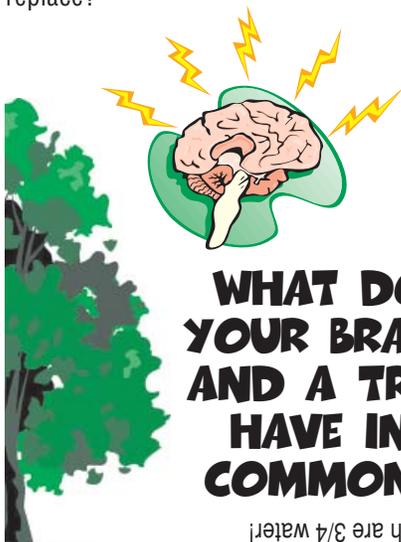




# What Do Barges Carry?



Barges take heavy things – like crops grown by Illinois farmers – to other cities, states, and countries. In fact, most of the corn and soybeans grown in our state travel by barge. One barge can carry as much corn as 60 semi trucks. More barges means fewer trucks. Fewer trucks means less fuel is used and fewer tires in landfills. If one barge replaces 60 semis, how many semis can five barges replace?



## WHAT DO YOUR BRAIN AND A TREE HAVE IN COMMON?

Both are 3/4 water!

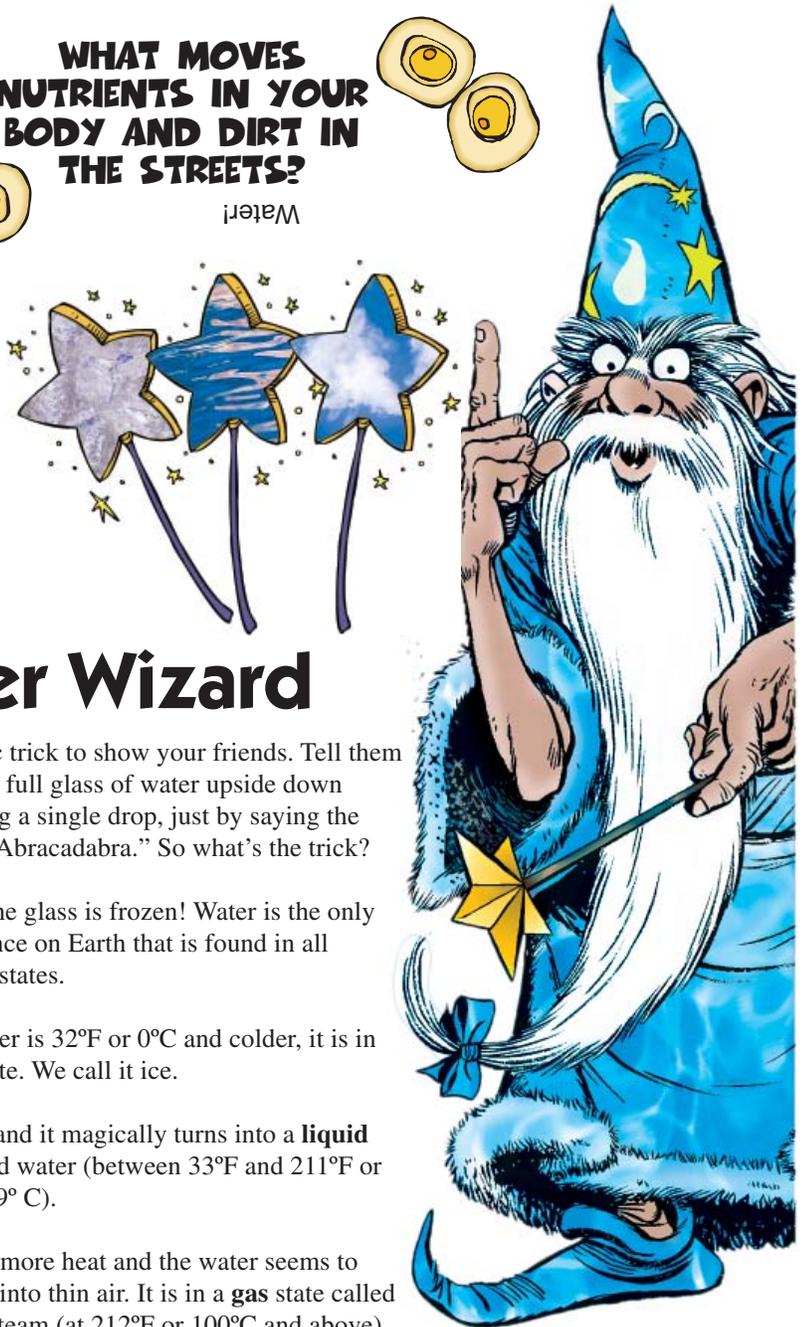


# Be a Water Wizard

Here's a magic trick to show your friends. Tell them you can hold a full glass of water upside down without spilling a single drop, just by saying the magic word, "Abracadabra." So what's the trick?

The water in the glass is frozen! Water is the only natural substance on Earth that is found in all three physical states.

- When water is 32°F or 0°C and colder, it is in a **solid** state. We call it ice.
- Add heat and it magically turns into a **liquid** state called water (between 33°F and 211°F or 1°C and 99° C).
- Add even more heat and the water seems to disappear into thin air. It is in a **gas** state called vapor or steam (at 212°F or 100°C and above).



# Pick a Card, Any Card

How much water do you think you use every day?

## Shower

Each minute = 5 gallons  
How long is your shower?  
How many gallons is that?



## Toilet

Each flush = 5 gallons  
How many times do you flush?  
How many gallons is that?



## Dishes by Hand

1 load = 10 gallons  
How often do you wash dishes?  
How many gallons is that?



## Lawn

1 minute = 7 gallons  
How long does it take you to water it?  
How many gallons is that?



## Laundry

1 load = 40 gallons  
How many loads do you wash in a week?  
How many gallons is that?



## Bath

1 Tub = 36 gallons  
How often do you take a bath?  
How many gallons is that?



## Brush Teeth

Run water while brushing = 2 gallons  
Do you run the water?  
How many gallons is that?



## Drink

16 cups = 1 gallon  
How many cups do you drink?  
How many gallons is that?



## Dishwasher

1 load = 20 gallons  
How many loads do you wash in a week?  
How many gallons is that?



## Wash Hands

1 Washing = 2 gallons  
How often do you wash?  
How many gallons is that?



## Calculate how much water you will use today?

Shower \_\_\_\_\_

Bath \_\_\_\_\_

Drink \_\_\_\_\_

Wash Hands \_\_\_\_\_

Toilet \_\_\_\_\_

Laundry \_\_\_\_\_

Brush Teeth \_\_\_\_\_

Dishwasher \_\_\_\_\_

Dishes by Hand \_\_\_\_\_

Lawn \_\_\_\_\_

TOTAL GALLONS \_\_\_\_\_

# BIG RIVER RUNS WIDE

When you talk about water, you had better talk about the Mississippi River. After all, the Mississippi is the longest river in the United States. It starts as a tiny stream in Minnesota, travels through 10 states, and reaches the Gulf of Mexico as a raging river.

Some Native Americans, who lived along the banks of the river called it “Messipi,” which means “Big River,” but not all parts of the river were big back then. Some places were so shallow and narrow that the summer sun dried up the river and boats couldn’t move. That was bad news for Americans who used the river to move things from one city to another.

In 1930, the U.S. Congress decided to make the Mississippi River wider and deeper so boats could move all the time. First, dams were built. Dams hold water back to make sure every part of the river is at least nine feet deep. That’s deep enough to float heavy barges. Barges are flat-bottom boats that carry things up and down a river.

But how do barges get around the dams? Each dam has a lock. A lock is like an elevator – only slower. A tugboat pushes a barge into the lock (elevator). The doors close and water is put in or taken out of the lock. This raises or lowers the barge until it is at the same height as the water on the other side of the dam (elevator moves up or down). The doors open up and the barge goes on its way. The whole thing can take up to two hours.



## Farmers Save Water

Farmers think about the amount and quality of water on our Earth too. After all, they need water for their crops, animals, and families. Over the years, farmers have come up with some pretty clever ways to save water.

- They plant special crops that can live with little water.
- They water only the crops that need it.
- They use watering systems that drip small amounts of water on the plants instead of spraying large amounts of water over an entire field.
- They use watering systems that put water right at the crops’ roots. This means less water is evaporated.
- Instead of throwing away dirty water, they use it on the crops.

## You Can Save Water

We can learn from farmers and save water too. Here are a few ways:

- Ask Mom and Dad to plant flowers and trees that need little water.
- Water lawns less often.
- Use a watering system that drips instead of sprays.
- Water gardens in the early morning. Cool morning air evaporates less water.
- After you wash your car, use the bucket of dirty water on the trees and flowers in your yard.

# Career Corner

**Jim Dougherty**  
Personnel Director  
ARTCO, St. Louis



***What does your company do?***

Farmers in Illinois and other states grow more corn, soybeans, wheat and other crops than can be used in the United States. Much of the extra crop is sold to people in other countries to use for livestock feed and human food. Our job is to move those crops from here, where the extra is grown, to places like New Orleans, where it can be shipped to users in other countries. We use barges and towboats to do that.

***Why is the Mississippi River important to Illinois agriculture?***

In total, the Mississippi River receives grain and other products from nearly 3,000 miles of river. These products are then delivered to ports in New Orleans and other places for export to other countries. According to the Army Corps of Engineers, in 1999, over 80 million tons of products moved to/from/and within the state; over 35 million of those tons were agricultural commodities. The reason so much moves by water is because it costs less to move by water than any other way.

In addition to the agricultural shipments, the river creates jobs for people. Barge workers, dockworkers, truckers, elevator workers, and others have jobs because the river is such an important way to transport goods.

***Do you have any advice for students interested in a career in the ag industry?***

We will always need farmers, but not everyone wants to be or can be. But, there are lots of careers in agriculture that are “off the farm.” The main advice I would give is to stay in school. If you want to go into marketing, management, crop science, or other areas, you will need a college degree. There are lots of jobs that are in agriculture, but not necessarily on the farm. All are important to help the farmer get the crops they produce to the people that can use them.

**Mike Rahe**  
Illinois Dept. of Agriculture (IDOA)



***Tell us about your job.***

I manage the Sustainable Agriculture Grant Program, which provides research, demonstration, and education grants of \$700,000 each year. I work with other organizations, coordinate educational activities in Watershed Park (IDOA’s outdoor education park), oversee farming research and education efforts on two farms owned by our department, and coordinate educational events.

***How did you become involved in water conservation and sustainability?***

After college, I began working in water conservation with county Soil and Water Conservation Districts as a resource conservationist. I grew up on a farm in western Illinois that still uses the same sustainability concepts now being used by other farmers, such as growing many different crops, managing nutrients, and selling food directly to consumers.

***What is the favorite part of your job?***

Looking outside of traditional agriculture to help people (farmers) identify their available resources and ways to manage them profitably while protecting them environmentally.

**Rhonda Holliday**  
District Conservationist  
USDA, Natural Resources Conservation Service



***What types of projects do you work on?***

We work on wetland restoration, watershed planning, improvement of wildlife habitats, and helping to control soil erosion. My part involves working in partnership with the local Soil and Water Conservation District to develop long range plans for these projects. Our office provides technical assistance to the land user.

***Your family also farms. Do you use conservation methods to prevent water pollution?***

Yes, we have installed a buffer on our farm next to the Sangamon River. This strip of grass helps to stop erosion during high waters and it also serves as a filter to remove sediment from water flowing across the buffer strip before it goes into the river.

***How did you become interested in water conservation?***

I grew up in a family with a long history of natural resource conservation. I was taught the value of being good land stewards at a very early age. A career with the Natural Resources Conservation Service seemed like the best way for me to share my love of the land with others.

To learn more about Agriculture, visit us at [www.agintheclassroom.org](http://www.agintheclassroom.org), or contact your county Farm Bureau® office or Agriculture in the Classroom Illinois Farm Bureau® 1701 Towanda Avenue, Bloomington, IL 61701

