



What's So Fresh About Fresh Water?



by Ellen Lawrence



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Consultant:

Howard Perlman, Hydrologist

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Water in Our Lives

Every day, we use lots of fresh water.

We splash it on our bodies and brush our teeth with it.

We also drink it and use it for growing food and cooking.

So what exactly is fresh water, and where does it come from?

How many ways do you use water each day?
Make a list in a notebook.





A person living
in the United
States uses up to 100
gallons (379 l) of fresh
water each day. That's
enough water to fill
three bathtubs!



Fresh or Salty?

There are two main types of water on Earth—salt water and fresh water.

Salt water is found in oceans and seas, and in some lakes.

It contains lots of tiny **particles** of salt that are too small to see.

Fresh water contains fewer salt particles.

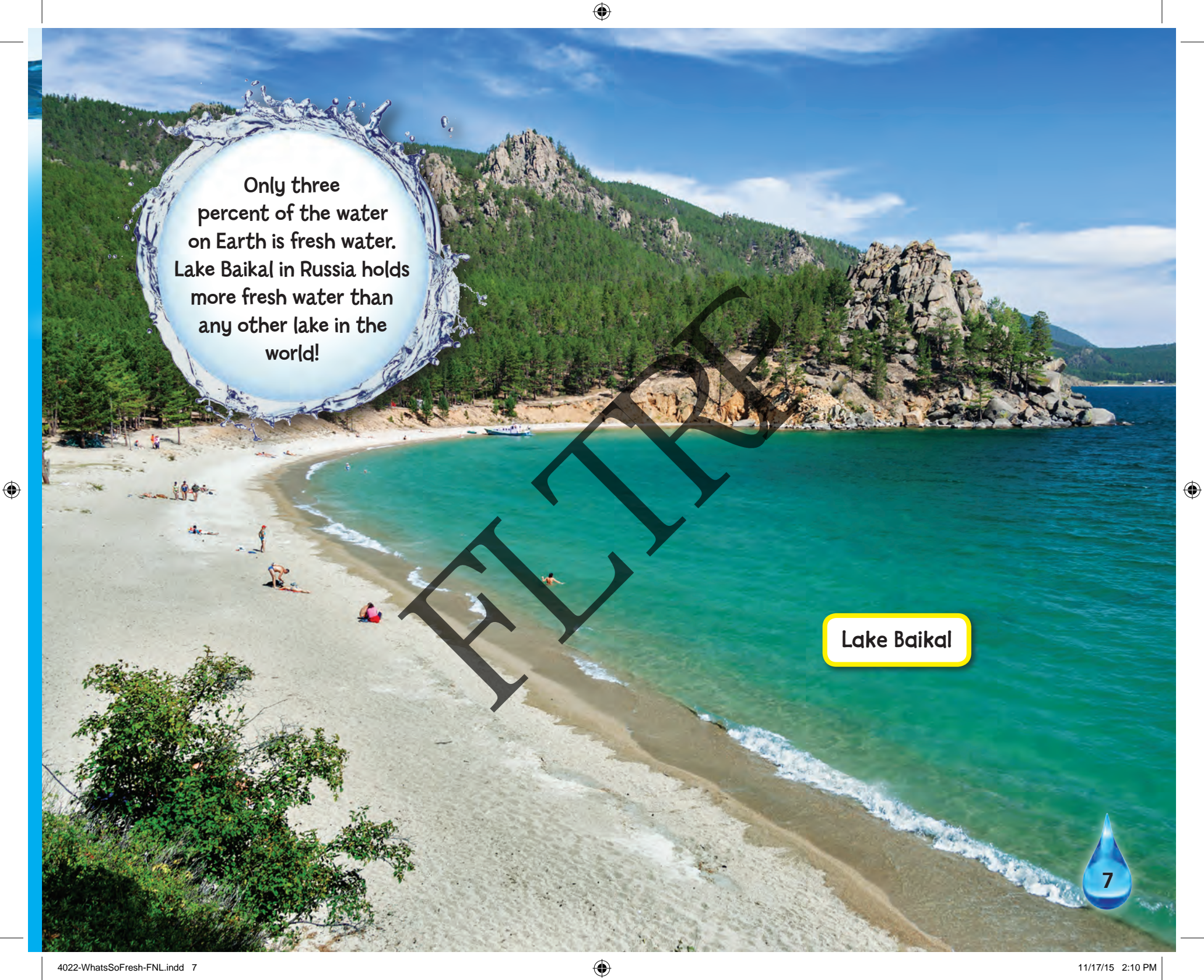
It's found in streams, rivers, ponds, and in most lakes.



salty ocean water

Where do you think the salt in salt water comes from?
(The answer is on page 24.)





Only three
percent of the water
on Earth is fresh water.
Lake Baikal in Russia holds
more fresh water than
any other lake in the
world!

Lake Baikal

Why Is Fresh Water Important?

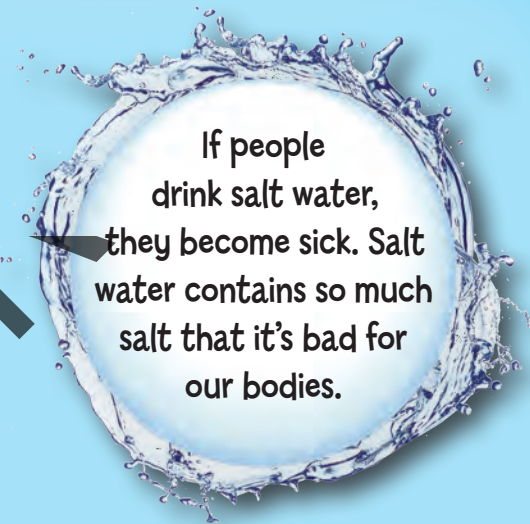
To stay healthy, people need to drink fresh water.


From tiny ants to giant elephants, most animals need fresh water, too.

Trees, grass, and other plants also depend on water for survival.

They take in water from the ground with their roots.

Without fresh water, most animals and plants would die.





An adult elephant
must drink more
than 50 gallons
(189 l) of water each
day to stay healthy!

Where do you think
fresh water comes from?

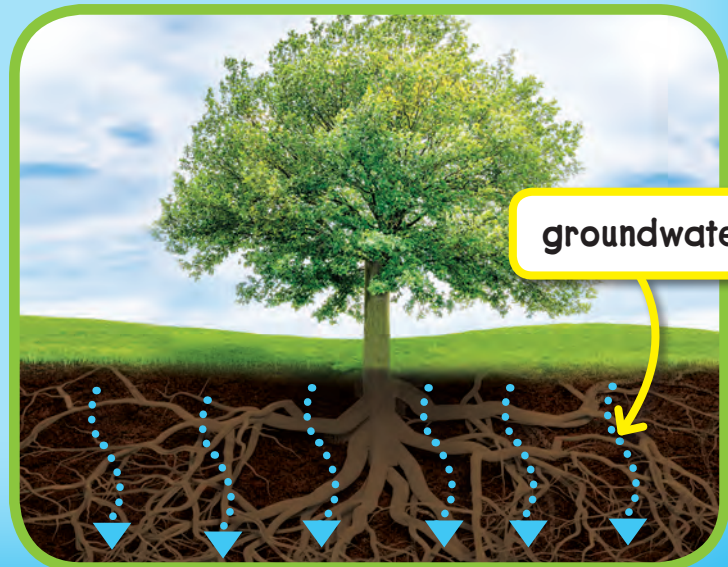
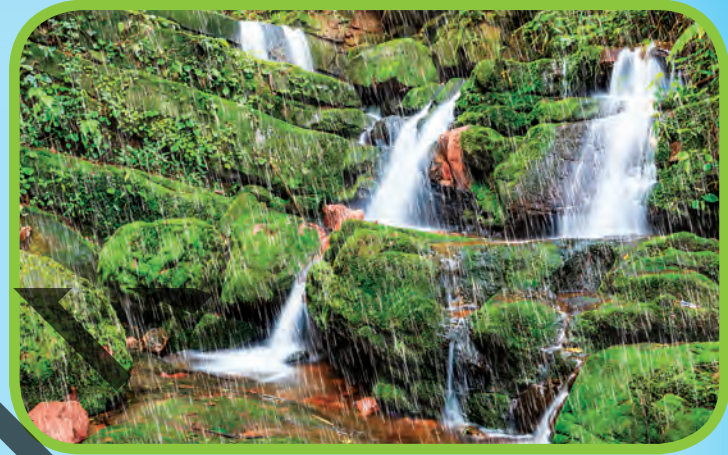
Earth's Fresh Water

When it rains, fresh water falls from clouds.

The water trickles over the land to form streams and rivers that flow into ponds and lakes.

Some of the rain soaks into the ground.

This underground water is called groundwater.



How do you think fresh water gets into clouds?

Snow is made of frozen fresh water. Just like rain, it falls from clouds and lands on the ground. When snow melts, it becomes liquid fresh water.

melting snow



Rain and Snow

How does water become rain?

When water on Earth's surface is warmed by the sun, some of it changes into a **gas**.

The gas, called water vapor, floats high into the sky, where it's cold.

The vapor cools and turns back into tiny droplets of liquid water that form clouds.

Then the water in the clouds falls back down to Earth as rain.

This process is called the **water cycle**.

Sometimes, water vapor in the sky gets so cold that it freezes and makes snowflakes. The snowflakes form clouds and then fall back to Earth.



snowflakes falling



The Water Cycle in Action

The sun heats up water, which turns into water vapor.

Water vapor rises into the air.

The vapor cools and becomes water droplets that form clouds.

Rain falls to Earth.

13



Salt Water into Fresh

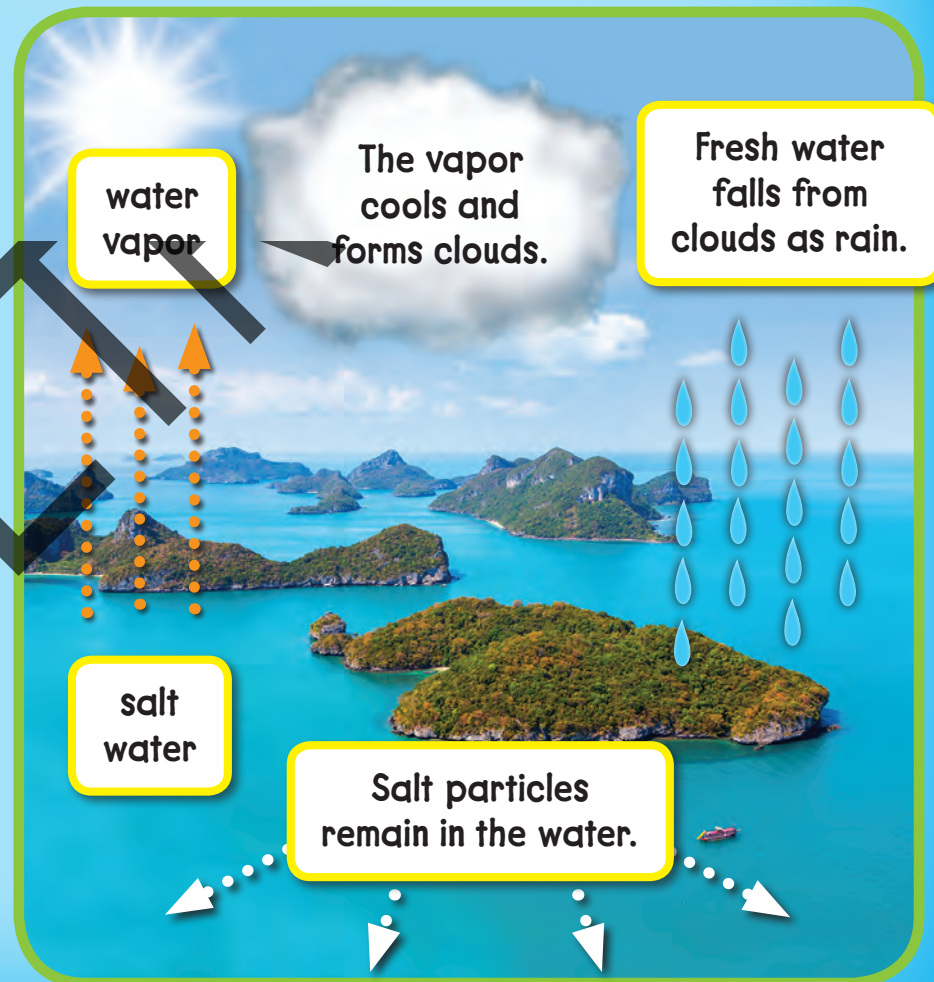
Salt water is also part of the water cycle.

When salty ocean water is warmed by the sun, some of it becomes water vapor.

However, the salt particles get left behind in the ocean.

The water vapor cools and becomes raindrops in clouds.

Then the once-salty water falls back to Earth as fresh water!





fresh water in a river

When it rains,
fresh water splashes
down into salty oceans.
Rivers also carry fresh water
into oceans. Without this fresh
water, oceans would become
too salty for fish and other
ocean animals to
live in.

salt water in the ocean

Frozen Fresh Water

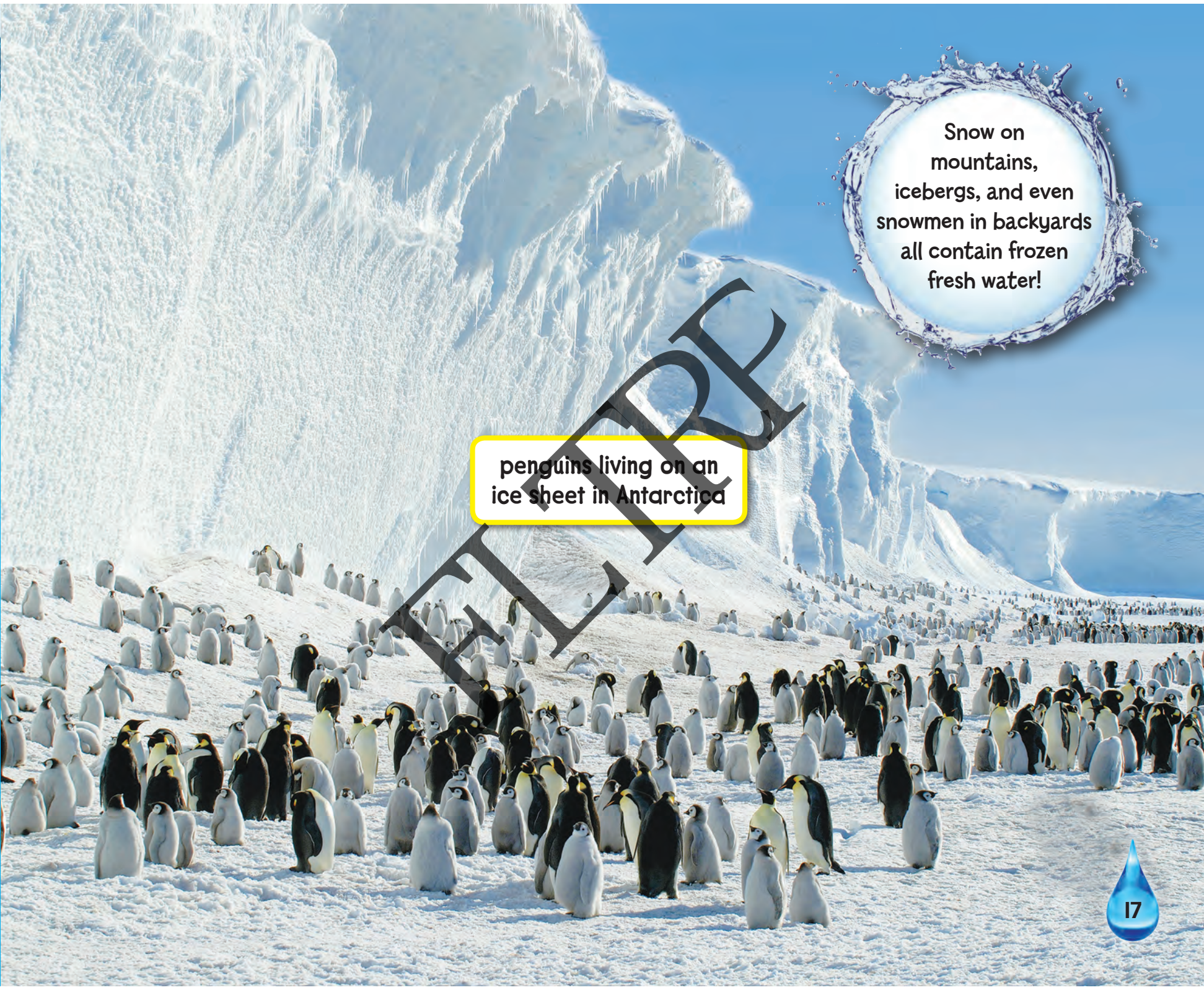
Most of Earth's fresh water is solid ice.

This ice is found in frozen, river-like masses called **glaciers**.

It's also found in giant sheets that cover Greenland and Antarctica.

The ice sheet that stretches across Antarctica is the size of the United States and Mexico combined!





Snow on
mountains,
icebergs, and even
snowmen in backyards
all contain frozen
fresh water!

penguins living on an
ice sheet in Antarctica

Collecting Fresh Water

In many places, people collect and store fresh water in **reservoirs**.

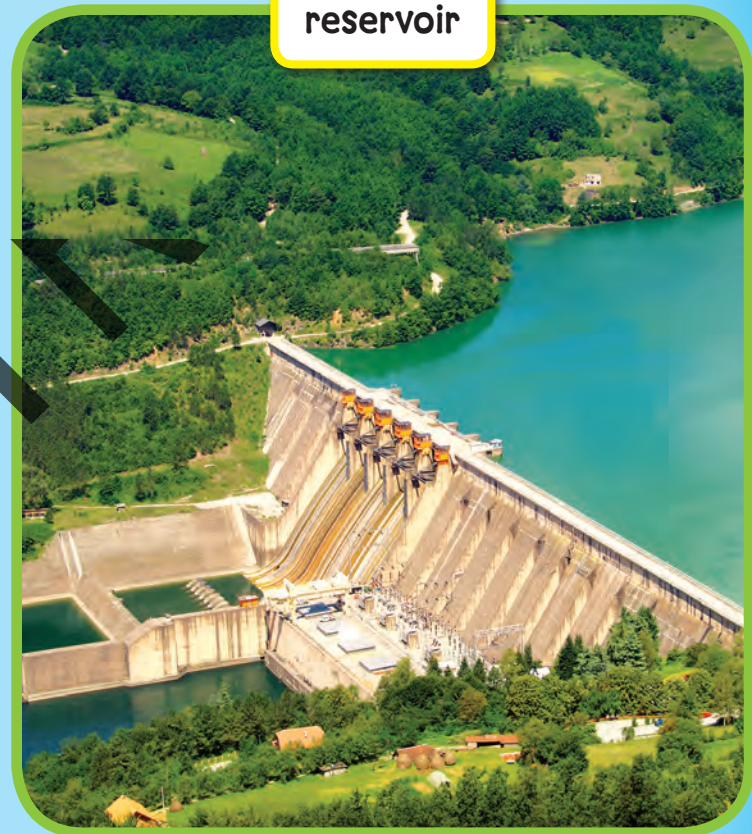
Fresh water flows into reservoirs from rivers.


Water also collects in reservoirs when it rains.

To reach homes and businesses, water from a reservoir travels through miles of pipes.

Then we turn on faucets and fresh water pours out!

reservoir



A photograph of two boys washing a golden retriever in a metal tub on a lawn. One boy is spraying water on the dog's back with a hose, while the other is scrubbing its head with an orange brush. A large, stylized water splash graphic contains text about aquifers. A blue water droplet icon with the number 19 is in the bottom right corner.

Sometimes
a large amount
of fresh water collects
underground in one place.
This is called an aquifer
(AK-wuh-fur). Large pumps
bring the groundwater
to the surface for
people to use.

Earth's Precious Water

Only a small amount of Earth's water is liquid fresh water.

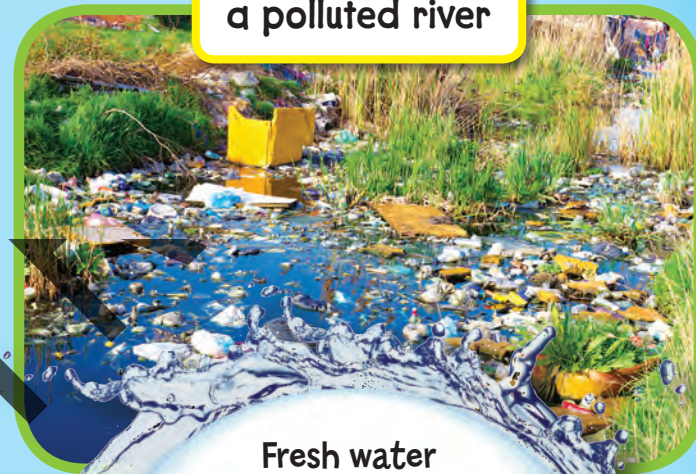
So it's important not to **pollute** it with chemicals and trash.

People should also be careful not to waste fresh water.

Without it, people, animals, and plants could not survive.

So let's all take care of Earth's precious fresh water!

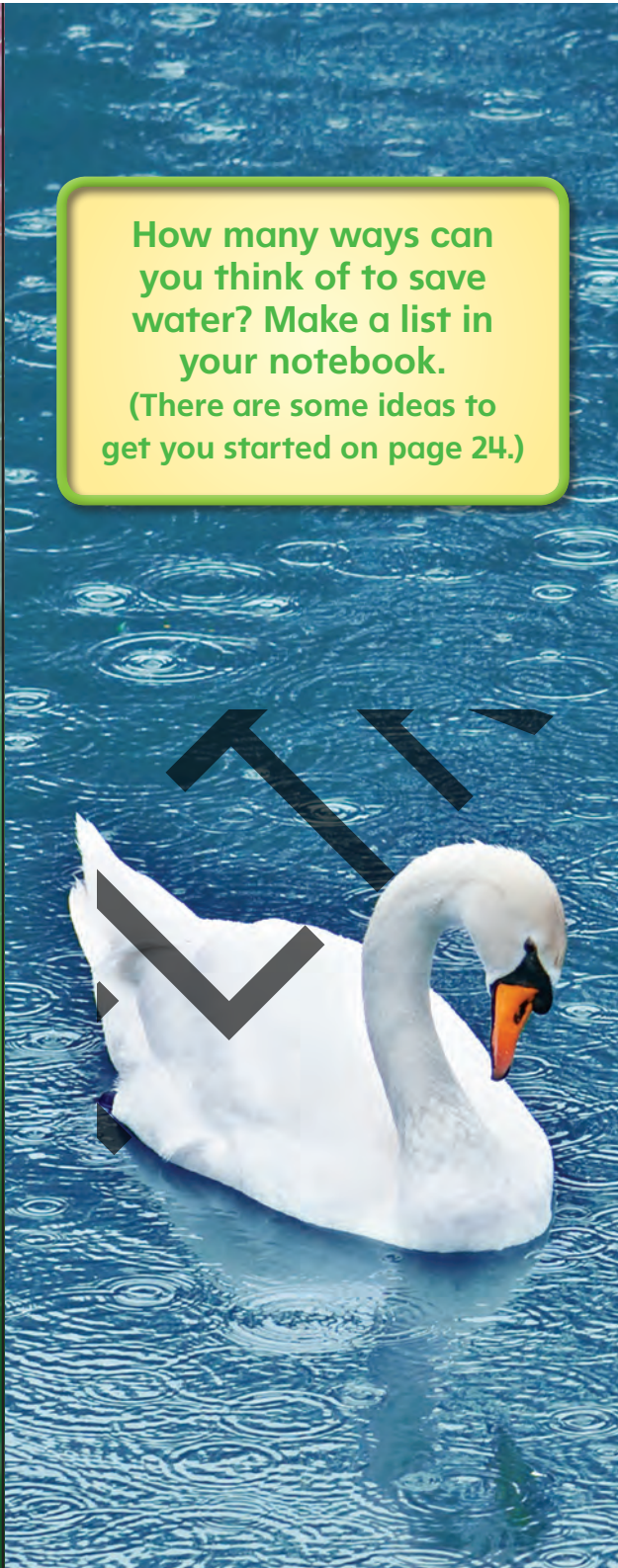
a polluted river



Fresh water can become polluted in many ways. Sometimes factories dump waste into rivers and lakes. Some farmers spray chemicals on their fields to kill weeds and insects. These chemicals can then seep into the groundwater.



How many ways can you think of to save water? Make a list in your notebook.
(There are some ideas to get you started on page 24.)



Science Lab

You've discovered that water has three states—liquid, solid, and gas. In this investigation, you will see water's changing states in action.

1. Pour about 0.5 inch (1.3 cm) of water into a plastic cup. Place the cup in a freezer.

Do you think the water will change? How?

Write your prediction in your notebook.

2. After two hours, remove the cup from the freezer.

What do you observe? Does your prediction match what happened?

3. Put the cup in a warm place.

What do you think will happen next?

Write your prediction in your notebook.

You will need:

- Water
- A clear plastic cup
- A notebook and a pencil

4. After 30 minutes, check the cup.

What do you observe inside the cup?

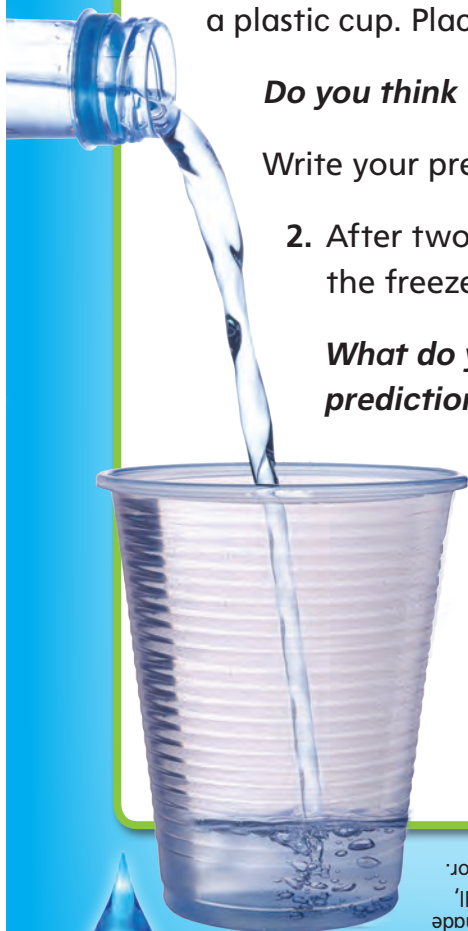
Does your prediction match what happened? What do you observe on the outside of the cup? What do you think has happened?

5. Stand the cup in a very warm place, such as a sunny windowsill.

What do you think will happen to the water now?

Write your prediction in your notebook.

Answers:
In the freezer, the liquid water changed into solid ice. When the cup was removed from the freezer, the ice inside the cup melted and became liquid water again. Drops of water also appeared on the outside of the cup. Why? Water vapor in the air touched the cold cup. This made the vapor cool down and become liquid water. When the cup was left on a sunny windowsill, some of the water from the inside and outside of the cup became warm and turned into vapor.



Science Words



gas (GASS) matter that floats in air and is neither a liquid nor a solid; most gases, such as water vapor, are invisible



glaciers (GLAY-shurz) huge, slow-moving masses of ice that are often about 100 feet (30.5 m) thick



particles (PAR-ti-kuhlz) tiny pieces of something



pollute (puh-LOOT) to release harmful substances into the environment



reservoirs (REZ-ur-vwarz) natural or human-made lakes where fresh water is stored



water cycle (WAH-tur SYE-kuhl) the movement of water from Earth to the sky and then back down again

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Read More

Lawrence, Ellen. *Poisoned Rivers and Lakes (Green World, Clean World).* New York: Bearport (2014).

Nadeau, Isaac. *Water in Glaciers (The Water Cycle).* New York: Rosen (2003).

Learn More Online

To learn more about fresh water, visit
www.bearportpublishing.com/DripDripDrop

About the Author

Ellen Lawrence lives in the United Kingdom. Her favorite books to write are those about nature and animals. In fact, the first book Ellen bought for herself, when she was six years old, was the story of a gorilla named Patty Cake that was born in New York's Central Park Zoo

Answers

Page 6: The salt in salt water comes from rocks on land that contain tiny particles of salt. When ocean waves break off bits of rocky cliffs or when rivers carry tiny bits of rock into the ocean, salt is carried into the water, too.

Page 21: Here are some ways to save water:

- Never leave the water running when you brush your teeth.
- Take a shower instead of a bath—it uses less water.
- Tell adults not to run the dishwasher until it is completely full.





What's So Fresh About Fresh Water?

We need fresh water to live, but most of the water on Earth is salty. So where does fresh water come from? From rivers and lakes, to vast ice sheets and glaciers, look inside to learn all about fresh water—one of Earth's most important resources!

Covered in Water

Say Hello to H₂O

The Water Beneath Your Feet

Wet, Blue, and Good for You

What's So Fresh About Fresh Water?

Why Is Seawater Salty?

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