

Name:

Homeroom:

MYP Science 10: Energy Conservation

Criterion D:	Reflecting on the Impacts of Science	Maximum Total: 8 marks
Key Concept:	Change	Global Context: Fairness and development
Related Concepts:	Consequences and Developments	ATL Skill: Communication
Statement of Inquiry:	Development drives and responds to changes, creating further consequences.	

Your task:

Situation: Energy is a fundamental aspect of our world, impacting everything from climate change to technological advancements. By exploring energy conservation and transfer, we can better comprehend how to sustainably coexist with our environment.

Goal: Your goal is to research and elucidate an aspect of energy dynamics, focusing on energy conservation or transfer.

Line of inquiry: How can an understanding of energy conservation and transfer empower individuals to make sustainable choices and contribute to a greener future?

Role: You are a science communicator aiming to educate your peers about the significance of energy concepts.

Audience: High school students and educators.

Product: You will work independently to research and produce a Videocast on a topic related to energy, such as:

- Renewable energy sources
- Energy efficiency in buildings
- Energy transfer in ecosystems
- The role of energy in climate change
- Energy storage technologies
- Impact of energy consumption on the environment
- Innovations in energy conservation
- Other (subject to approval)

Standards for success: your project will be assessed using [Criterion D: Reflecting on the impacts of science](#).

Requirements:

- Explain the concept of energy conservation or transfer you are focusing on.
- Analyze the implications of this concept on sustainability, the environment, or society.
- Discuss both the positive and negative aspects of the concept.
- Formulate a conclusion based on your research about the importance of understanding and applying this concept.
- Use clear and scientific language throughout your presentation.
- Ensure your Videocast follows the standards outlined in the Effective Videocast Checklist.

D1 strand

- Choose a topic related to energy from the list above
 - Explain the basis of your topic fully
- To explain the basis of your topic fully, you must include answers for each of the following questions:
 - What is the fundamental principle or mechanism underlying the chosen energy concept?
 - How does this energy concept manifest in various natural or artificial systems?
 - What are the key components or processes involved in the conversion or transfer of energy within this concept?
 - How does the chosen energy concept contribute to the overall energy dynamics of a system or environment?
 - What are some real-world applications or examples that illustrate the practical use of this energy concept?
 - How does this energy concept align with established scientific theories or laws related to energy conservation and transfer?

D2 strand

- Discuss and evaluate the social, economic OR environmental implications of using the chosen topic.
 - How does the implementation of this energy concept impact the sustainable use of resources and energy efficiency?
 - In what ways does this energy concept contribute to reducing carbon emissions or promoting renewable energy sources?
 - What are the environmental benefits and drawbacks associated with the widespread adoption of this energy concept?
 - How does this energy concept influence social behaviors, policies, or economic practices related to energy consumption?
 - What role does this energy concept play in addressing climate change, pollution, or other environmental challenges?
 - How do societal values, cultural norms, and ethical considerations intersect with the application of this energy concept?
 - What are the potential long-term effects of integrating this energy concept into everyday practices on a global scale?
 - How can individuals, communities, and industries leverage this energy concept to foster sustainable development and environmental stewardship?

D3 strand

- Consistently use clear and precise scientific language to communicate your information:
- Main concepts are clearly visible/quick to identify (use of different font size or style, etc.)
- Includes four (clear, high resolution) images of the elements in their pure form
- Includes four (clear, high resolution) images of the elements in another form or some other aspect of them
- Colour is used effectively to communicate differences or similarities between items, and to increase comprehension
- Links are used logically and clearly to connect information between the four elements
- Links include labels that concisely explain the connections being made
- Horizontal and vertical placement of text and images is logical and aids understanding
- Results in linking that does not distract, clutter, or confuse the concept map

- Information is spaced effectively on the page to make use of the entire space
- Vocabulary related to the Periodic Table and atomic structure is consistently used
- The writing is in the student's English voice, not text that has been fully translated using a translator
- Word choice/language use is professional and specific; writing has been editing for spelling, grammar, and punctuation
- Overall quality is high and demonstrates planning was involved in creation (straight lines, overall neatness, consistency of style choices, centering of text, etc.)

D4 strand

- Document all your sources using MLA format in in-text citations and a Works Cited page
- Remember to cite your images (both in-text and the Works Cited page)!
- Create your Works Cited page as the second page of your document (you should only submit ONE file to your teacher)
- The first page of your document should be your concept map

« *You may want to begin your research with the following websites:* [Wikipedia.org](https://www.wikipedia.org) [Webelements.com](https://www.webelements.com)

Criterion D: Reflecting on the impacts of science

Name: _____ Grade: _____

Strand	Descriptor	Indicators			
		1-2	3-4	5-6	7-8
D1	The student EXPLAINS the basis of a topic from the list related with energy, energy conservation, or energy transformation	OUTLINES	SUMMARIZES	DESCRIBES	EXPLAINS
D2	Discuss and evaluate the <u>social, economic OR environmental implications</u> of using the chosen topic	OUTLINES	DESCRIBES	DISCUSS (costs and benefits)	DISCUSSES AND EVALUATES (costs and benefits)
D3	The student CONSISTENTLY USES clear and precise scientific language when they communicate their understanding by following the Effective Product Checklist to create their product. - Main concepts are clearly visible/quick to identify (use of different font sizes or styles, etc.) - Includes <u>four</u> (clear, high-resolution) <u>images</u> of the elements in their pure form - Includes <u>four</u> (clear, high-resolution) <u>images</u> of the elements in another form or some other aspect of them - Colour is used effectively to communicate differences or similarities between items, and to increase comprehension <u>Links</u> are used logically and clearly to connect information between the four elements - Links include labels that concisely explain the connections being made	TRIES TO USE	SOME OF THE TIME	MOST OF THE TIME	CONSISTENTLY
D4	The student DOCUMENTS ALL SOURCES in MLA format in their Works Cited page and through in-text citations. ***see MLA formatting - The "Works Cited" title is spelled correctly and centered on the page/screen - Sources are listed in alphabetical order - Second, third, etc. lines of a source are indented from the left margin (hanging indents) - Website URLs are not underlined and text is double-spaced - Font style and size is consistent (one only) - At least four different quality sources have been used for research	LISTS SOME but not in MLA format	LISTS SOME in MLA FORMAT	LISTS MOST in MLA FORMAT	LISTS ALL in MLA FORMAT