



# PARCHED! NO WATER, NO TOWN

## CHART WATER USAGE AND LEARN TO CONSERVE

**GRADE LEVEL:** 5–8**SUBJECT:** Science**DURATION:** Two 40-minute class periods**NATIONAL STANDARDS:** Science, Standard 3: Life science, Standard 6: Personal and social perspectives**MATERIALS:** Student chart (see *Procedures* number 2), colored pencils, graph paper*Use this lesson to discuss the importance of water, how to estimate daily water usage, and ways to help conserve.*

### DESCRIPTION

In the fictional town of Green Lake, many activities and the vitality of the town revolve around the lake itself, which is full of clear, cool water. But when the lake dries up, the town dies with it – a testament to the importance of water, especially in the arid southwestern U.S.

### OBJECTIVES

- To understand water's function within a living organism
- To increase awareness and understanding of sources of water
- To estimate the amount of water one uses daily
- To find ways to conserve water

### ADAPTATIONS

For younger students, eliminate the home data collection portion of the project and estimate as a class the amount of water students use daily. For each category, come up with one way to conserve or reduce water use. Instruct each student to make a water conservation poster for display in the classroom.

### ASSESSMENT

Design a five-point rubric to assess students on the methodical collection of data and the accuracy and thoughtfulness of their graphic representation of data. Assess younger students on demonstrated understanding of water conservation measures as indicated by their posters.

### EXTENSIONS

Discuss with students other conservation efforts in their own neighborhoods, state, and around the world. What organizations are they aware of that focus on conservation? What is being conserved? Wildlife? Forests? Coral reefs?

### PROCEDURES

1. Discuss the importance of water for living things using examples of organisms with average and extreme water requirements. Talk about where water comes from (e.g., rain, snow, mountain runoff, natural springs, lakes) and the many different demands for water, including irrigation, drinking, sanitary needs, and recreation. Discuss why it is important to conserve water and whether or not there are water restrictions or battles over water in the students' communities.
2. Provide a chart for students to keep a daily log of how many times they use water during the day, how much water they use, and for what purposes they use it.
3. Provide students with the following approximate water usages per activity to complete their logs:
  - Taking a bath: **50 gallons**
  - Flushing the toilet: **3 gallons**
  - Taking a shower: **35 gallons**
  - Brushing teeth: **1 gallon**
  - Washing dishes in the sink: **2 gallons per minute**
  - Washing dishes in a dishwasher: **25 gallons**
  - Washing hands: **1 gallon**
  - Washing a load of clothes in a clothes washer: **30 gallons**
4. During the next class period, review ways to represent water usage data graphically, using bar graphs and pie charts.
5. Ask students to evaluate their data in a written paragraph. In a second paragraph, have students make suggestions for how they might conserve water daily.

### USEFUL RESOURCES

The United States Geological Survey's educator resources for teaching about water and water usage: [www.water.usgs.gov/education.html](http://www.water.usgs.gov/education.html)

The USGS provides concise information and data about water issues: [www.water.usgs.gov/outreach/OutReach.html](http://www.water.usgs.gov/outreach/OutReach.html)

Facts about water and water conservation at the American Waterworks Association web site: [www.awwa.org](http://www.awwa.org)