

# Clean and Conserve Your Water

illustrations by Peter Grosshauser

HEALTHY  
PERSONAL  
HYGIENE

SURFACE  
SANITATION

SOAP SCIENCE

WISE WATER  
CHOICES

PROTECTING  
NATURAL  
ENVIRONMENTS



# Healthy Personal Hygiene

## WHY USE SOAP?

- Soap helps with hygiene, which means staying healthy through actions that prevent disease.
- Soap removes germs better than just rubbing your hands together with water.
- Washing your hands with soap is a habit that helps keep you healthy!
- The simplest way to get disease-causing germs off your hands is to wash with soap and water.

HAVE A  
HAND WASHING  
PARTY!



### 1. Get ready!

Roll up your sleeves and get your hands wet, then turn off the faucet.



### 2. Get soapy!

Rub soap all over your hands until you have some bubbles or foam.



### 3. Scrub those hands!

Rub your hands together for at least 20 seconds. Sing the **Hand Washing Song** or count to 20 to make sure you give the soap plenty of time to work! Be sure to scrub all the parts of your hands – front, back and your wrists.



### 4. Rinse germs away!

Use clean water from the faucet to rinse all of the soap off of your hands. Don't forget to turn off the faucet!



### 5. Dry off!

Shake your hands dry or use a clean towel.

## BEFORE OR AFTER?

To stay healthy, you should wash your hands before some activities and after others. Some tasks require washing hands both before and after. Determine if you should wash your hands **BEFORE**, **AFTER** or both **BEFORE AND AFTER** for the following activities. See answers on the back cover.

- Making a snack
- Using the bathroom
- Taking care of a pet
- Going to bed
- Eating
- Blowing your nose
- Helping change a younger sibling's diaper
- Bandaging a cut or other minor injury

## HAND WASHING SONG

Can be sung to the tune of *Frère Jacques* (*Are You Sleeping?*).

Lather with soap  
Rub your palms together  
Now the backs  
Of your hands  
Interlace your fingers  
Cleaning in between them  
Now the thumbs  
Clean your nails

# Surface Sanitation

Germs are everywhere. Each time we touch something, we can spread germs or pick up new germs. Water is an important resource to help us wash and clean the places where we live, go to school and play. Washing hands frequently with soap and water and cleaning surfaces with cleaners can help wash germs away. Make sure to turn off all faucets when finished washing to conserve water! We all touch surfaces like counters, doorknobs

and lunchroom tables every day. Surface sanitation is the process of cleaning these surfaces properly to prevent the spread of germs.

## DIRECTIONS

Circle the differences in the two scenes below. Which one of the two scenes contains healthy habits? List the healthy habits you see. Check your answers on the back cover.

## GIVE YOUR HANDS A BREAK!

For the rest of the day, send your hands on a holiday by avoiding touching anything with your hands. Use your hip to push open a door. Move a book aside with your elbow. It may be difficult not to use your hands! That shows how many places germs can gather and why cleaning these surfaces is so important.

In addition to cleaning surfaces, try to keep germs from spreading by covering your mouth with the crook of your elbow or with a handkerchief when you sneeze or cough. If you forget, make sure to immediately wash the germs away with soap and clean water.



# Soap Science

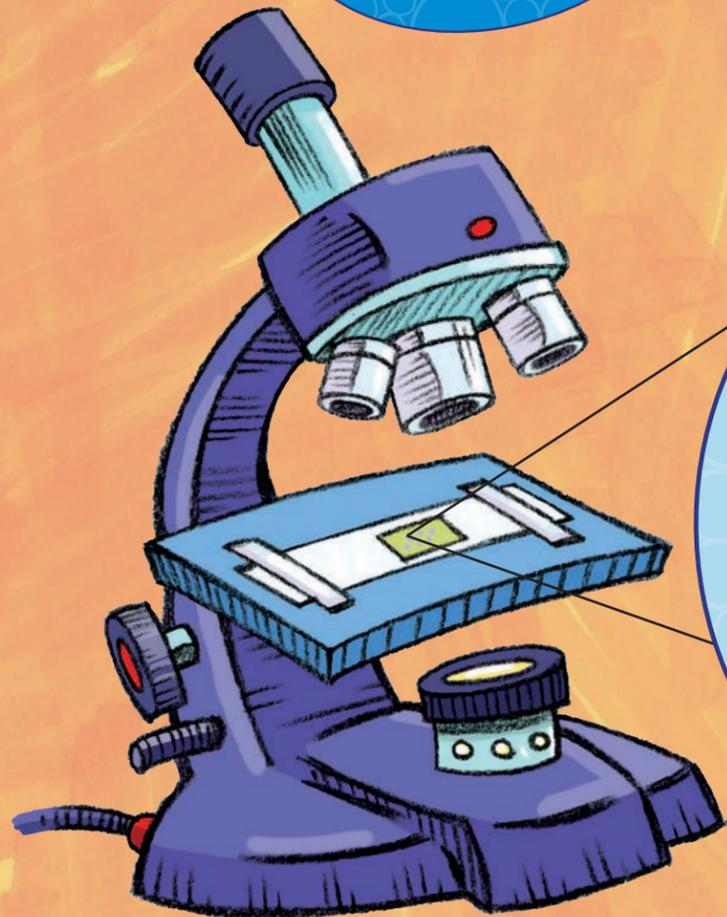
Germs are disease-causing microorganisms. Microorganisms are essential to life and are found everywhere: in air, food, plants, animals, soil and water. They are also found on just about every surface, including inside your body. There are many types of microorganisms, including bacteria, fungi, viruses and parasites.

Microorganisms are so tiny that they cannot be seen without the help of a microscope. Scientists use microscopes to view microorganisms, such as germs, and other tiny molecules, including soap molecules.

Washing your hands with soap and water and cleaning common surfaces are two of the best ways to stay healthy and prevent illness. Why? Because they remove germs.

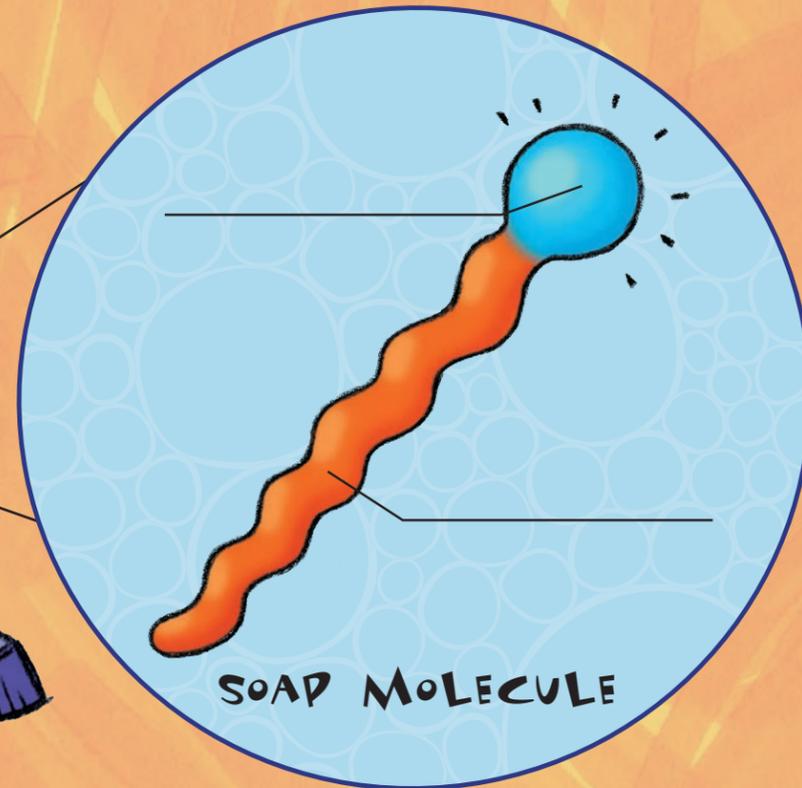
## Microorganism

Micro = very small  
Organism = living thing



## LABEL THE SOAP MOLECULE

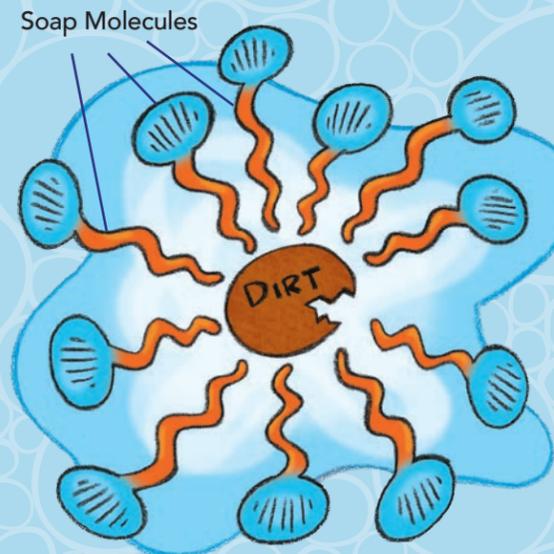
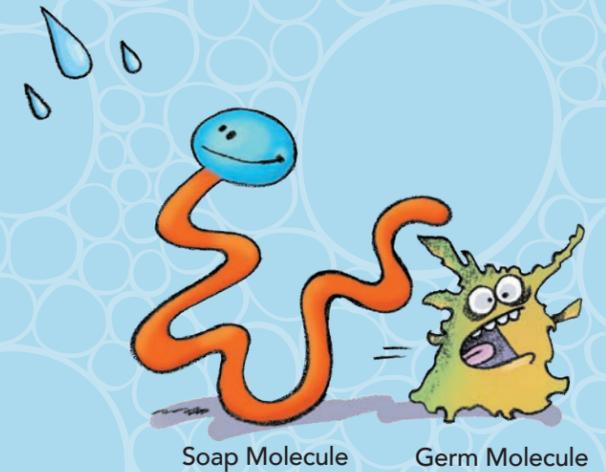
Check your answers on the back.  
hydrophilic head (water loving)  
hydrophobic tail (water fearing)



## WHAT IS SOAP?

Soap consists of long molecules that have two components: a hydrophilic head and a hydrophobic tail.

The water-loving (**hydrophilic**) head of the molecule is attracted to water. The water-fearing (**hydrophobic**) tail of the soap molecule is attracted to dirt and germs. The tails of the soap molecules attach to dirt molecules.



Through rubbing and friction, soap molecules eventually arrange themselves so that the soap molecules surround the dirt molecules with the **hydrophilic** heads facing out toward the water.

Using water to rinse removes the dirt and soap molecules all at once from the surface.

## TRY THIS!

1. Pour some water into a glass. Add food coloring to the water. Then add vegetable oil and mix well. Do oil and water mix?
2. Now add a little bit of liquid soap (such as dish or hand soap). Mix thoroughly. Do the liquids mix with the addition of soap?
3. Describe how soap's hydrophilic head and hydrophobic tail prevent oil and water from separating.

Check your answers on the back.

# Wise Water Choices

YOUR CHOICES MATTER!  
FIND OUT WHY  
IN THIS WATERY GAME.

HEADWATERS  
(START)

WATER FESTIVAL!

Learn more about water here!  
Start over on your next turn.

## LESSONS FROM THE WATER FESTIVAL

- Water the lawn in the morning or evening to minimize evaporation.
- Bag up your pet waste and put it in the trash to avoid contaminating local water sources.

LAKE (FINISH)  
Congratulations!

You have kept yourself and your environment healthy. Now you can teach your friends and family how to stay healthy, too!

You turn off the water while brushing your teeth. Move ahead 2 spaces.

You throw trash on the ground. Skip a turn.

You water your lawn during the middle of the day. Learn about the best times to water your lawn by going to the Water Festival.

You take a shorter shower. Move ahead 1 space.

You don't clean up your pet's poop. Learn why scooping poop matters by going to the Water Festival.

You wait for a full load of laundry before starting the washing machine. Move ahead 2 spaces.

You turn off the faucet after washing your hands. Take another turn.

Your class organizes a cleanup day in the community and picks up trash. All players advance to the next red space.

## HOW TO PLAY

1. Find a bottle top, coin or rock to use as a game piece for each player.
2. Start at the headwaters of the river and roll a die to determine how many spaces to move down the river. (If you do not have dice then you can use paper numbered 1-6 and draw a number.)
3. Follow the instructions on the space where you land. If you land on an open space, stay there until your next turn.
4. Roll the die once per turn. After each player moves and follows the instructions, the next player to the left takes a turn.
5. If you are sent to the Water Festival to learn more about water, you must return to the headwaters on your next turn.
6. The first player to make it from the headwaters to the lake wins! You do not need to land directly on the lake space to win.

# Protecting Natural Environments

## BECOME A WATERSTAR!

Circle the actions that prevent dirt and germs from spreading and keep you healthy.  
Draw a square around the actions that help keep the environment clean and healthy.



## WATERSTAR QUIZ

Choose the best answer to the following questions.  
Check your answers on the back.

1. For how long should you wash your hands?
  - a. 10 seconds
  - b. 15 seconds
  - c. 20 seconds
  - d. None of the above
2. True or False? The only time you need to wash your hands is before eating. \_\_\_\_\_
3. What is a good way to prevent the spread of germs?
  - a. Wash your hands
  - b. Cover your sneeze with your elbow
  - c. Clean surfaces with sanitizing solution or soap
  - d. All of the above
4. True or False? Soap's structure makes it a good cleaner because it is attracted to both water and dirt.  
\_\_\_\_\_
5. You can conserve water by
  - a. Letting the water run while you brush your teeth.
  - b. Taking shorter showers.
  - c. Watering your lawn in the middle of the day.
  - d. Leaving pet waste for the rain to wash away.
6. Become a WaterStar! List three actions you will take to stay germ-free and to conserve water in your home and school.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Answer Key

## BEFORE OR AFTER? P. 3

- Making a snack (**Before**)
- Using the bathroom (**After**)
- Taking care of a pet (**After**)
- Going to bed (**Before and After**)
- Eating (**Before**)
- Blowing your nose (**After**)
- Helping change a younger sibling's diaper (**After**)
- Bandaging a cut or other minor injury (**Before and After**)

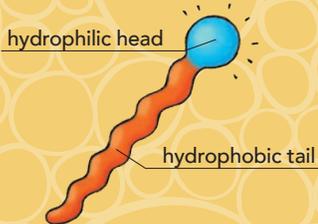
## SURFACE SANITATION, P. 4-5

The scene on the right contains healthy habits.



Healthy Habits: clean surfaces; wash hands; use a tissue to wipe your nose; sneeze into your elbow; turn off faucets

## LABEL THE SOAP MOLECULE, P. 6



## TRY THIS! P. 7

Step 3: Soap's hydrophilic head is attracted to water and attaches to water molecules. The other end of the soap molecule, the hydrophobic tail, attaches to the oil molecules. This prevents oil and water molecules from separating, as they do with just water and oil present. This property of soap makes it an **emulsifier**.

## BECOME A WATERSTAR, P. 10-11



## WATERSTAR QUIZ, P. 11

1. c.
2. False
3. d.
4. True
5. b.
6. There are many actions you can take to become a WaterStar.

Here are just a few:

- Wash your hands every time you use the toilet and before you eat
- Help clean the surfaces in your kitchen and bathroom
- Turn off the faucet while brushing teeth
- Take shorter showers
- Pick up your pet's waste (and then wash your hands!)
- Place all trash in a trash bin

CLEAN AND CONSERVE EDUCATION PROGRAM IS BROUGHT TO YOU BY:



### Project WET Foundation

Vision: Every child understands and values water through action-oriented education, ensuring a sustainable future.  
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#### Project Team:

Morgan Close, International Program Manager, Project WET Foundation  
John Etgen, Project Leader, Project WET Foundation  
Meg Long, Financial Management, Project WET Foundation  
Dennis Nelson, President and CEO, Science methods contributor, Project WET Foundation  
Julia Nelson, USA Program Manager, Project WET Foundation  
Nicole Rosenleaf Ritter, Communications Manager, Project WET Foundation  
Jessica Solberg, Publications Manager, Project WET Foundation

Larry Berger, PhD., Executive Vice President and Chief Technology Officer, Ecolab  
Kari Bjorhus, Vice President, Global Communications, Ecolab  
Roman Blahoski, Director, Communications, Ecolab  
Eliza A. Chlebeck, Senior Manager, Sustainability Communications, Ecolab  
Mesa Denny, Manager, Internal Communications, Ecolab  
John Hanlin, PhD., Vice President, Food Safety and Public Health, RD&E, Ecolab  
Lisa Maloney-Vinz, Program Manager, Community Relations, Ecolab  
Mike Monahan, Senior Vice President, External Relations, Ecolab  
Jamice Obiany, Director, Community Relations-Grants Management, Ecolab  
Raj V. Rajan, PhD., Vice President, Global Sustainability, Ecolab  
Kris Taylor, Vice President, Community Relations, Ecolab  
Emilio Tenuta, Vice President, Corporate Sustainability, Ecolab  
Shannon Toren, Director, Community Relations-Employee Engagement, Ecolab

Designed by Abby McMillen, folk dog art.  
Illustrated by Peter Grosshauser.

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Dennis L. Nelson, President and CEO

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#### Contact Us:

Project WET Foundation  
1001 W. Oak Street, Suite 210  
Bozeman, MT 59715 USA  
1-406-585-2236  
1-866-337-5486 (toll free in the USA)  
1-406-522-0394 (fax)  
[info@projectwet.org](mailto:info@projectwet.org)  
[www.projectwet.org](http://www.projectwet.org)

Scan the QR code with a smartphone to visit the Project WET website.



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