Guidelines to The Dream Ecosystem Project.

Ecosystem: All of the living organisms and nonliving factors in a community.

1. Describe your ecosystem.
   a. What are the abiotic conditions (e.g., temperature, seasons, climate, pH, humidity, soil, terrain)?
   b. What are the biotic factors (e.g., the producers; decomposers; primary, secondary, and tertiary consumers)?
2. Describe one research project being completed in your ecosystem.
   a. Give the purpose of the study.
   b. Give the study location.
   c. Give the hypothesis or prediction of the project.
   d. Give the independent variable and the dependent variable of the research.
   e. Give a timeline for the research.
3. Describe one food chain in your ecosystem.
   a. The food chain should contain at least four levels.
   b. The organisms should be given common and scientific names (these can be fun and imaginary).
   c. The trophic levels should be included.
4. Pick one organism from your food chain. Describe it.
   a. What does it eat?
   b. Where does it live (i.e., its habitat)?
   c. How long does it live, how often does it reproduce, and how many offspring does it have?
   d. What does it look like?
   e. Name a special adaptation (i.e., special feature) that makes the organism well suited to living in this ecosystem.
5. Show two ecological pyramids—of energy, biomass, or numbers—for your food chain.
   a. These should include numerical values and units.
   b. These should be labeled with the trophic levels and organism names.
6. Outline one biogeochemical cycle in your ecosystem. This can be a real cycle such as the water or carbon cycle, or an imaginary nutrient cycle.
   a. What organisms have this nutrient? What part of the body uses it? What compound contains it?
   b. How does the nutrient get into another organism?
   c. How does the nutrient get into the air? (Does it enter the air?)
   d. How does the nutrient get into the soil and the water?
   e. Provide a minimum of seven key terms or movements.