



KIDS CONNECTION

Awesome Aqua: What to Know About H₂O

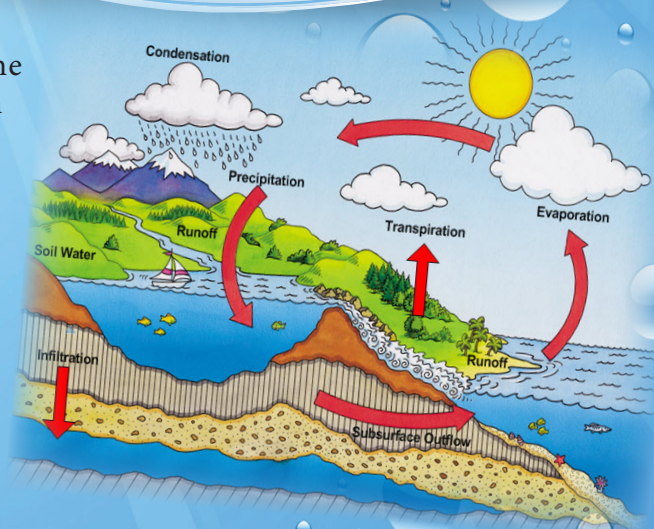
Where does water come from?

The earth has a limited amount of water. Water first reaches the earth as precipitation (rain, snow, sleet or hail) and ends up in lakes, ponds or streams, or seeps into the ground for storage. Groundwater storage areas are known as aquifers.

In Kansas, 90% of the water we use comes from aquifers. The remaining water comes from our surface water sources including reservoirs, ponds and streams.

The largest groundwater storage area in Kansas is found in the Ogallala-High Plains Aquifer. The Ogallala is one of the largest aquifers in the World.

FUN FACT!



Label each picture

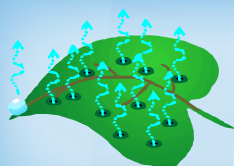
Condensation

Surface Water

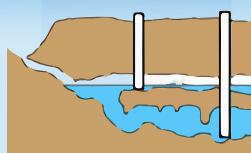
Transpiration

Groundwater

Precipitation



1.



2.



3.



4.



5.

Answers: 1. Transpiration; 2. Groundwater; 3. Precipitation; 4. Surface Water; 5. Condensation

Ground vs. Surface Water

We use groundwater when surface water is not available. Depending on where you live in Kansas, you may rely more on groundwater.

Western Kansas has a much lower average precipitation than eastern Kansas due to the Rocky Mountains. As storms move east over the Rockies, most of their moisture is deposited on the western slopes of the range. As you travel further away from the Rockies in Kansas, Gulf moisture is added to storms creating higher rainfall amounts in the eastern 1/3 the state.

WHAT YOU WILL NEED!

White flowers
Water
Food Coloring
Jars

TRY THIS!

SCIENCE ROCKS!

Add a few drops of food coloring to water in a glass jar - enough to create a vibrant color!
Add a separate white flower to each jar.
Leave your flowers in the colored water overnight.
This is a perfect experiment for young scientists wanting to learn how water moves through plants!



All Living Things Need Water!

All plants, animals and even you provide materials for our homes and food for our bodies. Your job is to go to school and help your parents with chores around the house. Everything needs water to do its job!

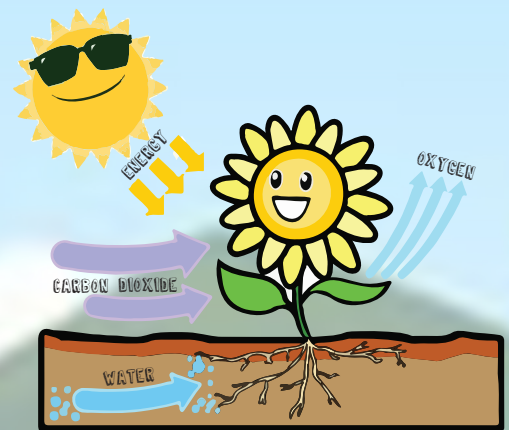
Your body is about 66% water.
Plants are almost 90% water.

FUN FACT!

PLANTS NEED A LOT OF WATER!

Plants need sunlight, nutrient rich soil and LOTS of water to grow. Plants use water to make their own nutrients (foods) in a process called photosynthesis.

The roots absorb water from the ground. The leaves absorb carbon dioxide from the atmosphere. The green chlorophyll pigments in the leaves capture the sun's rays and store the energy for later use. The process of photosynthesis converts the water to hydrogen (food) and oxygen (released into the air).



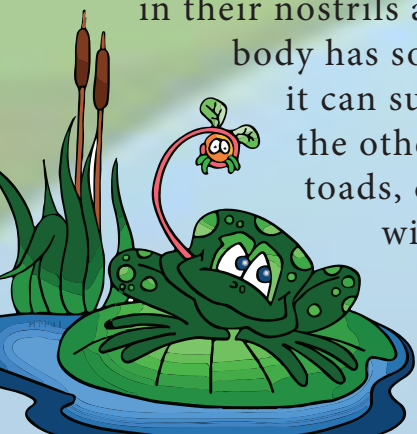
ANIMALS NEED WATER TOO!

Animals need water too! Water makes up about 75% of an animal's body. Animals get water from the food they eat, from fats and proteins in the body, and from drinking water in rivers, lakes, or even the dog bowl.

Animals use water to transport nutrients throughout their body and regulate body temperature. Their bodies have also adapted to meet the availability of water. When camels exhale, the water vapor in their breath becomes trapped in their nostrils and is reabsorbed into the body! A camel's body has so many unique ways to conserve water that it can survive for up to 40 days without water. On the other hand, amphibians, such as frogs and toads, cannot survive more than a couple days without a constant source of water.

A camel's hump does not store water. It actually stores fatty tissue.

FUN FACT!



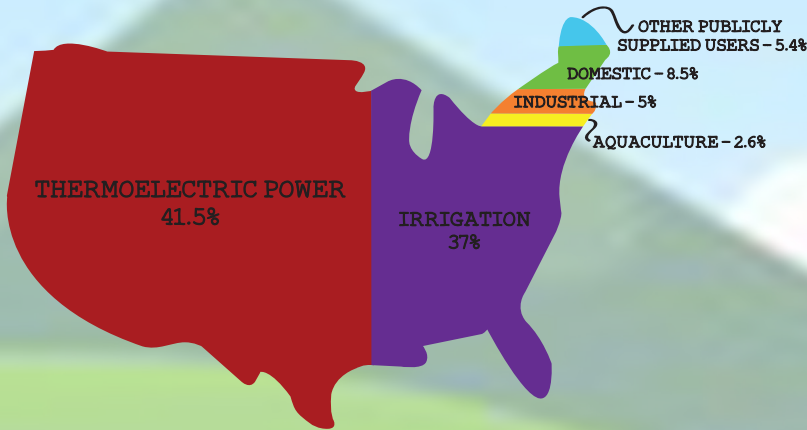
Each year, Kansans use enough water to fill **4 MILLION** football fields! Remember how we talked how import water is to plants?

85% of the water in Kansas is used for irrigation. Irrigation is how farmers make sure they get enough water to grow and produce the crops we eat or feed to our animals.

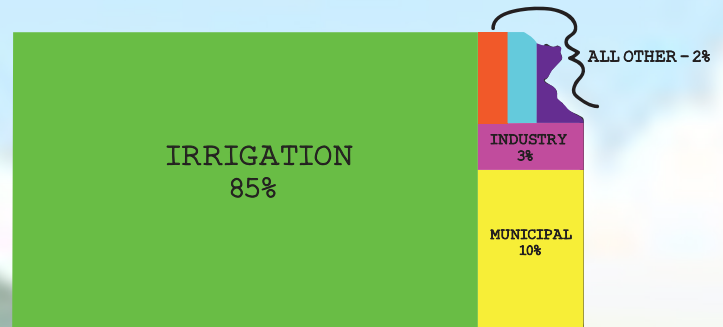
10% of the water we use is for municipal purposes - in our homes and cities. When you take a shower, brush your teeth, cook dinner you use water.



WATER USE IN THE U.S.



WATER USE IN KANSAS



ANIMALS IN AGRICULTURE...

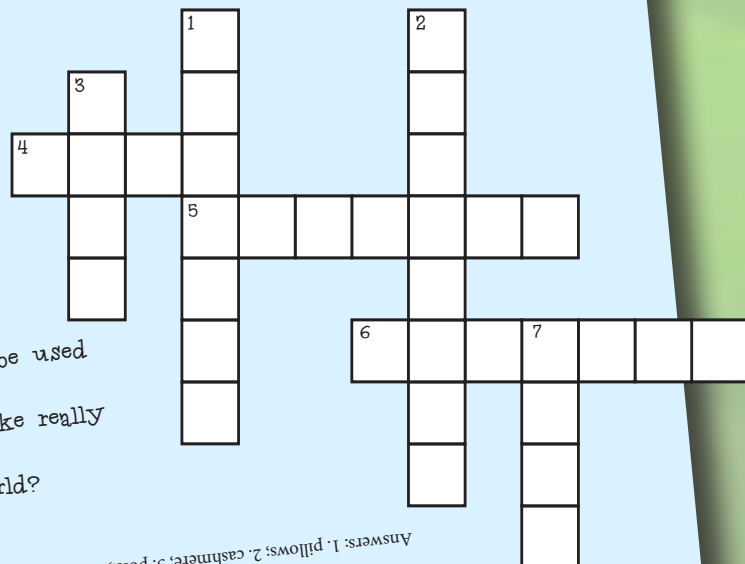
Animals play very important roles in our lives. Animals can be raised for food, they provide products important to everyday life and some of them are even our pets! You may not realize how many things come from animals.

ACROSS:

- Other than meat, what is one of the most commonly known products made from sheep? Hint: You use this to make clothing.
- What can the hide of animals be made into? Hint: You can use this to make purses and shoes.
- What do bees produce that can be used to make candles and lotion?

DOWN:

- What can the feathers of chicken, turkeys, ducks and geese be used to make?
- What is the soft wool of certain types of goats used to make really nice sweaters?
- Which meat is the most widely consumed meat in the world?
- Lard or pig's fat can be used to make what?



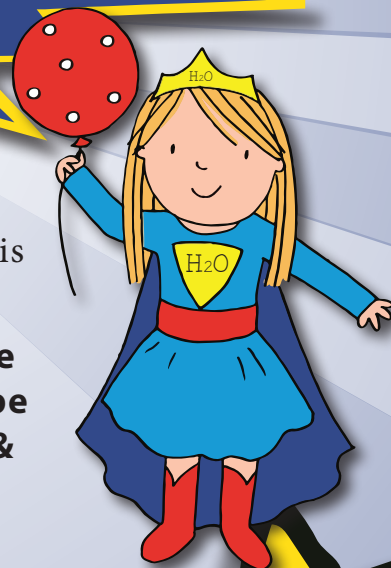
Answers: 1. pillows; 2. cashmere; 3. pork; 4. wool; 5. leather; 6. beeswax; 7. soap

STRETCH THE WATER SUPPLY



BE AN H₂O HERO!

97% of the Earth is salt water - so only 3% of the water on earth is for people, plants and animals. Some of that water is permanently frozen in ice caps.



What are some ways you can be an H₂O Hero & save water?

What happens when you cut your shower time by just one minute?

If you don't know how much time you spend in the shower, use the average person's time - 8 minutes.

1. How long do you spend in the shower? = _____ minutes
2. Multiply by the average shower flow x 2.2 gallons a minute = _____
3. Multiply answer #2 by the number of showers you take every week = _____ gallons per week
4. Multiply answer #3 by 52 weeks = _____ gallons per year

MAKE A DIFFERENCE

5. Subtract one minute from your regular shower time. = _____ minutes
6. Multiply that by the average shower flow: x 2.2 gallons a minute = _____
7. Multiply answer #6 by the number of shower you take per week = _____ gallons per week
8. Multiply answer #7 by 52 weeks = _____ gallons per year
9. Subtract answer #4 from answer #8 = _____ gallons saved per year

FARMERS STRETCH WATER

Agriculture places great demands on fresh water around the world. Farmers use 138.92 billion gallons of water a day globally for irrigation, livestock care and aquaculture. As the population of the world grows, it is important to conserve water to make sure we have enough to produce enough food for everyone.



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