NEWS FLASH! MOST OF THE PLANET IS COVERED IN WATER!

the mystery of CORN

Mystery #4 The Miracle of Water

The Miracle of Water

Name one thing you can't live without—Popcorn? Wrong! The answer is WATER! Without it you wouldn't have any snacks. In fact, without water, none of us would exist! All living things need water to grow and survive. Kansas and seven other states sit on top of an underground water supply — the Ogallala Aquifer. It's one of the largest aquifers in the world, and it is one of many water sources. However, aquifers and other water sources are not unlimited sources of water. Think about times during the day when you might be wasting precious water. What are ways you can conserve water usage? How are farmers conserving water? What are the impacts of conservation? Read on to find out more.

Water—can you dig it? PAGE 2

Land a hot water career! PAGE 3

Earth's Water

DID YOU KNOW?

Water covers three-fourths of the Earth's surface. Over 97 percent of the earth's water is found in the oceans as saltwater. The remaining three percent of Earth's water is freshwater.

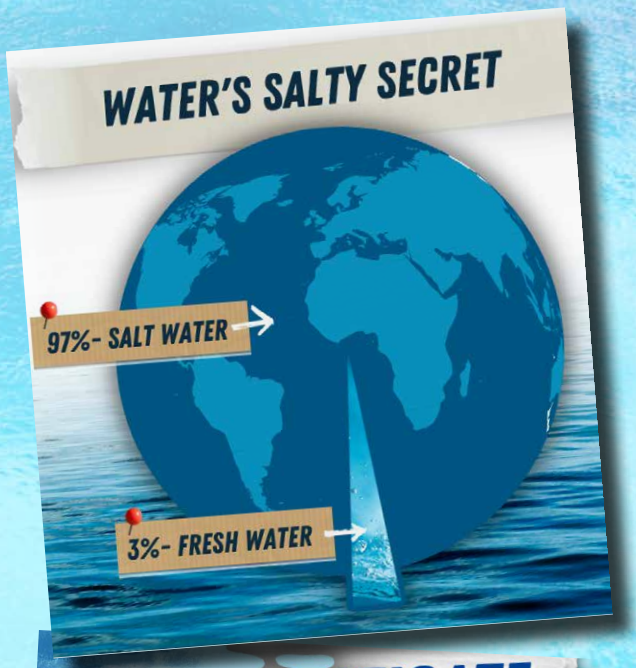
However, about two-thirds of the Earth's freshwater is stored in glaciers, ice caps, and snowy mountain ranges. This leaves only one percent of the Earth's water for our needs. **Freshwater** can be found many places including underground aquifers, like the **Ogallala Aquifer** that sits under parts of Kansas.

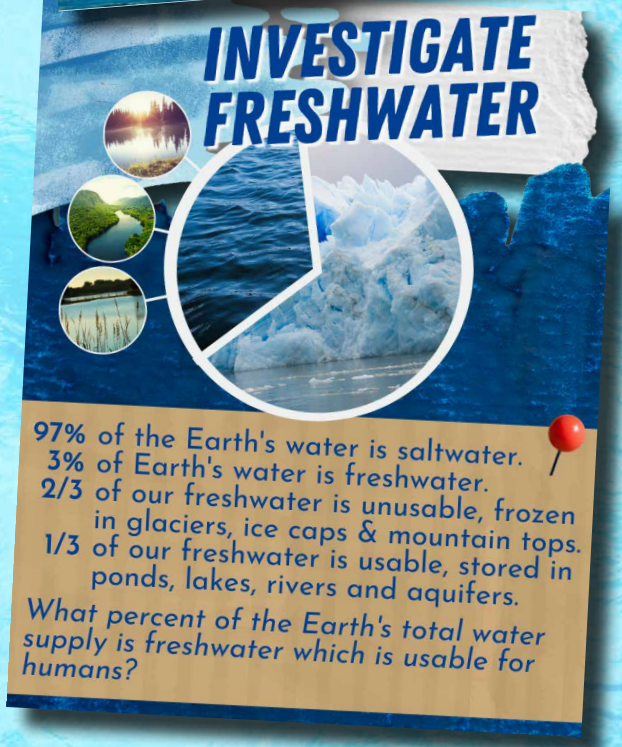
The total amount of water on the planet does not change. Water moves around on the planet and changes form, but we will never have any more water than we have right now.

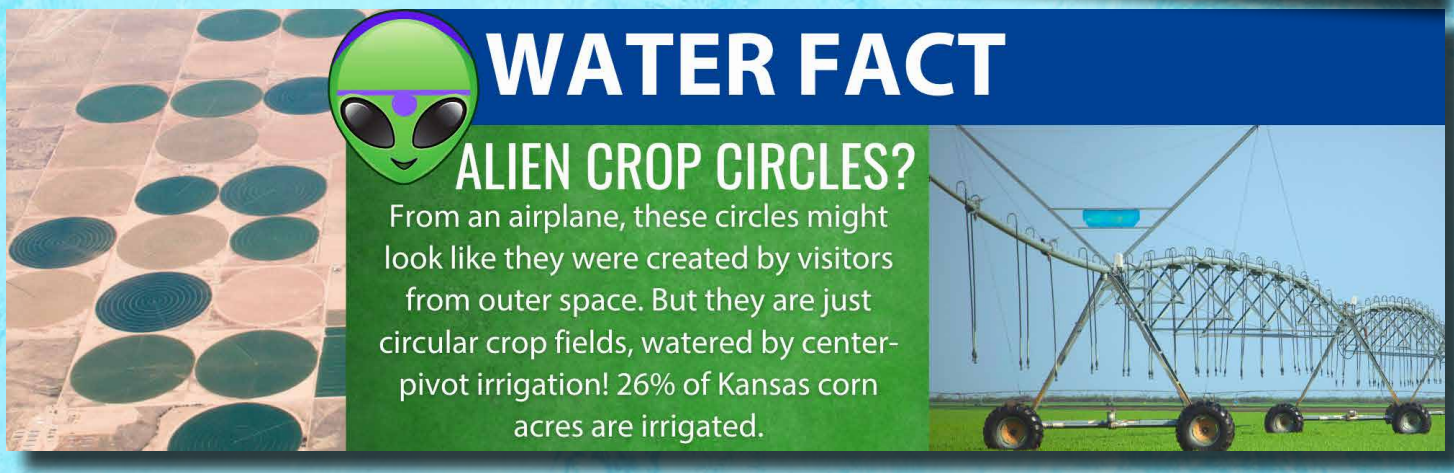
With our growing population and ever-increasing demand on our freshwater supply, it is more important than ever that we learn to conserve the limited freshwater supply.

Water is important for everyone, including farmers because they supply our food and products that we use every day to survive.

Since agriculture uses 42 percent of our available freshwater resources, farmers work very hard to conserve water. They use methods to sustain water resources for future generations. Some of these include the use of **irrigation** scheduling, drought-tolerant crops, cover crops, soil management, conservation tillage and thermal imaging.







FIND THE VOCAB WORDS! Ogallala Aquifer | Conservation

Getting to know the Ogallala...

The Ogallala Aquifer, also known as the High Plains Aquifer, is our nation's largest aquifer and is also one of the largest aquifers in the world. It is so large that it can hold as much water as Lake Huron. Due to its size, some geologists speculate it could take up to 6,000 years for the Ogallala Aquifer to be replenished with water if it ran dry. The aquifer was named by geologist N.H. Darton in 1898. He named it after Ogallala, Nebraska, a nearby town. Not only does the aquifer provide water for agricultural purposes, it supplies many of the surrounding areas with drinking water. Use the questions below to learn more about how aquifers work and their importance. As you are researching, make notes to prepare for a debate but make sure to research the questions before picking a stance.

Watch this Farmer Bill video to learn about aquifers!

WATCH ME

Review and Reflect . . .

1. Where does the water in an aquifer come from?
2. How does an aquifer work?
3. Why are aquifers important to us?
4. Explain the human impact on aquifers - both negative and positive.
5. Determine three or more factors which would cause one aquifer to dry out quicker than another.

Aquifer Regions

Water Is Worth Conserving!

Watch this Farmer Bill video to learn how farmers conserve water!

WATCH ME

We can't make more water! The amount of water on our planet will remain the same, but has the potential to shift into different forms such as ice and glaciers. Since we do not yet have cost effective and practical ways of desalinating ocean water, we must continue to conserve and create better practices and technologies for the freshwater we do have. Not only are farmers and other conservationists concerned with making sure that water resources are minimally expended, they also want to make sure that our freshwater sources stay fresh and uncontaminated. You learned about water **conservation** technologies from the video. Conservation technologies like no-till farming, and use of cover crops are examples of ways farmers conserve water and reduce potential freshwater contamination.

Watch this video to learn how farmers use advanced irrigation technology to conserve water!

WATCH ME

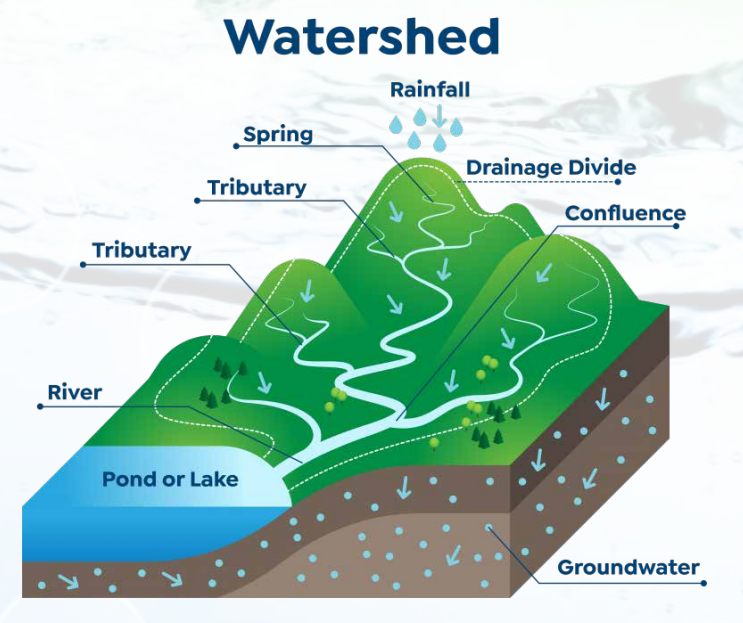
HELP WANTED

Water-Related Careers in Corn

- Irrigation Agrologist
- Watershed Technician
- Conservation & Natural Resource Policy Advisor
- Conservationist
- Agricultural Engineer

| Watershed | Irrigation | Freshwater | Infiltrate

CSI CORN SCIENCE INVESTIGATIONS



Create a model watershed by using this simulation to compare and contrast the impacts of different land covers, soil type, and storm severity.

SCAN ME

Runoff Simulation from modelmywatershed.org

INSIDE THE LAB

SHOWER CURTAIN WATERSHED

Water runoff is inevitable. The vast terrain of our land means there will always be areas that are higher than others. When water hits a steep surface, gravity pulls it down the quickest and easiest path. In **watersheds**, runoff can take place with the smallest elevation differences in soil. Runoff can carry soil, organic matter, and even fertilizers with it. Farmers work very hard to make sure that as much water **infiltrates** into soil as possible to reduce the amount of inputs like nutrients and other crop protection tools that could runoff into nearby waters. Farmers also want to reduce runoff because they paid for and applied those inputs to benefit their crops.

MATERIALS

- Plastic shower curtain
- Water soluble markers
- Spray bottle & water
- Food colorings
- Smartphone/camera

EXPERIMENT

Where does rainwater go?

Your teacher will provide instructions on how to investigate human impact on watershed quality and location.

The Mystery of Corn reader series is provided by:

KANSAS CORN STEM

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