

How Do We Use Water?

The Science of Water: Activity 5

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How Do We Use Water?*

**Previously entitled, "Using Water Every Day."*

This activity's objectives are aligned with the National Science Education Standards, specifically those related to Science as Inquiry and Life Science. "How Do We Use Water?" focuses on the question, *How do we use water in our daily lives?* Students will make and record observations of their water use in a typical day, and then draw conclusions based upon their investigation. The following science concepts are covered in this activity.

Concepts

- Water is essential for life.
- We use water in many ways each day.
- Many of the ways in which we use water are not essential for life.

Reference

Moreno N., and B. Tharp. (2011). *The Science of Water Teacher's Guide*. Third edition. Baylor College of Medicine. ISBN: 978-1-888997-61-3. Development of this student activity was supported, in part, by grant numbers R25 ES06932 and R2510698 from the National Institute of Environmental Health Sciences of the National Institutes of Health to Baylor College of Medicine.

Image Reference

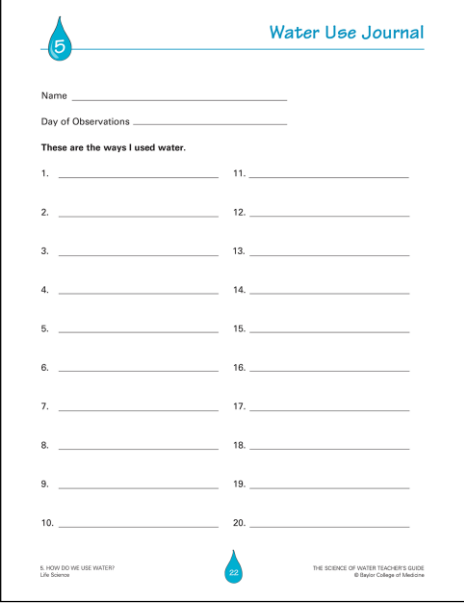
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Key Words

lesson, experiment, water,

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Materials



The form is titled "Water Use Journal" and features a blue water drop icon with the number "5" inside. It includes fields for "Name" and "Day of Observations". Below these is the instruction "These are the ways I used water." followed by a list of 20 numbered lines for recording water usage. At the bottom, there is a small logo for "HOW DO WE USE WATER? Life Science" and another water drop icon with the number "22". The text "THE SCIENCE OF WATER TEACHER'S GUIDE © Baylor College of Medicine" is also present.



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Materials per Student

- Pens or pencils
- Copy of the “Water Use Journal” page, or student classroom journal

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Key Words

materials list, materials needed,

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How Do You Use Water?



- We use water everyday of our lives.
- Can you think of ways that you use water at home? How about at school?



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How Do You Use Water Each Day?

We all use water in many different ways every day. Ask student groups to share with the class some of the ways they use water. Some uses, like washing hands and dishes, are obvious. Others, such as the water used in the radiator of a car, are less apparent.

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Image References

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Key Words

water, water uses, water conservation, saving water, conserving water, water usage,

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Let's Get Started

1. Observe all water used over the next 24 hours for drinking, washing, cooking, watering plants, etc.
2. Record only your own water use on the "Water Use Journal" sheet.
3. Begin recording from when you leave class today and stop when you get to class tomorrow.



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Let's Get Started

This activity will require at least two class periods. On Day One, students will take their journal sheets home and record their own water usage. Classroom activities on Day Two may be conducted with the whole class, or with students separated into groups.

Have students record all the ways they use water over an approximate 24-hour period of time. They might start recording their water usage from the moment they leave the classroom until the moment they return the next day, or from the time they arrive home until the time they leave home the next morning. Make sure students record only their own water usage.

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Let's Talk About It

1. How did you use water in the past 24 hours?
2. Which of these uses are necessary to keep you healthy?
3. Are there any uses that you could give up without affecting your health?
4. What are some ways you might conserve water?



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Let's Talk About It

Ask student groups to share water uses they recorded in their journals. Then, have each group make a list of all the different water uses discussed (OR, have each student in the class contribute one or two uses that he or she recorded and list all students' answers on the board).

Next, have the students divide these water uses into two categories: "Uses Important for Health" and "Other Uses." Encourage student discussion over the placement of a water use into one category or the other.

Emphasize that some uses of water are essential for life, while others are not. Essential uses include: using water to sanitize dishes, cook food and brush our teeth. We also need to drink water to stay healthy. Non-essential uses are involved in many daily tasks, such as washing the car, and watering flower gardens and lawns (since we do not use those plants for food). Sometimes, we use too much water even when doing an essential task, such as when we leave the water running while brushing our teeth or take an overly long shower.

This information can initiate a class discussion about what is really essential. For instance, why might it be important to water flowers even if they don't produce food?

As a class or group activity, have students create a new list, "Ideas for Saving Water."

Share all ideas with the class and display the “Ideas for Saving Water” list in a central location in the classroom. As an extension, have each group create a colorful poster illustrating one of its ideas.

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The Science of Water Usage

TYPICAL AMOUNTS OF WATER USED IN AMERICAN HOMES

AMOUNT	ACTIVITY
2 gallons	Brush teeth
2 gallons	Run faucet until water is cold
2-7 gallons	Flush toilet
12-20 gallons	Run dishwasher
50 gallons	Run clothes washer
25-50 gallons	Take a 10 minute shower
25-50 gallons	Fill bathtub
50 gallons	Run garden hose for 5 minutes

Source: U.S. Environmental Protection Agency, Office of Water.



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The Science of Water Usage

This is an opportune time to integrate math into the activity. For instance, you might have students calculate the number of gallons used each week for bathing. Other relevant and interesting facts include the following.

- Each person needs 8-10 cups of water (from a variety of sources) each day for health.
- Each American uses about 183 gallons of water each day for cooking, washing, flushing and watering.
- At home, most water is used in the bathroom.
- 4,000 gallons of water are needed to produce one bushel of corn.
- 39,000 gallons of water are needed to produce an automobile.

Discuss ways to conserve or use less water.

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Extensions

- Keep a family water use journal.
- Record water use for a week or a month.
- Estimate the amount of water used for a certain activity, such as brushing your teeth.
- Implement a plan for water conservation at home and record how much water is saved by this plan.
- Create a “water portfolio.”



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Extensions

This activity can be extended by having students keep journals of other types of water usage.

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