

First Essay on model about your research project

Part 1: Work with a partner to use your model to explore the questions below that will be addressed in your written essay. To be able to respond to these questions, you and your partner both need to have completed your own conceptual models of 2 central variables in your study, and 3-5 other organisms, plus abiotic variables that are important in explaining the pattern.

(First essay and model, generate your hypothesis and answer questions below.

Part 2: After discussing your work with a partner, write an essay that responds to the following questions. Please put your name on the essay.

1. Explain why you chose each component depicted. Describe the relationships among all of your components. Explain what is going on. What ecological process or processes does your model best depict?
2. Develop your research hypothesis using the components in your model. Make a prediction about the experiment and describe how both your model and your hypothesis will be tested during the experiment.
3. (If your experiment includes Organisms) Choose one of your biotic components List or describe as many sub-components (species) within that. Could any of those components be redundant? Explain why or why not.
4. Discuss and illustrate each of the following
 - a) Show feedback.
 - b) Choose one component in your system and describe one change over a short-term period of time. Describe any indirect effects you can expect due to this change.
 - c) How could the patterns in your system appear differently over a longer time scales?
5. Add a specific appropriate disturbance (e.g., fire, grazing, drought, development, invasive species). Can you predict some of the consequences of this disturbance on the system being studied? Design an experiment to test whether or not your prediction is accurate and under what conditions.
6. Based upon your current understanding of the system you have depicted, how do you think complex ecosystems function? Explain your reasoning.
7. Add climate as an abiotic factor to your system. Describe how climate affects the main components of your model. Choose another climatic regime (desert, urban desert, temperate forest, tropical forest, grassland). Predict what would be different in terms of your expected results, variables, rates, or any other factor, if you were to conduct your research in this other biome.

Final Essay on model about your research project

Part 1: Work with a partner to use your model to explore the questions below that will be addressed in your written essay. To be able to respond to these questions, you and your partner both need to have completed your own conceptual models about your research project. For each question, first think about and jot down your ideas, then each take a turn to describe your response to the other. As you get additional ideas, write them down too.

Part 2: After discussing your work with a partner, write an essay that responds to the following questions. Please put your name on the essay.

- 1- Explain why you chose each component depicted. Describe the relationships among all of your components. Explain what is going on. What ecological process or processes does your model best depict?
- 2- Using the components in your model, re-write or refine your initial research hypothesis. Describe how you would test this refined hypothesis in a subsequent experiment.
- 3- (*If your experiment includes Organisms*) Choose one of your biotic components in your model. List or describe as many sub-components (species) within that. Could any of those components be redundant? Explain why or why not.
- 4- Discuss and illustrate each of the following
 - a) Show feedback.
 - b) Choose one component in your system and describe one change over a short-term period of time. Describe any indirect effects you can expect due to this change.
 - c) How could the patterns in your system appear differently over a longer time scales?
- 5- Add a specific appropriate disturbance (e.g., fire, grazing, drought, development, invasive species). Can you predict some of the consequences of this disturbance on the system being studied? Design an experiment to test whether or not your prediction is accurate and under what conditions.
- 6- Based upon your current understanding of the system you have depicted, how do you think complex ecosystems function? Explain your reasoning
- 7- Add climate as a “driver” to your system. Explain how climate affects the other components in your system. Choose one other LTER biome in this program (e.g., Tropical forest). Describe how the system you experimented with and depicted in your models would change, in terms of your results, components, rates, or any other factor, if you had conducted your research in this other biome.