

WEEK OF RESOURCEFULNESS | FAMILY ACTIVITIES

Creating a Water Conscious Weekly Dinner Plan

KEY LEARNING OBJECTIVES

Family members will work together to develop a weekly dinner plan that will decrease their water footprint and reduce waste.

BACKGROUND

Did you know that food, water, and energy are linked together? Water means life for crops and is a driving force to produce energy, but water also needs energy to extract, treat, and distribute. This relationship between energy and water is known as the **energy-water nexus**. Knowing where freshwater is and how we manage it can help us provide a solution to one of our most pressing problems—making sure there is enough water to sustain all living things on the planet.

Who uses water and how is it managed?

Our household use accounts for 11% of our total freshwater consumption, industry 19%, and agriculture 70%. The current water usage for agriculture and industry is not sustainable.

How can we personally help improve the global water footprint?

Did you know that each person *uses* 80 gal. of water each day and *consumes* 1300 gal. of water? That is roughly equal to consuming an entire swimming pool!

How is that possible?

Almost 90% of water consumption is invisible to us. Most of the water we consume comes from the food that we eat. Did you know that one cow requires 19,000 lbs. of wheat, corn, and grain to reach maturity over three years, 60,000 gal. of water to grow the food it eats, 6,000 gal. of water to drink, and 2,000 gal. of water to process and transport? That is a total of 800,000 gal. of water for 450 lbs. of beef. That equals 1,300 gal. of water for a 10 oz. steak!

So what about food waste?

As you and your family consider the relationship between food and water, take a moment to reflect on your meal portions and the amount of food you purchase. Keep in mind that food waste accounts for almost 40% of the U.S. food supply! This means that the food we do not

consume has a serious impact on our water consumption as well as climate change. More than ever, people must be aware of how our food and water consumption impacts the planet and find ways to live sustainably and act as good stewards of our resources.

PLAN

In this activity, the family will get a snapshot of how their food choices affect water availability on Earth and that some foods have a lower water footprint compared to others. They will generate a list of dinners they commonly share and will calculate the water footprint for their favorite dinners on their list. Then, each family member will be challenged to create 2–3 dinners that would decrease their family's water footprint. Family members will vote to select 5–7 dinners they would enjoy sharing with one another to create their weekly dinner plan.

DESIGN

What are the materials you might need to get started?

- Water footprint cards (printed front to back)
- Scissors
- Internet access
- Weekly family dinner plan menu

INVESTIGATE

1. Begin this activity by having the youngest family member place the water footprint cards, picture side up, on the table. Make sure you do not flip the cards over yet! Take turns making predictions as to how many gallons of water you think each protein would need to be produced. Place them in sequential order from most amount of fresh water needed to least. Flip the proteins over and see how close your predictions were. Using this new information, try to make predictions with the starches. How many gallons of fresh water would be necessary to produce 1 cup of each? Flip the cards over to see how close your predictions were. What do you notice when comparing the protein and starch water footprints?
2. As a family, generate a list of common dinners you normally eat. Assign each member of the family a meal from your list and have them calculate the total gallons of water required to consume that meal. When finished, calculate the total gallons of water your family consumes per week. The following websites may help with your research.

<https://graphics.latimes.com/food-water-footprint/>

<https://waterfootprint.org/en/resources/interactive-tools/product-gallery/>

CREATE

3. Your challenge is to create a weekly family dinner plan that decreases your family's water footprint by 25%. Brainstorm a list of ways you could possibly meet this goal. Then, each member of the family will create 2 dinners and calculate the total gallons of water required to produce that meal. Then, the family will vote on what meals they will make that week and add them to the weekly family dinner plan.

NEXT STEPS

To extend this activity, after dinner the family will put all their leftovers that were not eaten on a plate. At the end of the week, determine how many gallons of water was wasted by food not consumed. Instead of throwing the food away, use it for composting. Compost is organic material that can be added to soil to help plants grow. Food scraps and yard waste together currently make up more than 28% of what we throw away and should be composted instead. Making compost keeps these materials out of landfills where they take up space and release methane, a potent greenhouse gas.

RESOURCES

<https://graphics.latimes.com/food-water-footprint>

<https://waterfootprint.org/en/resources/interactive-tools/product-gallery>

<https://www.epa.gov/recycle/composting-home>

<https://waterfootprint.org/media/downloads/PDFHowtoCalculatetheWaterFootprintofanyFood.pdf>

<https://www.watercalculator.org/footprint/foods-big-water-footprint>

<https://www.watercalculator.org/water-footprints-101/water-in-your-food>



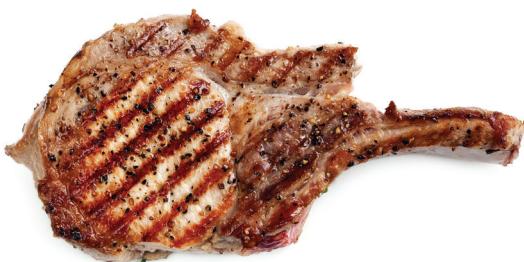
How many gallons of water does it take to produce **4 oz of salmon?**



How many gallons of water does it take to produce **2 cups of noodles?**



How many gallons of water does it take to produce **4 oz of pork?**



How many gallons of water does it take to produce **1 cup of beans?**



How many gallons of water does it take to produce **4 oz of chicken?**



How many gallons of water does it take to produce **1 cup of rice?**





2 cups of noodles

49 GALLONS

4 oz of salmon

90 GALLONS

1 cup of beans

77 GALLONS

4 oz of pork

134 GALLONS

1 cup of rice

44 GALLONS

4 oz of chicken

97 GALLONS

	DINNER	TOTAL WATER (gallons)
Sunday		
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		

GOAL: DECREASE YOUR INVISIBLE WATER FOOTPRINT BY 25%.