

ENRICHMENT: The Long Haul

Objectives and Summary: Students work in teams to compete in a water-hauling game, and to gain insight into resource use and water volumes.

Background: The average American uses 80-100 gallons of water per day. Flushing the toilet and taking showers/baths are responsible for the largest water use per person. (water.usgs.gov/edu/qa-home-percapita.html)

Standards:

Materials

- 4 one-gallon buckets
- 2 thirty-gallon garbage cans
- Containers of different sizes
- Excerpts

Location and Duration: 60min. Outside near a water source. Most groups use the river bank site near the boot shed

HS Leader Role: HS Leaders can be tasked with reading an excerpt, keeping time, counting trips per team, getting students lined up, monitoring river front safety, and set-up and clean up.

Procedure

Introduction: Ask students how people got water into their homes before the widespread use of electric pumps, water treatment plants, and large reservoir systems (it was often hauled by hand). Who did this type of work? (Often it was/is still done by women and children) Have students ever seen movies or read books where children's chores include hauling water? We are now going to explore what life is like without the benefit of our modern plumbing, and in the process learn more about how much water we use. How much water per day do you think an American family of 3 uses on average? (240-300 gallons). Here, you may wish to read 1-2 of the excerpts below to help set the stage for the activity.

Lesson/Activity:

1. Divide the class into 2 teams. Each team gets 2 one gallon buckets. Their task is to haul water from the river to a "cistern" (one of the garbage cans) located about 150 ft away.
2. Set up a relay race; teams line up at the water source. The first student in line fills a bucket from the stream, and then carries it to the garbage can and empties it there. He or she then returns the bucket to the next person in line. The first team to fill their can wins.
3. Before beginning, ask students to make predictions. How long will it take? How many trips will it take?



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Conclusion: Ask to students to share their feelings about hauling water. Transition to challenging the students to estimate volumes of the various containers involved. Emphasize that the garbage can is only 10% of the 275 gallons per day used by the average family of 3.

Notes: A possible variation would be to not set this up as a relay race, instead leaving it open ended and letting students figure out their own approach to filling the garbage can, provided everyone participates.

Excerpts:

Cool Clear Water

Kerwhump-squeak, kerwhump-squeak. The cold water gushed from the pump. Was any drink ever as sweet as that you caught in an improvised hand-cup dipper and sucked up noisily?

Towering above the well was the windmill, sentinel of the prairie. Kicked into gear she whipped her DEMPSTER tail away from the wind and pushed her wheel to catch the breeze. With a clank of gears the pump-stick began it's up and down rhythm lifting cool water from the depths of earth, sending it splashing into the wooden stock-tank or waiting buckets.

It took very little wind to operate the mill. Ten to fifteen miles an hour would keep things going nicely.

The well was the hub of the farm. If possible the barn was located nearby. This was best for labor if not hygienic reasons. All livestock had a mighty thirst.

Children of the bygone era were, as now, loved for themselves but they filed a real need in the family unit. A children was measured, not only on the kitchen door where heights were carefully charted, but in the chores they were able to accomplish. A child could take pride in and know he was really growing up and amounting to something when he could help with the watering.

It began with a small bucket dipped full from the tank and lugged drippingly beside Dad who swung along with two five-gallon pails hanging light as feathers from his powerful fingers. Gradually you progressed to a twelve-quart galvanized pail that only had to be set down a couple of times as you watered the chickens.

That nice pail-full of water offered many youngsters their first practical lesson in physics. How fast must you windmill your arm, swinging the pail in a complete circle to prevent any water from spilling? No one mentioned centrifugal force; it was called "Spin the Pail."

You knew you had arrived when Dad said, "Use the five-gallon pail beside the barn and water the pigs, I'll feed the calves."



It was a feeling of sheer power to stand by the fence, alone, pouring water into the hog trough as the squealing porkers fought noisily for a drink. The livestock, your family needed you!

The importance wore a bit thin as you made possibly ten trips. It was an incentive to keep trying to haul two pails at one time and cut the trips to five.

If the well and water tank were in the best possible position it might be possible to arrange fences so that at least two yards had access to it.

The water tank, because of its importance and danger, had an unofficial set of rules for children. For toddlers... "Stay away from the tank. You may fall in and drown."

For middle sized children... "Yes, you may sail stick boats on it but take them out when you are done and DON'T stir up the water. The horses will be in from the field at noon and need a good, fresh drink."

If by chance a few days of calm descended on the farm the hand pump would be pressed into service. Farm boys with an inclination for arithmetic could tell how many strokes it took to fill the tank.

Farm children were and are notorious dreamers of big dreams. Pumping water was a chore that required almost no concentration and visions of wonder flashed through active minds as they pumped away. Not one of the most accomplished, wildest dreamers envisioned a farm where water fountains supplied every pen and barn with an automatic supply of water, warmed and kept from freezing in cold weather; center-pivot irrigation units watering a quarter-section of land; or rural water systems with mains crossing the countryside bringing water to every farm.

If such notions had been proposed to a B.E. (Before Electricity) farm kid he would surely have laughed and answered... "Ya, come with me; I'll race you to the foot of the rainbow."

-Marian Cramer, *Lantern Glow*

The Bath

Ma took down the wash-boiler from the back-porch wall about three o'clock on Saturday afternoon and summoned her chief water-hauler, a boy about ten years old. He must fetch four pails of water for the boiler.

Though washday was past or coming whichever way you looked at it, this was Saturday – the night of the bath.

Ma and the girls would start things off with a head-wash every second week. Since their hair was long it was nice to do that in the afternoon as it would be completely dry by bedtime.

After supper the boiler steamed away on the stove. In winter the steam that collected on the windowpane quickly froze to thick, white frost but near the stove it was cozy.



Some families had tin bath tubs you could soak in. Some used the round rinse-tub from a washday in which you stood and scrubbed; some used a wash basin. It was sort of a matter of tradition and using what you had.

The kitchen was hot with the stove really fired up. Ma brought out a big hooked rug and put it right in front of the open oven door. The turns usually went from the youngest to the oldest ending with Pa. Sometimes a boy or girl of courting age might have Saturday night plans and they could be worked in the early part of the schedule. During summer when the whole family went to town on Saturday night the bath hour was moved up so the baths came before town.

In winter Ma laid out neat piles of clean underwear and night clothes for each member of the family. With a pail of cold water at hand to blend with the hot water it was bath time.

Ma presided over scrubbing the small children until they were considered old enough to manage themselves and then they could bathe alone and be checked afterwards.

Privacy was honored. No one interfered as one by one the family members took their turn enjoying the nice hot water. It usually wasn't emptied between bathers, but more water could be added to keep it nice and warm. Homemade soap was used for scrubbing, but sometimes there was a bar of town-soap with its good smell.

There would be at least three bath towels for family use. These would be nice, soft terry cloth, not the hard huck toweling used for every day. As one towel got wet it could be draped over the oven door to dry and later used again. Ma had likely cut and hemmed the wash rag from a bath towel gone thin in the middle.

There might be a bottle of lotion set on the table to smooth on elbows and rough heels.

Pa, the last one in the bath, took care of emptying the water into slop pails. He would wipe out the tub and hang it on the back-porch wall by the boiler. Ma would come in quietly wearing her night clothes with her hair braided into one big braid down her back. She picked up the piles of discarded clothes for her wash box and tidied up the kitchen for tomorrow was Sunday.

Sunday could come. Her family was all clean for another week.

-Marian Cramer, *Lantern Glow*

