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Principles of Ecology Sustainability and food mini-project

Suann Yang

SUNY Geneseo, yang@geneseo.edu

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Sustainability and food mini-project

The purpose of this assignment is to help you to:

Apply ecological concepts to assess the impacts of different dietary choices, including

- a. personal vs systemic impacts
- b. local vs global impacts

Part 1

Your group should select one of the listed claims to investigate. No more than two groups per claim! Choices will be written on the board in the front of the classroom.

- A. A strictly organic diet is the most sustainable.
- B. Buying and eating only locally produced food is the most sustainable.
- C. A vegan diet is the most sustainable.
- D. A vegetarian diet is the most sustainable.
- E. The Mediterranean diet is the most sustainable.
- F. Reducing caloric intake is the most sustainable.
- G. Eating unprocessed foods is the most sustainable.
- H. Seafood is the most sustainable animal protein.
- I. Pastured meat is the most sustainable animal protein.
- J. Using genetically modified organisms (GMOs) is the most sustainable.
- K. Living in an industrialized country provides the most sustainable food options.
- L. For sustainability, composting household waste is more important than changing food choices.

1. Take 5 minutes to brainstorm how our knowledge of food webs, trophic structure, and ecosystem energetics helps to evaluate the claim you have chosen. Try to think of any other concept from class so far that can help you as well.

2. Spend 10-15 minutes searching the web and library databases (Scopus is highly recommended for this task) looking for primary literature sources (studies where scientists collected data) that offer insights into how food webs, trophic structure, ecosystem energetics, etc. supports or rejects the claim you have chosen. Space is provided here if you need to take notes about this.

SOURCE

WHAT DOES IT SAY?

SUPPORTS or REJECTS?

3. Spend about 5 minutes reviewing the evidence that your group has found. Make a decision: is the claim you have chosen valid? EXPLAIN in a few sentences. If not valid, what is more sustainable, according to your collected evidence? Be sure to clearly state how you are defining the scope of the relevant issues so that the assumptions and limitations of your argument are clear.

Part 2

Create a flyer (8.5 x 11 inch) to explain the environmental impact of specific dietary choices to non-ecologists. *These flyers will be used in other courses across campus* to learn about the insights that ecology can provide to inform personal dietary choices and other behavior related to making food more sustainable.

Incorporate the research that you just conducted (food webs, trophic structure, ecosystem energetics, etc.) to address the claim from a scientific perspective. In other words, you need to show data that support your conclusion. You may also want to acknowledge the existence of evidence that does not support your conclusion, but explain why it is less important than the data that you are using to support your conclusion. The evidence that you incorporate in your flyer should be quantitative. You should include at least one graph OR one table. (Is a graph or a table better? Consider what you are trying to communicate, and which format best communicates this message.)

Format your citations and references using the Council of Science Editors (CSE) system. A minimum of two primary literature sources is expected; more will make your scientific argument stronger and less biased. Properly attribute any images used to their creators.

You may want to use the back side of this sheet to sketch a layout before proceeding with making a digital flyer (in Google Docs, Google Slides, Powerpoint, Word, Keynote, Pages, etc.). Your final submission (to Canvas) needs to be in PDF form.

You may need to assign different people in your group to different jobs for efficiency.

NAME	TASK(s)	DEADLINE

WE WILL COMBINE OUR WORK INTO A FINAL PRODUCT BY THESE STEPS:

Checklist: Does your flyer...

- clearly express the scope of your argument by defining key ideas and/or articulating key assumptions and limitations?
- synthesize information from properly cited, credible and relevant sources, representing various points of view/approaches?
- organize evidence to reveal important patterns, differences, or similarities in order to address the selected claim?
- use quantitative evidence, including at least one graph or table (with captions, etc.)?
- develop implications that logically follow from the evidence?
- communicate a message that can be understood by non-ecologists, while still being scientific?