

Student Handout 2: Steps for Creating Qualitative Models

Your name: _____

A: Designing your model

1. List the species and abiotic factors that you observed at your site.
2. Begin constructing the model with any two components. Write the name of each component in its own circle or box. What is the relationship between these? Review the different types of symbols to use as shown on the first handout. Draw in the representative interaction.
3. Add additional important components to the model one by one. As each component is added, think about how the component would interact with the components already entered into the model. Chose the symbol you think best describes the interaction. As interactions are added, decide which interactions seem to be significant and which seem more frivolous (e.g., while the body temperature of a deer may raise the temperature of the grass it naps on, this is probably going "overboard" with information).

B: Think, Pair, Share Activity - Refining your Model.

Choose a partner to work with for the next steps. For each question, first think about and write down your ideas, then each take a turn to describe your response to the other. If during the discussion you get additional ideas, write them down too.

1. Describe the ecological processes shown in your model.
2. Describe the specific flows and feedback loops.
3. If you had to describe your model in a single word or name, what would it be?
4. Show where the new component in your model (e.g., an invasive plant species or another example provided by your instructor) would be placed to show direct impacts. What indirect effects may have an impact on the other components?
5. Write down at least 3 questions for potential research that come to you from your model. Write one of these down as a researchable prediction in an “If...., and..., then...” statement.
6. Enter a description into your model for each of the main interactions. This step shows the degree of your understanding.
7. Rewrite your model to include any new understanding you might have gleaned from this process. Save it as the next illustration of your understanding of ecosystem interactions.