



# How Much Water Do We Use?

**OBJECTIVES:** Students will be asked to identify personal water usage, complete a water use survey, and develop a plan to reduce their personal water consumption

## OVERVIEW:

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In the first class, the students will list the various ways they use water both at home and in their community. The personal water survey is distributed and completed over a day or two at home. In the next class, these completed data sheets provide the basis for class discussion, individual and group graphs, and suggestions on how water usage could be conserved.

## STANDARDS ADDRESSED:

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**Core K-ESS3-3:** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

**Disciplinary Core Ideas LS2.C:** Ecosystem Dynamics, Functioning, and Resilience.

**Mathematics MP.2:** Reason abstractly and quantitatively.

**Mathematics MP.4:** Model with mathematics.

## MATERIALS:

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- Copies of Personal Water Survey (one per student)
- Markers/crayons for charting
- Easel paper
- Graph paper (size should be comfortable for your students)
- Gallon container (empty)

## ACTIVITY STEPS:

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### Day 1

1. Begin the lesson by dividing the students into small teams. Provide each team with a household location (kitchen, bathroom, outside, bedroom, family room, etc). Ask each team to record how water might be used in these rooms.
2. After a few minutes, regroup and post their responses on the easel (grouping like ideas using tally marks).
3. Broaden the view and solicit suggestions on how water is used in the community.
4. It should now be apparent how important water is in our lives.
5. Ask the children to each predict how much water (in gallons—show the gallon container to help the students visualize a gallon) they use each day. Record this data and produce a class total.
6. Introduce the Personal Water Survey (you might want to project it). Discuss the categories as well how to record data. You can decide if you want the students to complete the calculations at home or in the classroom. You might want this to be a weekend project to allow enough time at home to complete the survey.

**Day 2**

1. If the math calculations were not completed as part of the homework, have students complete their calculations.
2. Have students post their results on the board and calculate both a class total and average. Compare their initial projections with the calculated results—have students comment on why or why not their calculations matched their guess.
3. Provide graph paper and model sharing the student data in a bar chart.
4. Ask the students to select two areas where they would want to reduce their water usage. Brainstorm ways they could conserve.

**Follow-up**

After a month or so, have the students retake the water survey and compare it to their original results. Discuss any changes.

**ASSESSMENT:**

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Students present their conservation suggestions to the class and share their findings with their family. This could be completed with a brief oral presentation, poster (paper or digital), or essay.

**EXTENSION (OPTIONAL):**

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Provide students extra copies of the survey for families to complete.