriate to the audience and purpose.	Consistently applies standard English conventions, with few errors. Demonstrates varied syntax and precise word choice. Consistently uses language and tone appropriate to the audience and purpose.
Content Understanding (Generic)	Attempts to include disciplinary content in explanation or argument but understanding of content is weak; content is irrelevant, inappropriate, or inaccurate.	Briefly notes disciplinary content relevant to the prompt; shows basic or uneven understanding of content; minor errors in explanation.	Accurately presents disciplinary content relevant to the prompt with sufficient explanations that demonstrate understanding.	Integrates relevant and accurate disciplinary content with thorough explanations that demonstrate in-depth understanding.

Background for Students

You have studied various types of energy and know the positives and negatives of using them. Now you will have to decide which energy would be the best for our building. Our building currently uses natural gas for a majority of its energy. Should we continue to use natural gas or should we consider a different energy source? After reading two articles, you will make a decision and write an argumentative letter to the School Board sharing your opinion.

Extension

Not provided

Section 2: What Skills?

Preparing for the Task

BRIDGING CONVERSATION > TASK ENGAGEMENT: Ability to connect the task and new content to existing knowledge, skills, experiences, interests, and concerns.

TASK AND RUBRIC ANALYSIS > TASK ANALYSIS: Ability to understand and explain the task's prompt and rubric.

Reading Process

PRE-READING > CLOSE READ: Ability to identify appropriate information within a text and make logical inferences from it

ACTIVE READING > BUILDING ESSENTIAL BACKGROUND: Ability to identify and master terms/topics essential to understanding the advantages and disadvantages of various renewable and nonrenewable forms of energy

POST-READING > ENHANCING COMPREHENSION: Ability to identify arguments for a topic and counterpoints of a different point of view

Transition to Writing

BRIDGING CONVERSATION > IDENTIFYING SIGNIFICANT ELEMENTS: Ability to begin linking reading results to writing task.

Writing Process

PLANNING > PLANNING THE WRITING: Ability to develop a line of thought and text structure appropriate to an argumentation task.

REVISION, EDITING, AND COMPLETION > REVISION: Ability to refine text, including line of thought, language usage, and tone as appropriate to audience and purpose.

REVISION, EDITING, AND COMPLETION > EDITING: Ability to proofread and format a piece to make it more effective.

REVISION, EDITING, AND COMPLETION > FINAL DRAFT: Ability to submit final piece that meets expectations.

Section 3: What Instruction?

PACING	SKILL AND DEFINITION	PRODUCT AND PROMPT	SCORING GUIDE	INSTRUCTIONAL STRATEGIES
Preparing for the Task				
20 mins	BRIDGING CONVERSATION > TASK ENGAGEMENT: Ability to connect the task and new content to existing knowledge, skills, experiences, interests, and concerns.	THE CONTROVERSY What is the best energy resource for Landis Run Intermediate School?	No Scoring	1. Teacher reads fictional "Letter to the Editor" 2. Teacher shares website from "Letter to Editor" 3. Teacher leads discussion to summarize the current use of natural gas and the options presented by the website from "Letter to the Editor". 4. Teacher models the use of the Active Reading Guide to summarize content of website.
	Additional Attachments:  Active Reading Guide  Letter to editor			
15 mins	TASK AND RUBRIC ANALYSIS > TASK ANALYSIS: Ability to understand and explain the task's prompt and rubric.	SETTING PURPOSE Read the task and select key words and phrases that are necessary for understanding and completing the task.	No Scoring	<ul style="list-style-type: none"> Teacher writes task on the board Invite students to circle or highlight key words such as fossil fuels, primary source of energy, school board, argue your position Discuss the final product; argumentative letter to school board
Reading Process				
1 hr and 30 mins	PRE-READING > CLOSE READ: Ability to identify appropriate information within a text and make logical inferences from it	CLOSE READ What are the advantages and disadvantages of fossil fuels and renewable energy?	Not Provided	1. Teacher leads close read using <i>Fossil Fuels vs. Renewable Energy Resources</i> 2. Teacher models use of active reading thinking guide for note-taking. 3. Students then continue close read independently or in small groups to complete the article.
	Additional Attachments:  Active Reading Guide  Fossil Fuels vs. Renewable Energy			
2 hrs	ACTIVE READING > BUILDING ESSENTIAL BACKGROUND: Ability to identify and master terms/topics essential to understanding the advantages and disadvantages of	BUILD YOUR CASE What are the advantages and disadvantages of using fossil fuels and renewable energy?	Not Provided	1. Invite students to read <i>Renewable vs. Nonrenewable Energy Resources</i> . 2. Direct students to complete active reading guide to list advantages and disadvantages. 3. Allow students time to meet in small groups to discuss ideas.

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	various renewable and nonrenewable forms of energy			
	Additional Attachments:  Active Reading Guide  Renewable vs. Nonrenewable Energy Resources			
1 hr	POST-READING > ENHANCING COMPREHENSION: Ability to identify arguments for a topic and counterpoints of a different point of view	THE DEBATE Which energy would be the best choice for your school?	Not Provided	<ul style="list-style-type: none"> • Invite students to select a side-keep natural gas or) to debate. • Set the procedures and the rules for the debate. • After the debate have students write which side was more convincing and explain why. • Invite students to share their written responses.
Transition to Writing				
15 mins	BRIDGING CONVERSATION > IDENTIFYING SIGNIFICANT ELEMENTS: Ability to begin linking reading results to writing task.	WRITING WARM-UP In a quick write, share your suggested energy and briefly explain why you have selected that energy.	No scoring	1. Write the quick write prompt on the board. 1. After students have completed quick write, allow time to share either with partner, small group, or whole group.
Writing Process				
45 mins	PLANNING > PLANNING THE WRITING: Ability to develop a line of thought and text structure appropriate to an argumentation task.	STICKY NOTE PLANNING Plan and organize your argument.	Not Provided	1. Distribute large paper and sticky notes for each student. 2. At the top of the paper students should write their proposed energy for the school. 3. Using sticky notes, students should write one support for their position on each sticky note. Students who are ready, may also lists counterarguments. 4. Students should then organize sticky notes on the large paper. (this will become guide for letter)
1 hr and 30 mins	PLANNING > PLANNING THE WRITING: Ability to develop a line of thought and text structure appropriate to an argumentation task.	DRAFTING Not Provided	Not Provided	1. Share sample letter forms with students. 2. Allow students time to begin drafting their letters.
	Additional Attachments:  Letter format 2  Letter template 1			
45 mins	REVISION, EDITING, AND COMPLETION > REVISION: Ability to refine text, including line of thought, language usage, and tone as appropriate to audience and purpose.	MULTIPLE DRAFTS Refine composition's analysis, logic, and organization of ideas/points. Use textual evidence carefully, with accurate citations. Decide what to include and what	<ul style="list-style-type: none"> • Provides complete draft with all parts. • Supports the opening in the later sections with evidence and citations. 	<ul style="list-style-type: none"> • Sample useful feedback that balances support for strengths and clarity about weaknesses. • Assign students to provide each other with feedback on those issues.

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		not to include.	<ul style="list-style-type: none"> Improves earlier edition. 	
Not provided	REVISION, EDITING, AND COMPLETION > EDITING: Ability to proofread and format a piece to make it more effective.	CORRECT DRAFT Revise draft to have sound spelling, capitalization, punctuation, and grammar. Adjust formatting as needed to provide clear, appealing text.	<ul style="list-style-type: none"> Provides draft free from distracting surface errors. Uses format that supports purpose. 	<ul style="list-style-type: none"> Briefly review selected skills that many students need to improve. Teach a short list of proofreading marks if necessary Assign students to proofread each other's texts a second time.
Not provided	REVISION, EDITING, AND COMPLETION > FINAL DRAFT: Ability to submit final piece that meets expectations.	FINAL PIECE Turn in your complete set of drafts, plus the final version of your piece.	<ul style="list-style-type: none"> Fits the "Meets Expectations" category in the rubric for the teaching task. 	None

Instructional Resources

No resources specified

Section 4: What Results?

Student Work Samples

Meets Expectations

 **Meets Expectations**

Approaches Expectations

 **Approaches Expectations**

Not Yet

 **Not Yet**

Teacher Reflection

Not provided

All Attachments

🔗 **Renewable vs. Nonrenewable Energy Resources :**

<https://s ldc.org/u/3lpi3cnbrx32w3vv2mpyh73o0>

🔗 **Fossil Fuels vs. Renewable Energy Resources :** **<https://s ldc.org/u/y6q7sil072bdpr1ko226iqur>**

📄 **Meets Expectations :** **<https://s ldc.org/u/crz92sifh4t7p4rlmz0sd0zt7>**

📄 **Approaches Expectations :** **<https://s ldc.org/u/cuueu522co0005l90mafb0e5p>**

📄 **Not Yet :** **<https://s ldc.org/u/65ho95n5403jutqvedh35nplg>**