



# Indiana's Water Riches

## How we use it



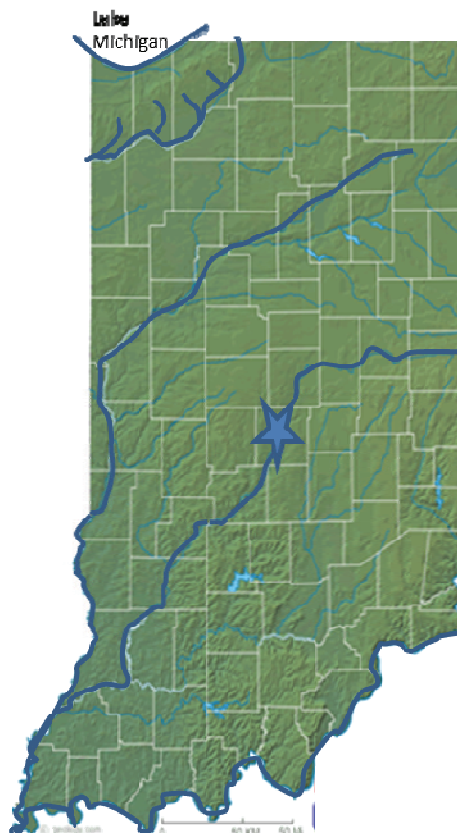
### Water, Water Everywhere but Only 3 Percent to Drink!

What would you see if you were in a spaceship looking down at Planet Earth? If there are no clouds, you would see blue oceans, snow-capped mountains, and land in shades of green and brown. Mostly, you would see oceans because they cover approximately 70 percent of the earth's surface!

Even though there is a large quantity of water, ocean water is salty and can't be used by humans to drink or irrigate plants because the salt dehydrates people and plants. Some animals, such as whales, have special adaptations to cope with living in salt water.

Only 3 percent of the earth's water is freshwater. Freshwater is found in lakes, streams, rivers, snow, and icebergs. Water is a natural resource and cannot be made by humans so our water has been recycled over and over again. The water that dinosaurs used millions of years ago is the same water we use today!

1. How much of the earth is water?
2. How much freshwater exists?
3. Why can't humans drink salt water?
4. Name three natural resources.



### Banking on Indiana's Water

The largest single source of freshwater in Indiana is Lake Michigan. We also use water from the Kankakee, Wabash, White, and Ohio Rivers. Which of these rivers is closest to your school? Answer:

Hints:

Label Indiana's four major rivers. Note that the Kankakee river is farthest north. The Ohio River makes Indiana's southern boundary. The White River runs through Indianapolis. The Wabash is between the Kankakee and White Rivers.

### Vocabulary Words

#### Dilution

Adding water to make something thinner (like paint) or less concentrated (like Kool aid).

#### Freshwater

Water without salt, found in lakes, streams, rivers, snow, and ice.

#### Hydrophilic

Having the quality of affinity for water; dissolves or mixes easily with water (like salt).

#### Hydrophobic

Having the quality of repelling water (like oil).

#### Irrigation

Watering a crop using spray, ditches, or a drip system.

#### Natural Resource

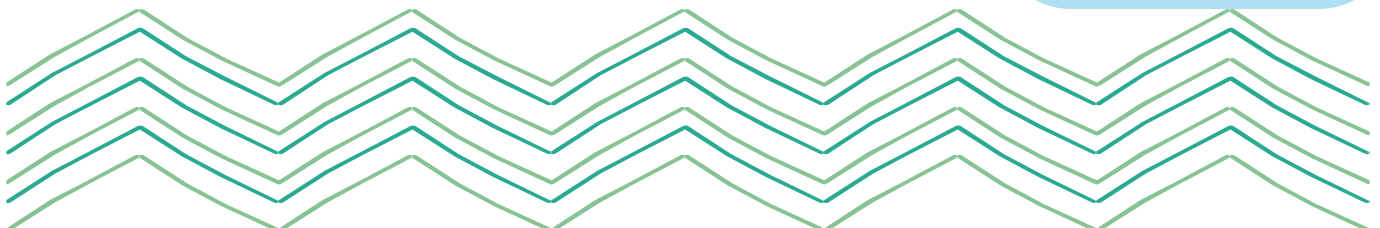
Useful products from the earth (not made by humans).

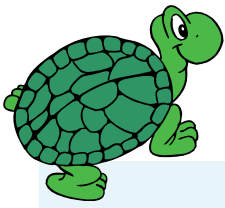
#### Saltwater

Water with salt in it, found in oceans and, occasionally, salty lakes.

#### Transportation

Moving from one place to





## Ask Sheldon

Dear Sheldon,

I help my brother make dinner for my mom before she comes home from work. We sometimes make our own salad dressing by mixing oil, vinegar, water and a little packet of powder. Why do we have to shake it up so much before we can put it on our salad?

Sally Greens

Dear Sally,

You have to shake up the dressing because oil is lighter than water and vinegar so it floats to the top. You are mixing liquids of different densities. This is what happens with a petroleum oil spill. The oil floats on top of the water.

Sheldon



Dear Sheldon,

I have heard that desalination plants are used in desert areas and countries like Kuwait and Saudi Arabia. What does a desalination plant do?

Leslie Morton

Dear Leslie,

Since only 3 percent of the earth's water is freshwater, people are looking for ways to remove the salt from saltwater. Desalination [De (remove), saline (salt), ization (process)] is the process of removing salt from salty water. A desalination plant removes salt from water so it is drinkable. This takes a lot of energy and money. Only a country with a lot of energy and little fresh water could afford to build these very expensive plants. Scientists are exploring cheaper desalination methods.

Sheldon



Image of a desalination plant in the Middle East

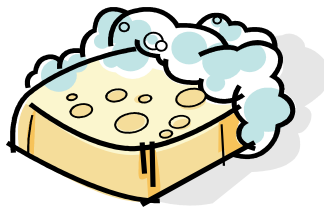
### How much water do you use?

Keep track of the water you use for three days. Make sure to include the following (these are just a few examples):

- Take a bath
- Washing clothes
- Washing dishes
- Flushing the toilet
- Brushing your teeth

### Bubbles Mean Trouble for Dirt

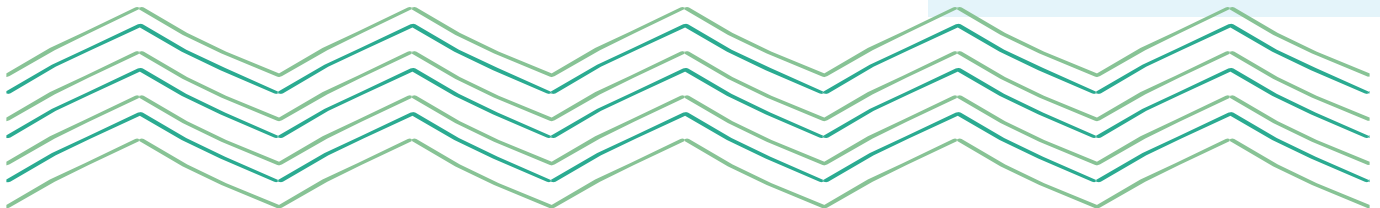
Have you ever wondered how soapy water cleans dishes, clothes and people? Soap is made by mixing something fatty and something alkaline together.



One end of the soap molecule grabs the water molecule. This end of the molecule is hydrophilic or "water-loving" while the other end grabs the fatty things like sweat and grease. This end is "hydrophobic" or "afraid of water." Now the dirt is on one end and the water is on the other end of the soap molecule. Rinsing with clean water washes the dirty, soapy water away. That's how soap gets things clean!

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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

## How we use it

### How do animals drink and use water?

Do elephants drink and use water the same as gold fish? What other things do animals use water for (besides drinking)? Write your own story about animals and water in the space below.

Name at least two kinds of animals and describe how they drink water. List any other ways they use water.

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### True or False

Circle the either T for true or F for false

- T or F      1/4 of the world is covered by water.
- T or F      We use water for transportation.
- T or F      Water is a natural resource.
- T or F      Humans can drink saltwater.
- T or F      Only 25% of the earth's water is not salt water.
- T or F      Hydrophilic means to fear or dislike water.

Name eight ways that you use water:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_

### Water Conservation Tip

Turn off the water when you are brushing your teeth. This saves clean water from being sent down the drain.

