



Indiana's Water Riches

Water: Where It comes From and Where It Goes

Sixth Grader Drinks Dinosaur Water!!

Last Friday, sixth grader Chris Wells poured a glass of cold water from a pitcher in her refrigerator. She didn't know it, but she was drinking groundwater. The water Chris, and most Americans, drink and wash with every day is the same water that has been on the earth since time began. Reporters from *Indiana's Water Riches* think that Chris' water could have been the same drunk by dinosaurs many years ago!

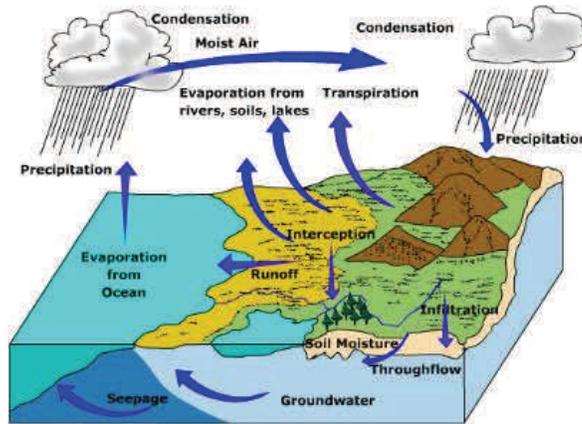
What might have happened to the water between the time the dinosaur and Chris each drank it? The answer to this question is explained by the Hydrologic Cycle which describes the movement of water from the sea to the atmosphere, to the land, and back to the sea.

Perhaps the dinosaur took a drink from a swamp in Canada.

When the dinosaur died, the water in his body infiltrated into the earth, moved downward, and became groundwater. The groundwater crept slowly through the rock and soil for tens of thousands of years. Some of this groundwater was carried into a lake through a spring. The lake emptied into a river which ran to the ocean. Along the river banks, willow tree roots took up some of the water to help it grow. Later, the leaves let some of their water escape into the atmosphere.

Meanwhile, back in the ocean, sharks drank some of the water that came from the dinosaur. Some water evaporated from the surface of the ocean when wind whipped up the waves. The liquid water turned into invisible water vapor and passed into the atmosphere. The warm, moist air moved away from the ocean and over a mountain range and got colder. Cold air can't hold as much water as warm air, so some big puffy clouds formed out of the invisible vapor. The water turned into little liquid water droplets.

These clouds rained and some of the water sank back into the soil and became groundwater again. This cycle probably happened thousands of times again before it was pumped up from Chris' well and through the faucet. The Hydrologic Cycle keeps going all the time. Water Riches reporters wonder who drank that water... George Washington? A pine tree? A whale? Or, perhaps, a dinosaur?



Vocabulary Words

Condensation

Process where a gas turns into a liquid.

Evaporation

Process where a liquid turns into a gas.

Groundwater

Water found under earth's surface.

Hydrologic Cycle

The never-ending movement of water from sea to atmosphere to land to sea.

Ice

Water in its solid phase.

Infiltration

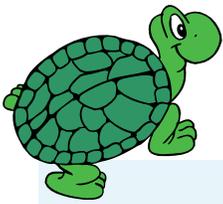
The movement of water into soil.

Precipitation

Water falling from the sky, such as rain, snow, hail and sleet.

Surface Water

Water found at the earth's surface, such as lakes, streams, rivers and oceans.



Ask Sheldon

Dear Sheldon,

Last night I was helping my mom fix spaghetti dinner. We heated the sauce in one pan and boiled water for the spaghetti noodles in another pan. While washing carrots in the sink, I noticed that there was water fogging up the inside of the kitchen windows. Where did the fog come from?

Alan Marinara



Dear Alan,

It sounds like you have a mini-Hydrologic Cycle in your kitchen. The water started out as a liquid in the spaghetti water pot. The stove acted like the sun, adding heat energy until some of the water molecules turned into invisible water vapor by jumping out of the pot. (Warm

air can hold more water vapor than cold air. That's why it can be so hot and sticky in the summer.) When the water vapor hit that cold kitchen window, it condensed, that is, it turned back into liquid water. That's what happens to air masses when they get colder by travelling over hills and mountains.

Sheldon

Dear Sheldon,

Here's a riddle for you. I will float, while iron sinks. I am flat in skating rinks. I will fall in winter's chill. I am in your freezer still. What am I?

Connie N, Drum

Dear Connie,

"Water you going to do when someone asks such a nice solid question?" I'll ask the readers to put their answers below.

Readers, Write your answer to the riddle here:



Experiment

Take a small glass of water and add a spoon of table salt. Mix it up so the salt dissolves. Set the dish on top of the refrigerator or outside in the sun where it will not be disturbed by anyone. After the water evaporates, what do you see?

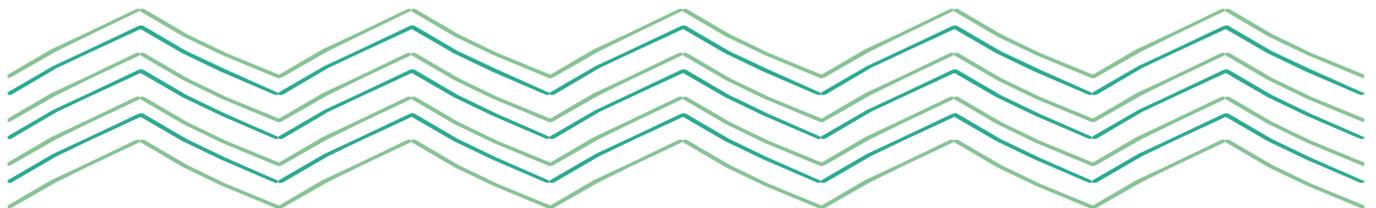
Why doesn't It Rain Salt Water?

In the last issue of *Indiana's Water Riches*, we learned that only 3 percent of the earth's water is not saltwater. It takes a lot of energy for people to take the salt out of water. Salt can be removed from water by boiling and collecting the steam or force the water through a very special filter to separate the water from the salt.

So, where does our freshwater come from? From the sun! It heats the ocean water and causes billions of water molecules jump out into the atmosphere every second, this process is called evaporation. The sun gives the energy needed to drive the earth's Hydrologic Cycle. The water vapor leaves the salt behind in the ocean.

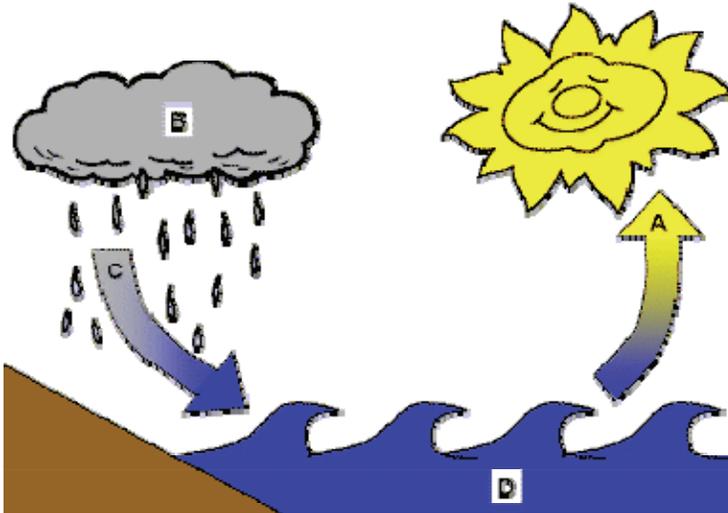
Indiana's Water Riches is part of a multimedia program presented by Purdue Cooperative Extension Service and 4-H Youth Development. Materials made possible by 1990 Indiana Crossroads Funds. Materials adapted for use in Indiana by Susan Edinger, Cheri Janssen, Paul Sharp, Sherry Anderson, Dianna Rathert.

Newsletter designed and edited by Natalie Daily Federer, 4-H Youth Development Extension Educator, Pulaski County (2010). Revised by Natalie Carroll (2013)



Indiana's Water Riches

Water: Where It comes From and Where It Goes

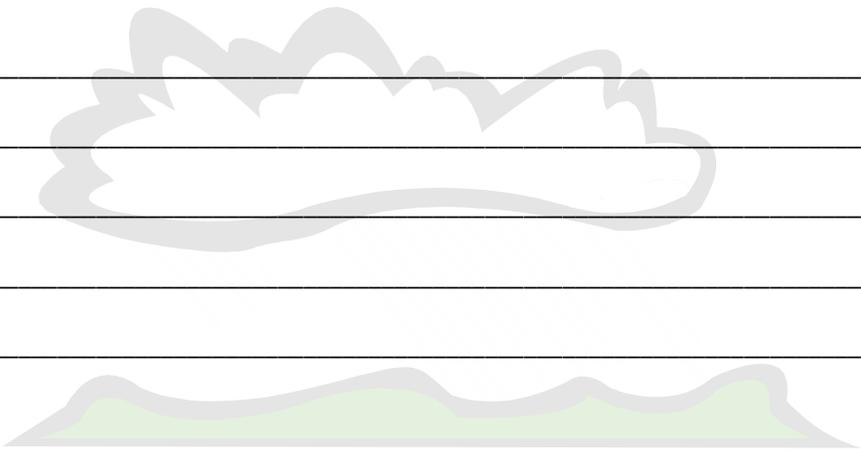


Fill in the word to match the diagram and the definition :

- (a) _____ is a process where a liquid turns into a gas.
- (b) _____ is a process where a gas turns into a liquid.
- (c) _____ is a process where water is falling from the sky, such as rain, snow, hail and sleet..
- (d) _____ is water found at the earth's surface, such as lakes, streams, rivers and oceans.

Take a Trip Around the Hydrologic Cycle

Pretend that you are tiny molecule of water, travelling around the Hydrologic Cycle. Write a story in the space below telling what happened on your trip. Where did you go? What parts of the world did you see? Did you freeze or become a gas? Were you different types of precipitation?



Water Conservation Tip

Take shorter showers. Make it a game. Keep an egg timer in the bathroom and see if you can get your shower down to three minutes. This can save up to 150 gallons of water per month.

