Name:

**Water Footprint WebQuest**

Watch from 0:00 to 2:53 of this video and use it to answer questions 1. and 2. <https://youtu.be/OCzYdNSJF-k> (you can press CC near the bottom right of the video to turn on captions)

1. The video explains that the water cycle recycles water again and again so water on earth will never run out. However, freshwater that is accessible to us is being depleted. Explain how this is happening and why the water cycle does not keep the amount of accessible freshwater constant.
2. How many liters of water does the typical person in the world consume in a day?

Click this link to access an online PowerPoint by Water Footprint Calculator: <https://www.watercalculator.org/wp-content/uploads/2019/05/WF_HS_L1-Water-Resources-and-Water-Footprints-Presentation.pdf>

Answer the following questions as you scroll through the PowerPoint.

1. What percent of water on earth is freshwater? (Slide 3)
2. How much of freshwater is stored in glaciers and permanent snow? Do you think people should or should not make use of that freshwater? Why? (Slide 4)
3. Groundwater is the kind of freshwater collected by wells. How much of freshwater is groundwater? (Slide 4)
4. How much of freshwater is in other sources such as rivers and lakes? Does this percent surprise you? (Slide 4 and 5)
5. Is there water scarcity in the United States? Explain. (Slide 8)
6. Slide 9 says, “In the last century, our use of water worldwide has grown at more than twice the rate of human population growth.” Reflect on this: Why do you think the use of water is growing at that rate? Do you think this is a sustainable trend (can we continue on the same path without consequences)?
7. Use slide 11 to explain how water use in high-income countries differs from water use in low-income countries.
8. Fill in the blank: The U.S. has the \_ highest water usage of any country. (Slide 12)
9. Using slide 12, explain how most of the water in the U.S. is used.
10. Slide 16 explains how the typical person in the U.S. uses water. Include some observations about this (how most water is used in a household, etc.).
11. Someone lives in the western United States where water is scarce. This person explains that they limit their showers to around 5 minutes long to help with the issue of water scarcity. They recommend that others limit their showering as well. Looking at slide 16, does it make sense for this person to make that decision and recommendation?
12. Looking at slide 18, what part of a meal requires the most water?
13. The same person that lives in the western U.S. where water is scarce explains that they only eat meat once a week to help reduce the issue of water scarcity. They recommend that others reduce how much meat they consume as well to help the issue. Looking at slide 18, does it make sense for that person to make that decision and recommendation? Is there anything else they maybe aren’t considering?

**In Case there are Issues with the Links:**

The first resource, a video, is called “Are we running out of clean water? - Balsher Singh Sidhu” by Ted-Ed (2018). It can be found on YouTube.

The second resource, pdf slides, is called WF\_HS\_L1 Water Resources and Water Footprints Presentation. It was created by Water Footprint Calculator, and you should be able to Google search for it or find it on the Water Footprint Calculator website: <https://www.watercalculator.org/resource/high-school-lessons/>

**Water Footprint WebQuest Key**

1. Answers may vary. Most precipitation falls into the oceans, where it is saltwater that is not easily accessible to us. Less precipitation goes into sources that are accessible freshwater, such as lakes.

2. 3000L

3. 2.5 %

4. 68.7 %. Answers may very… they could say something like no, because that form of freshwater is needed to make up habitats such as what polar bears need

5. 30.1%

6. Rivers are 0.5% and lakes are 20.9. Answers may vary… many will likely say they are surprised because they thought it would be more.

7. Yes, multiple states are facing water scarcity

8. This is an open question and answers will vary.

9. Less water is used for agriculture in high-income countries. High-income countries use more water for industrial and domestic purposes than low-income countries do.

10. 3rd

11. Most of it is used for other, which includes milk eggs, fruits oils, nuts, sugar, and rubber. Another large portion is used for meat.

12. Answers may vary. Most water is used by the toilet, shower, faucet, and clothes washer. Quite a bit is lost by leaks.

13. Answers will vary, but that slide does show that a large amount of water is used for showering.

14. Meat, beef steak in that picture, requires the most water

15. Answers may vary. However, the slide does show that meat requires a large amount of water to produce.