Name:

LAB 1 WRITE-UP: ECOLOGICAL & WATER FOOTPRINTS

Exercise 1: Ecological Footprint

1. Visit the following link: *http://www.footprintnetwork.org/* to take the quiz. If you live in a residence hall, complete the quiz as if you were living at home with your family.
   Record your results below. (0.25 point)

   Many activities impact our Footprint. If everyone lived like you, we would need _____ Planet earths to provide enough resources.

   To support your lifestyle, it takes _____ global hectares of the Earth's productive area.

2. In one or two paragraphs (**at least four sentences**), answer the following questions: Where is the bulk of your footprint from? Discuss the aspect of your personal ecological footprint you found most intriguing or interesting. **(1 point)**

3. Discuss potential economic, political, or social problems individual cities/towns might face if everyone on Earth had an ecological footprint similar to your own. **(1 point)**

4. After receiving your final results, see how you can reduce your footprint by retaking the quiz by selecting "Retake the Quiz" button in the bottom right-hand corner. Using the "Add Details to Improve Accuracy" see if you can figure out how to actually reduce the size of your footprint quite significantly. Once you are happy with the reduced footprint, you can select "Explore Solutions" to learn how communities around the world are shrinking their personal footprints. **Then write a paragraph or two (at least four sentences) that answers these questions: What are some plausible steps you could take to reduce various aspects of your footprint? How much would these steps reduce your footprint? (1 point)**

5. Go to the following link: *http://data.footprintnetwork.org* to look at footprints from other countries. Select a developing world country (i.e., a country that is not industrialized and a developed country) **other than the United States**. **Record your countries' names, footprints, and biocapacities below. (0.25 point)**

Developing country:	**Developed country:** China
_____	_____
Ecological footprint: _____ global hectares per person	Ecological footprint: 3.4 global hectares per person
Biocapacity: _____ global hectares per person	Biocapacity: 0.9 global hectares per person
Ecological Footprint: _____ number of Earths	Ecological Footprint: _____ number of Earths

6. **Write a paragraph (at least four sentences) comparing the ecological footprints of the two countries that you chose. Make sure to answer the following questions in your answer: How do these two countries compare? Are they similar? What do you know about the countries that could explain their graphs? How do their ecological footprint values compare to the global average of 1.89 global hectares?** For extra information, try visiting the CIA Fact book to learn more about your countries (https://www.cia.gov/library/publications/resources/the-world-factbook). **(2 points)**

Exercise 2: Water Footprint

7a. Visit http://www.watercalculator.org/ and take the water footprint quiz. Again, if you live in a dormitory, please complete the quiz as if you were living at your permanent residence. (Note: Do not hit the "back" button on the browser during the quiz. Let your instructor know if you continue to have trouble completing the quiz after several attempts. **Record your personal water footprint results in the table below.**

7b. Next, compare your water footprint results to the US Average shown in the table below. Are you above or below the US Average? **Mark + if you are above the national average, or – if you are below the national average for each of the areas listed in the table below. (7a and 7b: 0.25 point)**

Indoor Water	U.S. Average (gallons per person per day)	YOU (gallons per day)	Are you above or below the U.S. Average? +/–
Shower	11		
Bathtub	2		
bathroom sink	3		
Toilet	14		
kitchen sink	7		
Dishes	1		
Laundry	10		
Greywater	−25		
Outdoor Water			
lawn & garden	72		
rain barrel	−2		
swimming pool	23		
car washing	1		
Virtual Water			
Driving	5		
Electricity	30		
shopping habits	583		
Paper	−3		
plastic	−1		
bottles & cans	−8		
Fabrics	−1		
Diet	1,063		
pet food	48		
Total	1,802		

8. Discuss potential **economic, political, or social problems** individual cities/towns might face if everyone on Earth, so not just USA, had a water footprint similar to your own. **(1 point)**

9. In one or two paragraphs (at least four sentences), answer the following questions: Discuss the aspect of your personal water footprint you found most intriguing or interesting. What can you do to lower your water footprint? (Click "view tip" and explore http://environment.nationalgeographic.com/environment/freshwater/water-conservation-tips/ to help get ideas.) **(1 point)**

10. Go to https://www.waterfootprintassessmenttool.org/national-explorer/ and find the water footprints for the two countries you looked at in Exercise 1. If no data is listed for your selected country, selected another country. Note: The website gives per capita water footprints in L/day. You will need to use the conversion below to convert information into gallons per day. Record your countries' footprints and the part of footprint falling outside of the countries below. **(0.25 point)**

Developing country:
Average water footprint per capita: _____ L/day
Conversion: _____ L/day × 0.26 = _____ gal/day
Percent of water footprint falling outside of country (external): _____

Developed country:
Average water footprint per capita: _____ L/day
Conversion: _____ L/day × 0.26 = _____ gal/day
Percent of water footprint falling outside of country (external): _____

11. Compare the two countries to each other and to the global average (global average water footprint = 365,640 gal/yr per capita). In one or two paragraphs (at least four sentences), answer the following questions: Why do you think they have the water footprint they have? What do you know about these countries that might explain their internal and external footprints? (Hint: "part of footprint falling outside of the country" is the external water footprint.) Take into account economic status, import and export patterns, and geography. **(2 points)**

The Global Footprint Network. 2012. *Global Footprint Network 2012 Annual Report.*

The Global Footprint Network. 2010. *Ecological Footprint Atlas 2010.*

Hoekstra, A. Y. 2008. "Water Footprint: Introduction." The Water Footprint Network. http://www.waterfootprint.org/?page=files/home