

1. Learn what causes global warming. One good place to start is

<http://www.grida.no/climate/vital/intro.htm>

Draw an influence diagram showing the causal flow starting from different human activities such as raising livestock, driving cars, producing aluminum, etc. and leading to higher temperatures on earth. (Note: a diagram of, for example, automobile usage with an arrow and plus sign to world temperature is much too simple. You must diagram a bunch of intermediate quantities such as methane concentration.) Does your diagram have any feedback loops? If so, identify them.

2. Learn about some of the predicted impacts of global warming. In particular, learn why many scientists expect European weather to get *colder*! Also, find out how most electricity in Georgia is produced. Use the information you have found to add heating of European homes, heating of Georgia homes, and cooling of Georgia homes to your diagram. As in part 1, you will have to add several items to your diagram. What new feedback loops have you introduced? Determine whether they are balancing or unbalancing.
3. A closed system, unlike an open system, has no input and no output. The earth is "almost" a closed system, but not quite. To what extent is the earth not a closed system? How does the way it is not closed relate to global warming? How does the way in which it is closed relate to global warming?
4. Incorporate population growth into your diagram. There should be arrows both to and from population level and other parts of your diagram. What additional feedback loops have you introduced? Classify them as balancing or unbalancing.
5. Which of the feedback loops in your diagram do you think is (are) the principal driver(s) of global warming?
6. We saw in class that it can be difficult to control the water temperature when you take a shower, because there is a time lag between the knob turn and the change in temperature. In your diagram, where is there a significant time lag? Why does this time lag make it more difficult for the human race to deal effectively with the global warming problem?

You may also be interested in the pictures of global warming at this site:
www.worldviewofglobalwarming.org