

### **Assignment**

We all live on the same planet, and we have a finite amount of resources to share for our individual needs and wants. What positive or negative impacts do you have on the environment? What changes in your life could make the environment better or worse?

This exercise is intended to help you relate your lifestyle choices to environmental issues about which you are learning. Information from lecture, your textbook, and various websites will provide background to help you perform this exercise. You may not be able to answer all the questions below, but after discussion with your family or me you may get a rough idea of the effects American families have on the environment. This will help you think about all the direct and indirect ways we impact the environment. Keep in mind that I'm not using this exercise to judge the choices that you and your family make. My point is for you to consider how individuals and families contribute to or reduce environmental impacts.

### **When you have completed this exercise, you will have:**

1. Explored the environmental impact of you and your family's food choices.
2. Summarized your household water usage.
3. Examined your household waste production.
4. Examined the environmental effects of your family's transportation choices.
5. Related your personal reproductive plans to world population issues.
6. Summarized your personal impact on the environment and the life living around you.
7. Determined your family's Ecological Footprint, and analyzed the results of the Ecological Footprint Quiz.
8. Suggested changes you could make to reduce you and your family's environmental impact.

### **Procedure:**

1. Review all the questions below and keep them in mind as you go about your daily routine so that you are prepared to answer them.
2. Use copies of Table 1 or a separate notebook to keep an activity log of all your activities for three separate, non-consecutive 24-hour periods. Be thorough! Include foods eaten, water consumed (used or ingested: even note time you spend in the shower and how often you flush the toilet!), trash produced, wildlife and plants observed, and transportation used (even if it's walking). Include a list of items you purchased, including food, drinks, material goods, other consumables, and how they were packaged. Consider how these activities differ from your routine at home with your family.
3. Use your or your family's water bills, electric bills, and heating-gas bills to compute your average household daily usage for the most recent month. You can also compare the instructor's energy usage to your household. Convert these values to average daily per capita usage.
4. Use household information on food purchasing and waste disposal/composting to help answer questions below.
5. Go to <http://www.ans.neep.wisc.edu/~eic/personal.impact.html> to take the personal environmental impact survey. The On-Line survey contains questions in four areas: Transportation, Recycling, Water Usage, and Energy Usage. Some have fill in boxes,

while others are multiple choice. If individual questions do not apply to your household, answer as best you can. Print out the tables generated by the survey, **but do not print out** the pages with the questions. Answer the questions in your log and **turn in both** the answers and the tables generated by the on-line survey.

6. Take the Ecological Footprint Quiz at <http://www.earthday.net/footprint/index.asp> for your family. Record the results in your journal, along with reflection and analysis of what aspects of the footprint contributed most to your result, and why.

**Questions to Answer From Activity Logs, Utility Usage Table, On-Line Survey, and personal reflection: Type your answers in paragraph format, or write them legibly in your log.**

### **Food**

1. From where did you obtain the food you ate on these days (and do you know where it was grown)?
2. What methods were used to grow your food (consider organic vs. non organically grown food)?
3. Estimate the proportion of foods you consume that are animal products. Explain how animal-derived foods have different impacts on the environment than plant-derived foods.
4. What changes can you make that would increase sustainability and decrease environmental impact of your diet?
5. Describe the amount and type of packaging that comes with your food. How could you decrease this?

### **Water**

1. Where does your family obtain the water you use (groundwater, surface water, etc.)?
2. The US average per capita water consumption is 180-200 gallons per day. After you estimate your daily consumption, compare your consumption with the US average and to the average of 1-2 gallons per day in many developing countries.
3. Compare your daily estimate with that from the on-line survey – what categories in the on-line survey are causing any discrepancy between the two?
4. Where does your wastewater go after it goes down the drain?
5. How could you change your habits to reduce your water use?

### **Wastes**

1. Describe what you discard. How much trash did you produce in one day, and how much does your family produce in one week?
2. What and how much do you recycle – does your daily activity log accurately reflect your on-line survey answers in the recycling section?
3. What changes could you make to reduce your contribution to the production of wastes?

### **Transportation**

1. Describe mode(s) of transportation for you and your family. Discuss results of your on-line survey and Ecological Footprint as they relate to transportation issues.
2. List three transportation modes that are available to you that would be sustainable, and would result in lower fossil fuel usage. Do you use them regularly? Why or why not?
3. What are some environmental impacts of your transportation choices?
4. If everyone used the same mode of transportation you describe for your family, would this be sustainable?

**Energy**

1. How much electricity and gas does your family use, as indicated by both utility bills and the on-line survey? How does your usage compare to those of your classmates and instructor (I will post my information on the website)?
2. What could you do to use less energy? Explain why this would be desirable from an environmental perspective.
3. What are the environmental effects of producing electricity by either burning coal or radioactive fission, which are two of the most common methods in power plants in North Carolina?

**Population**

1. How many siblings do you have? How many children do you plan to have? It's OK if you've not thought about it at this stage of your life.
2. What impact does having children have on the environment? Does it differ in different countries, and if so, give an example?
3. If everyone chose to have as many children as you plan on having, what would be the effect on the world's population? Compare descriptively the number of children you plan on having to the replacement value specified in the textbook.

**Summary**

1. Summarize the effects of your lifestyle on our planet. If everyone lived as you do, would things get better or worse? Will you change habits as a result of this project?

| <b>Table 1: Activity Log – record everything, as specified above, for each hour increment of the day</b> |  |
|--|--|
| <b>Date:</b> _____   |  |
| <b>Time</b>  | <b>Activity, Observations, Consumption, Transportation, etc.</b> |
| 12 Midnight  |  |
| 1:00 am  |  |
| 2:00 am  |  |
| 3:00 am  |  |
| 4:00 am  |  |
| 5:00 am  |  |
| 6:00 am  |  |

**Table 1: Activity Log – record everything, as specified above, for each hour increment of the day**

**Date:** \_\_\_\_\_

| Time     | Activity, Observations, Consumption, Transportation, etc. |
|----------|---|
| 7:00 am  |   |
| 8:00 am  |   |
| 9:00 am  |   |
| 10:00 am |   |
| 11:00 am |   |
| 12 Noon  |   |
| 1:00 pm  |   |
| 2:00 pm  |   |
| 3:00 pm  |   |
| 4:00 pm  |   |
| 5:00 pm  |   |
| 6:00 pm  |   |
| 7:00 pm  |   |
| 8:00 pm  |   |
| 9:00 pm  |   |

| <b>Table 1: Activity Log – record everything, as specified above, for each hour increment of the day</b> |   |
|--|---|
| <b>Date:</b> _____   |   |
| Time   | Activity, Observations, Consumption, Transportation, etc. |
| 10:00 pm   |   |
| 11:00 pm   |   |

| <b>Table 2: Resource Usage – Calculate daily usage from Monthly Usage Bills</b> |  |   |  |
|---|--|---|--|
|   | <b>Monthly Utility Usage (Include Units)</b> | <b>Divide by 30 to Obtain Daily Household Usage</b> | <b>Divide by # persons in house to obtain Daily Per Capita Usage</b> |
| Electricity   |  |   |  |
| Water   |  |   |  |
| Gas/Oil   |  |   |  |