

Lesson 6
A Problem-Solution Paragraph

Goal: Become aware of environmental issues, and figure out possible solutions

Objectives:

1. Learn about the problem/solution organization pattern
2. Write a paragraph raising an environmental issue and offer alternatives to work it out

This type of paragraph also has two parts:

- a) The first half describes the problem
- b) The second half solves it

Some words you might use in this type of paragraph include:

need to	solved by
to prevent	can be remedied
a solution	the answer
to avoid	could be prevented if

(From: www.teachers.ash.org.au/vsshhistory/HistorySkills/2Paragraphs.doc)

Sample of a Problem-solution Paragraph

"A Sustainable Answer to Energy Instability: New Battery Innovations"

Task 1: Critical Thinking

1. What challenges do solar and wind energy encounter regarding reliability and efficiency?
2. Why is energy storage crucial for maximizing the benefits of renewable energy?
3. What recent innovations in technology could potentially overcome existing energy storage limitations?
4. How do sustainable materials in battery design contribute to environmental conservation?
5. What impact do you think improved energy storage solutions will have on reducing global reliance on fossil fuels?

Task 2: Clustering

Problem	Solution
<ul style="list-style-type: none">• Inconsistent power availability due to reliance on weather for solar and wind energy	<ul style="list-style-type: none">• Development of a new battery with advanced electrolyte composition for longer energy storage
<ul style="list-style-type: none">• Frequent need for battery replacements	<ul style="list-style-type: none">• Improved battery design that operates through more charge cycles
<ul style="list-style-type: none">• Space constraints in storage facilities	<ul style="list-style-type: none">• Increased energy density of the new battery
<ul style="list-style-type: none">• Environmental impact of traditional batteries	<ul style="list-style-type: none">• Use of sustainable materials in the new battery design

Task 3: Read the text and highlight the specific challenges and solutions proposed.

One major challenge in adopting renewable energy is its inconsistency. Power availability is inconsistent because solar and wind energy are reliant on weather conditions, which can lead to fluctuations in energy supply. This issue needs a solution to maintain a stable energy supply, especially when conditions are not ideal. To address this, researchers at Columbia University have developed a new battery with an advanced electrolyte composition, enabling longer storage of renewable energy. This solution could avoid power shortages by retaining stored energy for use during low sunlight or weak wind conditions. Unlike current storage options, this battery operates through more charge cycles, dealing with the frequent need for replacements. Additionally, its improved energy density offers a solution to space constraints in storage facilities. The use of sustainable materials aids at solving the environmental impact of traditional batteries, making this option both efficient and eco-friendly. In conclusion, with widespread adoption, this technology could drastically reduce dependency on fossil fuels, providing a sustainable answer to energy instability issues.

Adapted from: <https://www.sciencedaily.com/releases/2024/09/240916153438.htm>

Task 4: Reflection

How effective do you think these solutions might be in addressing the challenges of renewable energy storage?