Senior High School

DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar in General Science

Quarter 1

Lesson Exemplar

9

Lesson Exemplar for General Science
Quarter 1: Unit 1

Development Team

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Bureau of Learning Delivery
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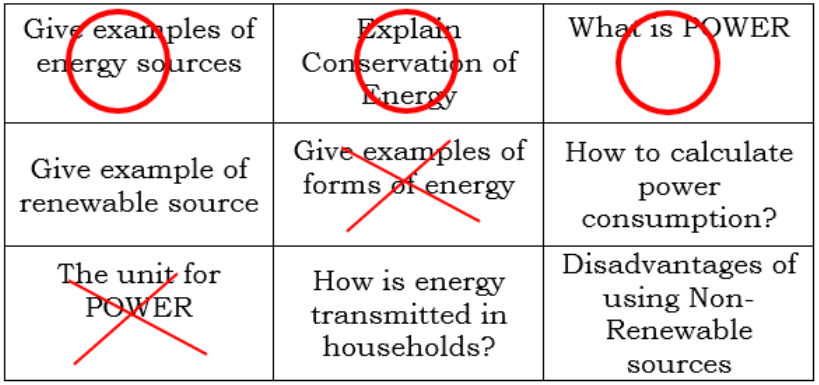
Republic of the Philippines
Department of Education
BUREAU OF LEARNING DELIVERY

LESSON EXEMPLAR			
Learning Area	General Science	**Grade Level**	11
Semester	First Semester	**Quarter**	1

I. OBJECTIVES *(Identifying the Goals)*	
Content Standard	The learners learn that analysis of electricity generation, consumption patterns, and energy-efficiency practices can lead to better energy supply and management.
Performance Standard	*By the end of the quarter, learners* identify general physics principles and their application in daily life. They use scientific principles to solve problems, make informed decisions, and illustrate the applications of physics for self, society, and the environment. They design simple and compound machines and hydraulic systems to demonstrate application of force, torque, center of mass, and hydraulic-related principles. **They evaluate energy-efficient practices in electricity supply and consumption at home and local businesses** and explore the advantages and drawbacks of light and sound in medical imaging, security, communication, and entertainment.
Learning Competencies	*In this topic, the learners are assumed to have prior knowledge on energy and its forms, conservation of energy, energy sources, and prior skills on power usage calculations.* The learners propose ways to minimize energy loss and energy wastage in homes, school, local business and other parts of society;
II. REFERENCES and MATERIALS (*Selecting Resources and Material*)	*References:* Action on Carbon & Energy in Schools. *Schools Energy Efficiency Checklist*. Oxford: ACES, 2024. https://ace-schools.org/wp-content/uploads/2024/02/ACES-energy-efficiency-checklist-Final.pdf. Department of Energy, *2023 Power Statistics in the Philippines* (Manila: Department of Energy, 2024), https://legacy.doe.gov.ph/sites/default/files/pdf/energy_statistics/01_Summary_of_2023_Power_Statistics.pdf.

	World Economic Forum. 2022. *The Future of Energy: An Overview*. Video. 2:23. YouTube. https://www.youtube.com/watch?v=zwsAf0do-yo. Philippines. *Republic Act No. 11285: An Act Institutionalizing Energy Efficiency and Conservation, Enhancing the Efficient Use of Energy, and Granting Incentives to Energy Efficiency and Conservation Projects*. April 12, 2019. https://www.officialgazette.gov.ph/2019/04/12/republic-act-no-11285/. United Nations Department of Economic and Social Affairs. *SDG Resource Document: Targets Overview*. New York: United Nations, 2020. https://sdgs.un.org/sites/default/files/2020-09/SDG%20Resource%20Document_Targets%20Overview.pdf. *Reading Materials:* I4DI (Institute for Development Impact). 2023. Energy Efficiency in Schools: Building Sustainable Learning Environments. https://i4di.org/energy-efficient-schools/. Ritchie, Caitlin. 2025. "How to Save Energy at School: Energy Saving Ideas for Schools to Improve Energy Efficiency." *SaveOnEnergy*. January 3, 2025. https://www.saveonenergy.com/green-energy/save-energy-at-school/.
(These shall be accomplished per topic)	
III. CONTENT *(Sequencing Content)*	**Utilization of Electricity**
IV. OBJECTIVES *(Setting Clear Objectives and Analyzing the Tasks)*	At the end of the lesson, learners will be able to: 1. Identify energy inefficiency practices in homes, schools, and public spaces. 2. Suggest ways to reduce energy loss and prevent energy wastage. 3. Demonstrate commitment to energy conservation by proposing personal and collective energy-saving actions.

IV. PROCEDURES *(Selecting Strategies, Making Meaningful Content, Delivering Lesson and Assessing Learning)* This section focuses on selecting learner-centered, evidence-based instructional approaches such as problem-based learning, collaborative tasks, interdisciplinary integration, and technology-enhanced instruction. These strategies are intended to foster active engagement, critical thinking, and adaptability across diverse learning pathways. The chosen approaches and methodologies will be reflected through varied and relevant activities and assessments that emphasize real-world relevance and application, thereby enhancing learner engagement and comprehension. **(Each part shall have 2-3 varied activities)**		**ANNOTATION** **Instruction to teacher on how to facilitate the activities.* **In the Annotation, explicitly explain how the IDF is applied in each part of the lesson*
A. Activating Prior Knowledge	1. Activating Prior Knowledge The teacher activates prior knowledge relevant with ways to minimize energy loss and energy wastage in homes, school, local business and other parts of society. **Option 1. Energy Tic-Tac Toe** • Create a tic-tac toe grid with energy-related questions. Each grid on the board comes with an energy-related question. The learner playing should decide first on the grid that he/she wants to place “X” or “O”. The question behind the grid should be answered correctly so that he/she may be allowed to place “X” or “O” on the board. The first to get three in a row wins.	This lesson plan on **minimizing energy loss and wastage** is designed using the **Instructional Design Framework (IDF)** to promote deep, meaningful, and real-world learning. In this phase, learners are encouraged to **draw from their existing experiences** and understanding of energy use. **Option 1: Energy Tic-Tac Toe**. This activity aligns with the **IDF’s active learning and engagement principles**, leveraging a **gamified approach** to reinforce prior knowledge on energy-related concepts. Through strategic questioning and decision-making, learners

	• The teacher may decide on how many rounds should they play to ensure that all needed prior knowledge/skills are activated.  **Option 2. Brain Dump-Spider Web** • Learners will write words relevant on a given term. The terms may include but not limited to energy forms, energy sources, electrical energy, power, and the like. • This may be done using digital tools such as Mentimeter, Canva. If online tools are not available it can be done offline by writing a general topic on the board and letting the learners generate subtopic and further generate terms/words/phrases relevant to the subtopics. • As the spider web progresses, the teacher should collaboratively discuss the concepts with learners as a means to revisit prior knowledge.	**recall essential energy conservation concepts**, which strengthens **cognitive retrieval and application**. The **structured interaction** ensures learning is **dynamic, competitive, and purposeful**, supporting the IDF's goal of **enhancing motivation and content mastery** before advancing to higher-order thinking tasks. By allowing flexibility in the number of rounds, teachers can **scaffold knowledge reinforcement** to meet the learners' varying cognitive needs. **Option 2: Brain Dump-Spider Web** This activity directly applies **IDF's cognitive development and scaffolding strategies**, allowing learners to **build conceptual connections** between energy-related terms. The **visual organization** of ideas promotes **structured thinking**, encouraging **pattern recognition and conceptual expansion**—key principles of IDF's **constructivist learning approach**. The **collaborative discussion** aspect of the activity supports IDF's emphasis on **interactive peer learning**, guiding learners to refine prior knowledge while preparing for **deeper, inquiry-based exploration** of energy conservation.

	4. Establishing the Purpose of the Lesson **Option 1. Energy and SDGs- Why it Matters?** • The teacher will start with the following prompt questions *What if energy sources became extremely limited?* • The teacher will list, connect and emphasize SDGs related with the conservation of energy. ✓ SDG 7: Affordable and Clean Energy- Ensure access to affordable, reliable, sustainable, and modern energy for all ✓ SDG 12: Responsible Consumption and Production- Ensure sustainable consumption and production patterns ✓ SDG 13: Climate Action-Take urgent action to combat climate change and its impacts Question to Ponder: How does saving energy at home and school contribute to these global goals? Probing Questions: a. What daily habits in homes and schools do you practice to reduce energy consumption? b. How can saving electricity help protect the environment? c. Why is switching to renewable energy important for the future? d. How can students help make schools more energy-efficient? e. Why is it important for everyone, including students, to understand and apply energy conservation practices in daily life?	**Option 1. Energy and SDGs- Why it Matters.** This lesson component aligns with the Senior High School Instructional Development Framework (IDF) by fostering purpose-driven inquiry and real-world application of energy conservation. Through prompt questions and discussions connected to SDGs, learners engage in critical thinking, interdisciplinary exploration, and personal reflection. The structured questioning encourages students to evaluate their role in sustainable energy practices, reinforcing global awareness and responsible action in their homes, schools, and communities. • *NOTE TO TEACHER: The teacher should refer to the brief overview or explanation of the relation of the SDGs with conservation of energy. The teacher should also provide learners with sufficient information material about the SDGs. The SDGs may be accessed through the link provided in the reference list.*

	f. How does our knowledge on energy conservation help us in our personal life and in the global community? **Option 2: Philippine Power Check 2023** • The teacher will show a summary of the 2023 Power Statistics in the Philippines to the students. • Students will analyze the data by answering the guide questions. Discussion Questions: a. What trends do you notice from the 2003 to 2023 energy consumption data? b. Which sector consumes most energy? - Residential, Commercial, or Industrial? c. Which energy source provided the largest share of the total energy consumed? d. What do you think will happen in the future if the trend on energy consumption continues? e. How does our understanding on energy conservation help you as a student to make better choices on energy consumption?	**Option 2. Philippine Power Check 2023.** This activity, Philippine Power Check 2023, aligns with the Senior High School Instructional Development Framework (IDF) by integrating **data-driven analysis, inquiry-based learning, and real-world application**. By examining the 2023 Power Statistics in the Philippines, students engage in critical thinking and pattern recognition, identifying trends in energy consumption, sectoral demand, and resource allocation. The discussion questions encourage higher-order thinking, prompting learners to evaluate historical data (2003–2023), predict future implications, and propose solutions for sustainable energy use**.**
B. Instituting New Knowledge	1. Presenting Examples **Option 1. Power Patrol (Phase 1: Inspection)** • Learners check for energy-wasting habits in the school.	Learners are introduced to **new ideas, concepts, and information** that broaden their understanding. Activities like **Power Patrol** and the **Movie Review of *The Boy Who Harnessed the Wind*** build learners' awareness of **real-world energy**

- Divide learners into small groups and assign each group in specific areas in school (classroom, canteen, laboratory, library, etc.)
- The learners will use the observation checklist. They will only be completing the first column. Column 2,3 and 4 will be completed on a later part.

Inspection Item	Energy Waste Level (Low/ Medium/ High)	Recommended Action	Responsible Person
Electricity Use			
☐ Lights left on in empty rooms			
☐ Windows covered when natural light is available			
☐ Electric devices left on when not in use			
☐ Overlit areas			
☐ Inefficient lighting (Use of incandescent instead of fluorescent/LED)			
Ventilation			
☐ Electric fans running unnecessarily			

issues and how scientific knowledge can solve problems.

Option 1. Power Patrol (Phase 1: Inspection) activity aligns with the Senior High School Instructional Development Framework (IDF) by integrating **experiential learning, inquiry-based investigation, and collaborative analysis.** Through direct observations and systematic data collection, learners engage in authentic problem-solving, identifying energy-wasting habits and evaluating their impact. The structured checklist reinforces critical thinking, while discussion questions encourage reflection on sustainability and practical applications, scaffolding knowledge for later phases of the lesson.

- *NOTE TO TEACHER: This activity is composed of 2 phases. For this part of the lesson, since the goal is to introduce the lesson, the teacher should make sure that only the first column (inspection) will be done. But since this is a 2-phased activity, the teacher should make sure that if this activity is selected, the 2nd phase must be conducted.*

☐ Doors/windows left open while AC is on.				
☐ Improper maintenance of ventilation (unclean fans/ AC)				
Water				
☐ Faucets left running unnecessarily ☐ Leaking faucets				
Other inefficient practice on the use of electricity				

Discussion Questions:

a. What were the most common energy-wasting habits observed during your inspection?
b. Were there any surprising findings you didn't expect?
c. What simple habits can you do to minimize unnecessary energy consumption?

Option 2: WATT Matters

- The students shall watch a 3-minute video titled: The Future of Energy: An Overview by the World Economic Forum. The video can be accessed and downloaded from https://www.youtube.com/watch?v=zwsAf0do-yo.
- As the learners watch the video clip, they will be provided with the following key questions for discussion.

Option 2. WATT Matters. This activity, titled *"Powering the Future: Exploring Energy Efficiency and the Global Energy Transition,"* aligns with the Integrated Design Framework (IDF) by promoting inquiry-based and real-world learning. Through multimedia engagement, critical questioning, and

	1. What does the video talk about? 2. Why do you think energy efficiency is considered one of the first solutions in addressing climate and energy challenges? 3. What surprised you the most about the future of energy discussed in the video? 4. After watching the video, do you feel that energy efficiency is just a technical issue or a social responsibility? 2. Discussing New Concept **Option 1. Energy Guardians- Design Thinking** Learners will use design thinking to identify energy inefficiencies, empathize with users, brainstorm creative solutions, prototype ideas, and test energy-saving strategies in homes, schools, businesses, and society. Instructions: 1. EMPATHIZE-Learners will conduct interviews or surveys with other learners, teachers, and business owners about the challenges they face related with energy consumption, energy loss, or energy wastage.	collaborative discussions, students explore complex global issues—like the energy transition and efficiency practices—within an interdisciplinary context. The activity encourages systems thinking, sustainability awareness, and problem-solving, which reflect IDF's emphasis on developing learners' 21st-century skills and fostering connections between science, technology, society, and the environment. • *NOTE TO TEACHERS: If the video is inaccessible, the teacher may opt to use other relevant videos.* The **Design Thinking process** and **Leader in Action** allow learners to synthesize information and **generate innovative ideas or policy solutions**, encouraging **critical thinking, creativity, and civic engagement**. These activities support inquiry-based learning and align with the **Constructivist approach** where learners build new understanding on top of what they already know. **Option 1. Energy Guardians. Design Thinking** activity is aligned with the SH IDF as it includes Real-World Application, Higher-Order Thinking Skills and Authentic

	2. DEFINE- Learners organize their findings into common patterns (e.g. excessive appliance use, poor insulation, unnecessary lighting) 3. IDEATE- Learners brainstorm with their peers to propose energy saving programs or innovations (use of solar powered-automatic night switch, Earth Hour) 4. PROTOTYPE- Learners' design models or small-scale prototypes for a policy, programs, or innovations 5. TEST and REFINE- learners may gather feedback from authorities (e.g. teachers and school heads, community leaders, residents, learners, etc.) Learners will refine their proposed policies based on feedbacks gathered. Discussion Questions: After completing the design thinking activity, learners will present their findings and solutions to the class. This collaborative exchange allows learners to reinforce their own learning, gain insights from other groups, and refine their ideas based on peer feedback. A. What was the biggest challenge your group faced during the activity? B. How did empathizing with real-world energy problems helps shape your solution? C. If given more time and resources, how would you improve or expand your proposed policies, programs, or innovations? D. How has the activity changed your perspective on energy conservation?	Assessment. SHS Exit Pathways: This activity directly relates to the "Employment" and "Higher Education" as it involves developing skills valuable in both contexts (policy development, public speaking, critical thinking). • *NOTE TO TEACHER: The teacher should make sure to rationalize learners' responses, presentations or outputs. The teacher should make sure to provide feedbacks in each step of the design thinking strategy to guide the learners as they conduct the activity. The Prototypes of the learners may be used as a* ***Summative Assessment (Performance Task)****, since the output in this activity already targets the learning competency and the performance standard. The teacher may use or modify the attached rubric for this activity.*

	Option 2. Leader in Action • Collaborate with the learners and brainstorm on energy efficient practices and ways to minimize energy wastage. This brainstorming activity will serve as basis of the learners for the activity. • Learners will be choosing a leadership role. *Senator/ Legislators*- draft laws for efficient energy use. *DOE Secretary*- Draft national energy policies such as clean energy projects, and ensure industry compliance on energy efficiency standards *NAPOCOR Representative*- draft sustainable energy practice protocols such as the use of renewable energy. *Mayor*- draft local energy-saving initiatives in the community. *School Principal*- draft energy conservation programs like enforcing eco-friendly policies in school. • Student will focus on a major energy-related issue (e.g., high electricity consumption, lack of renewable sources, inefficient infrastructure, etc.) • The learners will draft a policy, law, or advocacy campaign, projects, or programs to promote energy conservation and efficient use of energy. • The learners present their plan in a mock government session, explaining why their ideas should be implemented. • The teacher and learners will provide feedbacks from the presented plans.	**Option 2. Leader in Action.** This activity aligns with the **Senior High School Instructional Development Framework (IDF)** by fostering **experiential learning, critical thinking, and civic engagement**. Through role-playing leadership positions, students **apply interdisciplinary knowledge** to draft policies, laws, and advocacy campaigns that promote energy conservation. The **mock government session** encourages **problem-solving, policy analysis, and collaborative discussion**, reinforcing real-world connections between **government action and environmental sustainability**. By presenting and refining their proposals, learners **develop communication skills** and **practical decision-making abilities**. • *NOTE TO TEACHER: Prior to the presentation of the proposed policies, let the learners first brainstorm or enumerate the suggested or proposed ways, which will serve as the basis for the possible policies. This ensures that the activity is not limited to policy development alone.*

3. Developing Mastery

Option 1. Spot and Save- Energy Picture Analysis

Learners will analyze images showing different energy usage scenarios and list practical solutions to minimize energy wastage.

- Teachers may use images showing lights left on empty rooms, appliances plugged unnecessarily, and the likes.
- As the teacher present the images, the learners examine the images and list instances of energy inefficiency.
- From the listed instances of energy inefficiency, the learners provide 2-3 ways to address the issue. And share it in class.

Picture Analysis Data Table

Image Examined	Instances of Energy Inefficiency	Possible solutions
Sample image: 	lights left on empty rooms	Male sure to turn off the lights before leaving the room.

Option 1: Spot and Save – Energy Picture Analysis. This activity aligns with the **Senior High School Instructional Development Framework (IDF)** by promoting **visual analysis, inquiry-based learning, and practical problem-solving**. By examining images of energy usage scenarios, students engage in **critical observation**, identifying inefficiencies and proposing solutions. The structured **data table encourages evidence-based reasoning**, reinforcing **energy conservation strategies** while applying concepts to **real-life situations** in homes, schools, and communities.

- *NOTE TO TEACHER: The teacher may use images taken in the school or may use images online.*
- *During the sharing of outputs, the teacher should provide immediate feedback to correct misconceptions or to reinforce learning.*

	Option 2. Energy Feud Learners will engage in a competitive quiz game inspired by Family Feud, testing their knowledge of energy conservation while promoting team collaboration and critical thinking. • The learners will be divided into two teams (or more depending on class size) • Each team selects a captain to lead discussions. • The teacher will prepare survey-style questions on energy conservation. • Learners take turns guessing answers, aiming to name the most common response. • Answers are ranked based on pre-determined survey results or expert recommendations. Here is a sample survey-style question: 1. What is the top energy hungry household appliance? (41-Heating and cooling, 25-appliances, 23-water heating, 6-cooking, 5-lighting source: *https://www.synergy.net.au/Your-home/Energy-tips/Energy-saving-tips*	**Option 2: Energy Feud** This activity supports the **IDF's interactive and collaborative learning principles**, using a **game-based approach** to deepen mastery of **energy conservation**. By engaging in **peer discussion, strategic thinking, and knowledge recall**, students reinforce key concepts in an engaging format. The **survey-style questions encourage real-world application**, while the **competitive setup fosters teamwork and analytical reasoning**, ensuring students actively process and retain energy-saving practices. • *NOTE TO TEACHER: The teacher may think of other survey-style questions. Make sure that the percentages are based on valid data.*
C. Demonstrating Knowledge and Skills	1. Finding Practical Application **Option 1. Energy Budgeting** Learners will estimate their household energy consumption and reflect on energy-saving strategies.	Learners begin to **apply newly acquired knowledge** in different contexts. **Option 1: Energy Budgeting**. This activity aligns with the **Senior High School Instructional Development Framework (IDF)** by emphasizing **real-world application,**

	The learners may use the table for their output. | Appliance /Device	Number of devices	Wattage	Usage per Day	Energy Consumption per Day	Energy Saving Action | |---|---|---|---|---|---| | Example: Electric Fan | 4 | 75W | 8 hrs | 0.60kWH | Use natural ventilation when possible | Discussion Questions: 1. Which appliances in your household consume the most energy, and what adjustments can be made to reduce their usage? 2. How does estimating energy consumption help individuals and families make smarter financial and environmental decisions? 3. What challenges might arise when implementing energy-saving actions at home, and how can they be addressed? 4. How do small changes in daily energy use contribute to larger sustainability efforts in communities and industries? 5. If energy costs suddenly increased, which energy-saving habits would be the most effective in maintaining a budget-friendly household **Option 2: Understanding RA 11285 (Energy Efficiency and Conservation Act)- JIGSAW** • Teacher provides key excerpts of RA 11285, highlighting its goals to the students	**financial literacy, and environmental responsibility**. By estimating household energy consumption, learners **develop analytical skills**, recognize inefficiencies, and propose **practical energy-saving actions**. The structured table format supports **data-driven decision-making**, reinforcing IDF's focus on **problem-solving and contextual learning** while empowering students to make **informed choices about sustainability** in everyday life. **Option 2: Understanding RA 11285 (Energy Efficiency and Conservation Act) – Jigsaw**. This activity aligns with **IDF's inquiry-based and collaborative learning approach**, encouraging **critical analysis and peer**

	a. institutionalizing energy efficiency b. enhancing efficient use of energy c. granting incentives for energy conservation projects. • Learners are divided into **expert groups**, with each group assigned a specific section of the Act to study. a. Expert Groups – Each group deeply analyzes their assigned portion of the Act, summarizing key points and discussing their implications. • *Section 2: Declaration of Policy* – Establishes energy efficiency and conservation as a national priority, promoting responsible energy use and sustainability. • *Section 3: Scope* – Defines the framework for energy efficiency policies, including the promotion of renewable energy technologies. • *Section 10:* Incentives for Energy Efficiency Projects – Details financial incentives for businesses and individuals implementing energy conservation measures. • *Section 12:* Role of the Department of Energy (DOE) – Outlines DOE's responsibilities in enforcing energy efficiency regulations and supporting conservation initiatives. • *Section 17:* Energy Efficiency Standards and Labeling – Establishes performance standards for appliances and equipment to ensure energy-efficient consumption.	**teaching**. By dissecting key sections of **RA 11285**, learners engage in **policy analysis, structured discussion, and application-based reflection**, fostering **higher-order thinking and civic awareness**. The **cross-group sharing method** ensures knowledge synthesis and deeper understanding, while the **application discussion connects legal provisions to real-world energy conservation efforts**, reinforcing IDF's goal of **engaging learners in meaningful, socially relevant learning experiences**.

	b. Cross-Group Sharing – Groups reorganize into mixed teams, where each student teaches their section to their new team members. c. Application Discussion – Teams brainstorm real-world energy efficiency solutions based on RA 11285, focusing on practical applications for homes, schools, and businesses. d. Presentation & Reflection – Each team presents their findings, highlighting policy insights, proposed solutions, and community impact. Discussion Questions: a. What are the main objectives of RA 11285? b. How does the act encourage energy efficiency in business, households and public institutions? c. How can you as learners contribute to the implementation of RA11285? **Option 3. Power Patrol (Phase 2)** • This is a continuation activity of the Power Patrol (Phase 1). • The learners will be grouped with the same group in Phase 1. • They will be completing columns 2,3, and 4 based on their knowledge gained from the previous activities. • After completing the table they will be presenting their outputs in class.	**Option3.** The **Power Patrol (Phase 2)** activity aligns with the **Senior High School Instructional Development Framework (IDF)** by integrating **experiential learning, structured observation, and collaborative problem-solving**. Through direct environmental analysis, students **identify real-world energy inefficiencies**, classify waste levels, and propose actionable

Inspection Item	Energy Waste Level (Low/ Medium/ High)	Recommended Action	Responsible Person
Electricity Use			
☐ Lights left on in empty rooms			
☐ Windows covered when natural light is available			
☐ Electric devices left on when not in use			
☐ Overlit areas			
☐ Inefficient lighting (Use of incandescent instead of fluorescent/LED)			
Ventilation			
☐ Electric fans running unnecessarily			
☐ Doors/windows left open while AC is on.			
☐ Improper maintenance of ventilation (unclean fans/ AC)			

solutions—supporting **critical thinking and inquiry-based learning**. The checklist format ensures **systematic evaluation**, while discussion questions encourage **reflection on sustainability**, reinforcing IDF's goal of fostering **engaged, solution-oriented learners**.

- *NOTE TO TEACHER: To maximize this activity, the result of the responses may be shared with the SDRRRM chairperson or the school head for immediate actions.*

Water			
☐ Faucets left running unnecessarily ☐ Leaking faucets			
Other inefficient practice on the use of electricity			

Discussion Questions:

a. Which energy-wasting habit was the most frequently observed during the inspection, and why do you think it happens?
b. How does identifying energy inefficiencies in schools help promote long-term sustainability and cost savings?
c. What small changes can students and staff implement immediately to reduce energy waste in daily school operations?
d. Which area in the school exhibited the highest energy waste level, and what challenges might prevent improvements in that space?
e. How can schools encourage behavioral changes to create a culture of energy conservation among students, teachers, and administrators?

	2. Making Generalization **Option 1: Energy Pledge** Learners create their own energy-saving habits guided by their key takeaways in the session. *Here is a sample fillable energy pledge:* **ENERGY PLEDGE** I, _____, commit to making a positive impact by using energy responsibly. I have learned that _____ contributes to energy waste and harms the environment. I pledge to: • **Turn off** lights and appliances when _____, as I have learned this prevents unnecessary electricity consumption. • **Unplug** devices when _____, because I now understand that plugged-in electronics still drain power even when not in use. • **Use energy-efficient alternatives** such as _____, based on what I have learned about sustainable solutions. • **Promote awareness** by sharing energy-saving tips with _____, applying what I know about environmental responsibility. • **Support sustainable energy** solutions like _____, recognizing how clean energy helps fight climate change. I will apply my knowledge to create a **greener future** by practicing energy efficiency every day! **Signature:** _____ **Date:** _____	**Option 1: Energy Pledge** This activity aligns with the **Senior High School Instructional Development Framework (IDF)** by emphasizing **self-reflection, commitment-building, and application of learning**. By crafting personal energy pledges, learners **internalize key takeaways** from the session, reinforcing their understanding of **energy conservation** through **behavioral commitment**. The structured format ensures **goal-setting and accountability**, helping students connect **theoretical knowledge to real-life practices**, which supports IDF's **learner-centered approach**. • NOTE TO TEACHER: The teacher should emphasize the relevance of the pledge and emphasize to the learners to walk the talk and embody their pledges.

	Option 2: Simson Samson- Energy Conservation Relay Learners will take turns naming actions, technologies, or habits that minimizes energy wastage while following a pattern or rule. • The first player starts by saying: "Simson Samson saves energy by…" Then they name an energy-saving action (e.g. turning off unused lights) • The next player must repeat the previous actions and add new one. • The game will continue until a student runs out of response. 3. Evaluating Learning **Option 1: 321 Exit Ticket** • Learners will reflect on their learning about ways to minimize energy consumption before leaving the lesson. They will use the 321 Exit Ticket: 3- Things you learned- Key Takeaways from the discussion 2- Things you found interesting- concepts, facts or real-world applications that stood out. 1- Question you still have-any unclear points or topics you would like to explore further.	**Option 2: Simson Samson – Energy Conservation Relay** This activity supports **IDF's interactive and cooperative learning strategies**, encouraging **knowledge recall, teamwork, and strategic thinking**. Through structured repetition, learners reinforce **energy conservation actions**, improving **long-term retention** of essential habits. The game's **progressive challenge** fosters **engagement and cognitive reinforcement**, ensuring students **apply energy-saving principles dynamically** while building a collective understanding of **sustainable practices**. The final part ensures the teacher and learners **reflect on and assess** the learning process. • The **321 Exit Ticket** allows **metacognitive reflection** and helps the teacher identify gaps in understanding. • The **Concept Check Quiz** provides **formative assessment data** that can guide remediation or enrichment.

<table>
<tr>
<td></td>
<td>Option 2: CONCEPT CHECK
Create a 5-item quiz to gauge learners' mastery of the lesson.
The items should be more scenario-based if possible to elicit learners' mastery on energy conservation.
The teacher may use electronic tools (Google Forms, Kahoot, etc.) to make it more engaging.
4. Additional Activities
These are enrichment, reinforcement, or remediation activities designed to support diverse learners. These can be extension work, research tasks, or differentiated exercises.</td>
<td>NOTE FOR TEACHERS. To maximize instructional time and avoid redundant activities, the teacher may skip the 3-2-1 Exit Ticket and Concept Check Quiz if learners have already demonstrated sufficient mastery through previous activities. This decision should be based on a careful assessment of learners' understanding and ability to apply electrical safety concepts effectively.</td>
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<tr>
<td>V. ASSESSMENT
(Assessing Learnings)</td>
<td colspan="2">Summative Assessment
Performance Task
Option 1. Design Thinking Prototype.
The prototypes of the learners can be evaluated as their performance task since it already targets the learning competency and Performance Standard.
Scoring Rubric:
This is an AI generated scoring rubric which was carefully evaluated and modified by the author to ensure that target skills are assessed.
The teacher may modify the sample rubric and may collaboratively develop it with the learners
<table>
<tr><th>Criteria</th><th>Excellent (5 pts)</th><th>Good (4 pts)</th><th>Satisfactory (3 pts)</th><th>Needs Improvement (2 pts)</th><th>Incomplete (1 pt)</th></tr>
<tr><td>Feasibility & Practicality</td><td>Prototype is realistic, feasible, and can be effectively implemented</td><td>Mostly practical and feasible with some refinements needed</td><td>Some aspects are feasible, but major improvements needed</td><td>Prototype lacks clear feasibility</td><td>No clear practical application</td></tr>
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Design & Functionality	Well-structured, working prototype demonstrating strong usability	Functional prototype with minor design flaws	Basic prototype with limited functionality	Prototype lacks clear function or usability	No functional prototype
Impact & Potential for Refinement	Addresses energy concerns effectively with strong potential for scaling	Prototype has solid impact but needs some refinement	Moderate potential, but lacks clear improvements	Minimal impact with unclear path for refinement	No evident impact or refinement process

Option 2. Advocacy Drive

Learners will design and execute an energy conservation campaign to raise awareness in their school or community to encourage responsible energy use and sustainable practices. The learners may choose to use posters, infographics, jingle, slogan for their campaign.

Scoring Rubric:

- *This is an AI generated scoring rubric which was carefully evaluated and modified by the author to ensure that target skills are assessed.*
- *The teacher may modify the sample rubric and may collaboratively develop it with the learners*

Criteria	Excellent (10 pts)	Proficient (7-9 pts)	Developing (4-6 pts)	Needs Improvement (1-3 pts)
Message Clarity & Relevance	Campaign effectively communicates energy conservation principles with strong alignment to real-world issues.	Message is clear and relevant but could be refined for stronger impact.	Some aspects of the message need clarification or improvement in relevance.	Lacks clarity and connection to energy conservation goals.
Content Accuracy & Research	Information is well-researched, accurate, and backed by reliable sources.	Mostly accurate, but some details need further support or verification.	Some inaccuracies or lack of supporting evidence.	Content has significant inaccuracies or weak research support.
Impact & Call to Action	Strong persuasive appeal, motivating audience to adopt energy-saving behaviors.	Clear call to action, though could be more compelling.	Call to action present but lacks persuasive strength.	No clear encouragement for behavioral change.

Option 3. Written Summative Assessment

This section will serve as a culminating assessment intended to evaluate the entire unit, including both the Content Standard and the Performance Standard.

1. A homeowner receives an unusually high electricity bill. She notices that multiple appliances are left on even when not in use. Which of the following strategies will MOST effectively reduce energy wastage?
    a. Using power strips to easily switch off multiple devices when not in use
    b. Increasing the number of electrical outlets at home to balance power consumption
    c. Replacing all appliances with newer models regardless of their energy efficiency ratings
    d. Keeping lights and appliances turned on at all times to maintain a constant temperature
2. Which statement BEST explains why LED light bulbs are preferred over traditional incandescent bulbs for energy efficiency?
    a. LED bulbs use complex wiring systems that prevent electricity loss
    b. LED bulbs generate more heat, making them suitable for colder climates
    c. LED bulbs require less electricity to produce the same amount of light and last much longer
    d. LED bulbs produce brighter light and consume the same amount of electricity as incandescent bulbs
3. A small business owner wants to lower its electricity costs without sacrificing productivity. Which combination of actions is MOST LIKELY to achieve this goal?
    a. Running all appliances at full capacity during the day and turning them off at night
    b. Using more air conditioners and heating systems to regulate indoor temperatures better
    c. Installing solar panels, using energy-efficient appliances, and scheduling power usage effectively
    d. Disconnecting all electrical equipment and relying solely on natural light and manual labor
4. Which household practice contributes the most to energy wastage?
    a. Turning off unused appliances.
    b. Using natural light during the day.
    c. Keeping the refrigerator door closed.
    d. Leaving the TV on when no one is watching.
5. Imagine you are designing an energy-efficient school. Which design element would be both environmentally responsible and cost-effective?

	a. Using only generators instead of electricity. b. Using blackout curtains and fluorescent lighting in all rooms. c. Keeping air conditioners on year-round to stabilize temperature. d. Installing large windows for natural lighting and solar panels on the roof.
VI. REFLECTION *(Feedback and Continuous Improvement)*	*This section presents the key highlights and challenges encountered by both teachers and learners during the teaching-learning process throughout the unit. It also includes the adjustments made by the teacher to improve instruction.*

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ANNEX

Answer Key

Written Summative Assessment

1. ***a****- Power strips allow users to turn off multiple appliances at once, reducing standby power consumption and lowering electricity costs.*
2. ***c****- LED bulbs are more energy-efficient than incandescent bulbs, as they use less electricity and have a longer lifespan, reducing replacement costs.*
3. ***c****- This combination maximizes energy savings while maintaining productivity, as solar panels generate renewable energy and efficient appliances reduce consumption.*
4. ***d****- Unused electronics consuming power contribute significantly to energy wastage, leading to higher electricity bills.*
5. ***d****- Large windows reduce the need for artificial lighting, while solar panels provide renewable energy, making the school more cost-effective and environmentally friendly.*