



## Conservation Choices

Students confront a variety of water conservation dilemmas and choose courses of action to deal with them. In the process, they face ethical, financial, and practical issues.

### Grade Level

Middle

### Time Frame

Approximately 50 minutes

Learning Objectives	Vocabulary	Science TEKS	Materials
Students will: <ul style="list-style-type: none"> <li>Evaluate the merits of various responses to water conservation dilemmas</li> <li>Discuss and examine their own values/priorities when it comes to water conservation</li> </ul>	<i>Conservation, Drought, Dilemma, Values, Xeriscape, convenient</i>	6.7(A),(B) 7.8(C)	Conservation Choice Cards, (1 set per group)

### Background

A dilemma is a problematic situation that requires a person to choose from two or more alternatives, each of which can produce desirable or undesirable effects. Making water conservation choices can create dilemmas, with conflicts developing between what one wants to do versus what one believes should be done. For example, taking a long, hot shower is relaxing, but a short, warm shower – though less comforting – conserves resources.

The purpose of this lesson is to enable students to fully understand and apply water conservation methods. Students will understand that they are stewards of our water system and act responsibly for future water users.

People use various strategies to determine a course of action when confronted with a dilemma. These range from flipping a coin to conducting extensive research. One method of decision making consists of listing the alternatives, identifying the pros and cons for each and projecting possible outcomes. Factors to consider include costs (monetary and environmental), time, energy, citizen who will be directly affected, personal values, etc. Emotions and instincts also influence which alternative is chosen.

In confronting dilemmas, considering options, and finally selecting a course of action, individuals within the group may come into conflict. Why?

## Conservation & Sustainability

Finding, proposing, and implementing alternatives requires an understanding of values. When this understanding is lacking, attempts to resolve the dilemma often meet with resistance.

### **5E Instructional Model**

#### **Engage**

1. In confronting dilemmas, considering options, and finally selecting a course of action, individuals within a group may come into conflict. Ask students why.
  - a. Finding, proposing and implementing alternatives requires an understanding of values. When this understanding is lacking, attempts to resolve the dilemma often meets with resistance.
2. What is a Dilemma?
  - Allow students to brainstorm different types of dilemmas.
  - Then explain to them what dilemma is: a situation in which a difficult choice has to be made between two or more alternatives, especially equally undesirable ones.
    - *Sample scenario: You and your friends are playing baseball one afternoon. One of you hits a long fly ball that breaks a garage window in a nearby home. Most of the group wants to run home and escape the consequences of the act, but several of you think it would be best to confess and deal with the mess.*

#### **Explore**

3. Split the class into small groups of four to six students and hand out one set of *Conservation Choice Cards* to each group. Pile the cards face down in the middle of the table.
4. One at a time, students pick a card. They should read the dilemma silently and take a minute to think through the situation and their response.
  - a. Tell them to be realistic about what they would do, even if they know it might not be the most admirable response.
5. When time is up, students should read the dilemma and the list of choices out loud, then explain which choice they made, briefly defending their course of action.
6. The other students in the group should score the individual responses on a scale of 1-10, with one being complete agreement with the response and ten being complete disagreement.
  - a. Total the group scores for each situation. The lower the total, the greater the level of group consensus on the chosen course of action.
7. Continue until all students have had a turn.

#### **Elaborate**

8. Have each group decide which dilemma was their most difficult or controversial one.
9. Read it aloud to the class and allow a brief discussion of the choices and the problems they bring up.
10. Ask students if the exercise heightened their awareness of conservation dilemmas that face us in everyday life.

#### **Evaluate**

11. Do they think they'll approach these choices differently as a result of this exercise?

## Conservation & Sustainability

12. Have student groups make up new sets of Conservation Choice Cards, swap them and repeat lesson with new cards.
13. What are some ways students can help conserve water?
  - Wash your cars at a commercial carwash that handles waste water properly. Do not wash your car at home on the driveway or other paved surfaces. Waste water from washing your car may contain oil, grease, road grime, and detergents.
  - Don't pour anything down a storm drain.
  - Use fertilizers and pesticides according to the directions. Do not over apply and do not apply to paved areas.
  - Follow the watering schedule and check the sprinklers often and adjust so only the lawn is watered and not the sidewalk or street.
  - Turn the water off when you shampoo your hair, then turn it back on to rinse.
  - Turn the water off when brushing your teeth.
  - Ask students to give examples of *pollution to groundwater*.
  - Use mulch around plants to reduce evaporation.
  - Take five minute showers.
  - Throw trash in a trash can and do not flush it down the toilet.
  - Run the washing machine or dishwasher only when the loads are full.
  - If washing by hand, don't let the water run while washing and rinsing. Fill one sink with wash water and one with rinse water.
  - Solicit other ideas from the students.

### Useful websites

EPA Water Facts sheet: <http://bit.ly/2ayB6nC>

El Paso Water Conservation: <http://bit.ly/2aDKnlz>

World Water Council: <http://bit.ly/2aUgrg7>

### Video

Danger! Limited Supply of Freshwater <http://bit.ly/2aVrpCi>

National Geographic Water Conservation Tips: <http://bit.ly/2ax7OVn>