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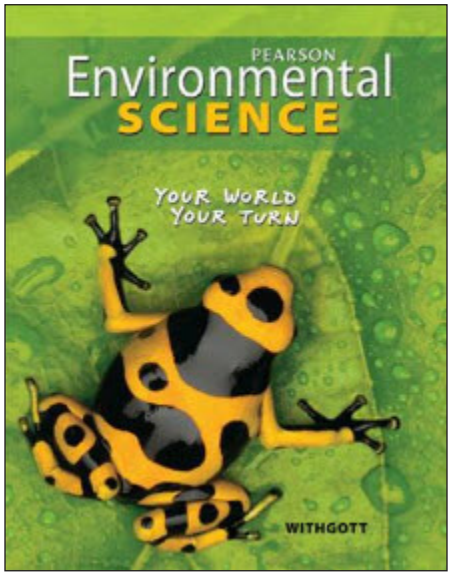
Program Overview

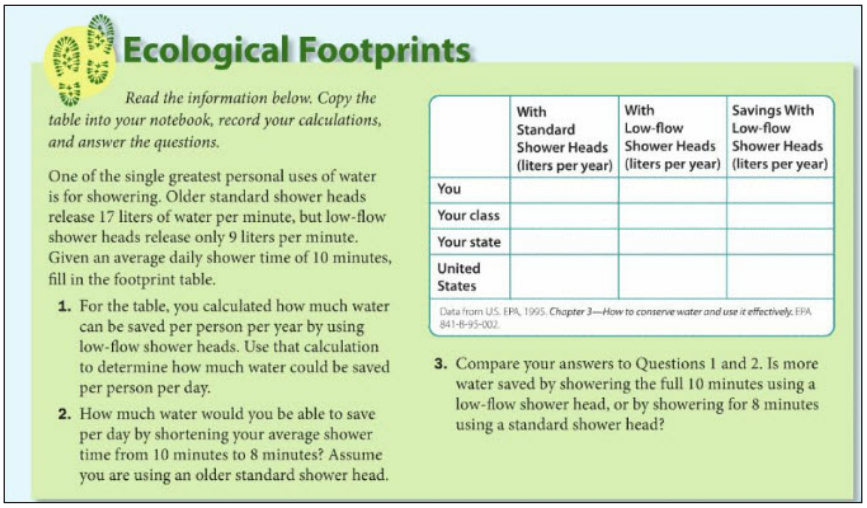
Introduction

This guide examines the Environmental Science: Your World, Your Turn program philosophy and author. It also explains how the program presents real issues, utilizes authentic data, and provides engaging inquiry and powerful assessment.



Philosophy

Environmental Science: Your World, Your Turn was designed to teach your students that their actions can make a difference. Throughout the year, they will measure their own ecological footprints and understand society's impact on the environment. This program makes science personal, actionable, and empowering for your students.



Ecological Footprints

Read the information below. Copy the table into your notebook, record your calculations, and answer the questions.

One of the single greatest personal uses of water is for showering. Older standard shower heads release 17 liters of water per minute, but low-flow shower heads release only 9 liters per minute. Given an average daily shower time of 10 minutes, fill in the footprint table.

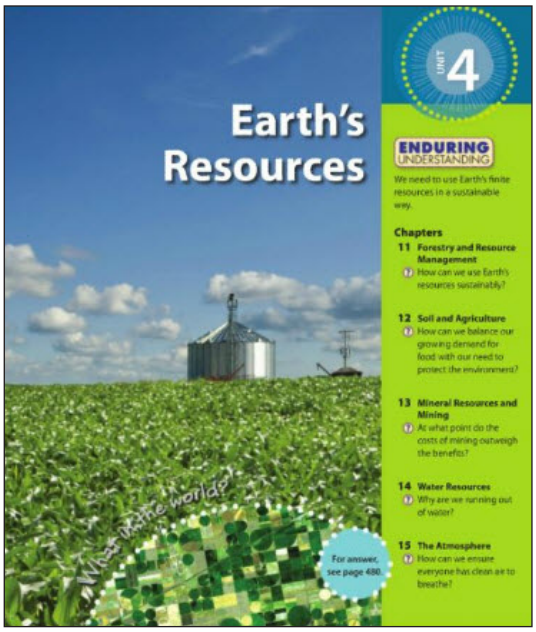
1. For the table, you calculated how much water can be saved per person per year by using low-flow shower heads. Use that calculation to determine how much water could be saved per person per day.
2. How much water would you be able to save per day by shortening your average shower time from 10 minutes to 8 minutes? Assume you are using an older standard shower head.

	With Standard Shower Heads (liters per year)	With Low-flow Shower Heads (liters per year)	Savings With Low-flow Shower Heads (liters per year)
You			
Your class			
Your state			
United States			

Data from U.S. EPA, 1995. *Chapter 3—How to conserve water and use it effectively.* EPA 841-B-95-002.

3. Compare your answers to Questions 1 and 2. Is more water saved by showering the full 10 minutes using a low-flow shower head, or by showering for 8 minutes using a standard shower head?

The program was built using the Understanding by Design® framework, which connects curriculum, instruction, and assessment to the Enduring Understanding concepts of environmental science, so that your students develop a deep understanding of the program concepts. Enduring Understandings are introduced at the unit level. Each chapter begins with the introduction of a Big Question that guides students in their study. Then, for each lesson there is a guiding question that relates to the chapter's Big Question.



Author	Environmental Science: Your World, Your Turn was written by Jay H. Withgott, an environmental writer, researcher, and educator. In addition to authoring articles for many scientific journals and magazines, Withgott has authored two college textbooks on environmental science. He strives to make science accessible and engaging for all students.
Program Highlights	The program takes hands-on and minds-on learning to a new level. The student edition includes lesson-level activities, while the online program features a wealth of multimedia digital resources.
Real Issues	Using real-world case studies and newsworthy topics, Environmental Science: Your World, Your Turn puts the world in context and empowers your students to take an active role in the world in which they live.

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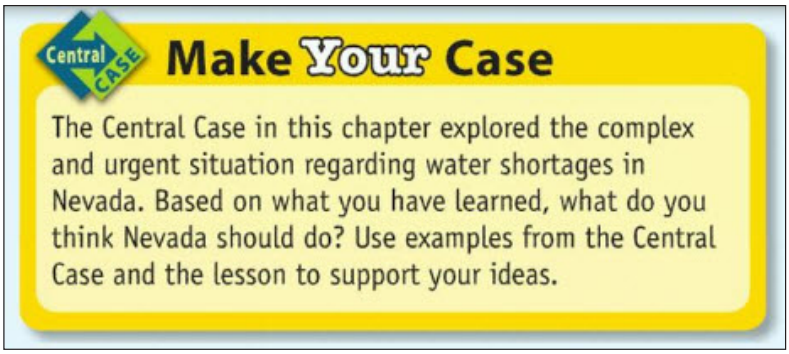
Central Case

Central Case studies open each chapter and bring the most current environmental issues to life. Students follow a Central Case throughout each chapter in print and online. Throughout the chapters, students use real data and apply what they have learned so they can answer the Big Question of each Central Case.

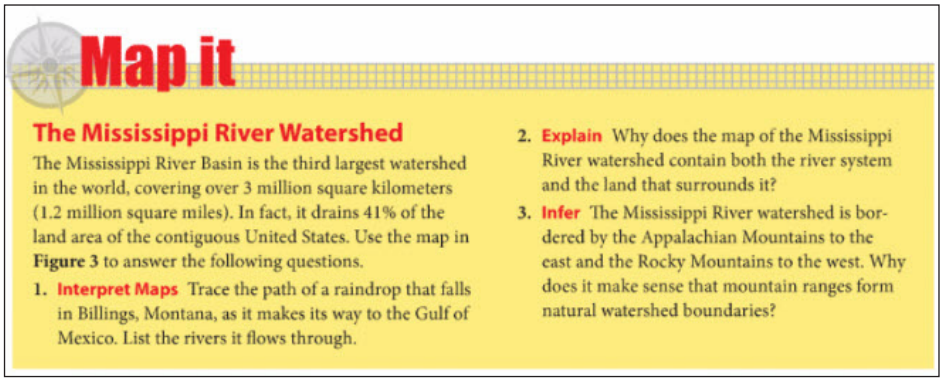


ABC News Videos

You can bring lesson topics to life by showing related videos from the ABC News archives. These online videos present actual news stories that engage students, spark inquiry, and help them relate to the topic.

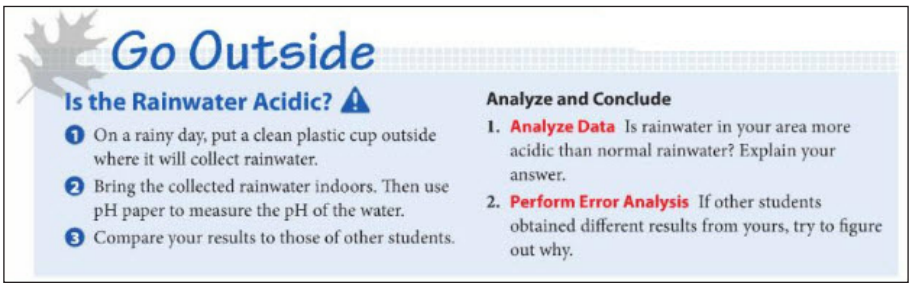
Authentic Data

The program provides a variety of activities that use authentic data to help your students connect to the real issues of their environment. They can explore the implications of various topics through graphing, analyzing, and mapping activities that utilize authentic data.



Inquiry

The program also provides your students with hands-on and minds-on experiences. Quick Lab and Go Outside are two types of inquiry activities that are located in the student edition.



Go Outside

Is the Rainwater Acidic?

1. On a rainy day, put a clean plastic cup outside where it will collect rainwater.
2. Bring the collected rainwater indoors. Then use pH paper to measure the pH of the water.
3. Compare your results to those of other students.

Analyze and Conclude

1. **Analyze Data** Is rainwater in your area more acidic than normal rainwater? Explain your answer.
2. **Perform Error Analysis** If other students obtained different results from yours, try to figure out why.

A majority of the in-depth inquiry activities are in the online Lab Manual, which is located on MyEnvironmentalScience.com. You can customize these activities by simplifying instructions, altering materials lists, or adding state standards.

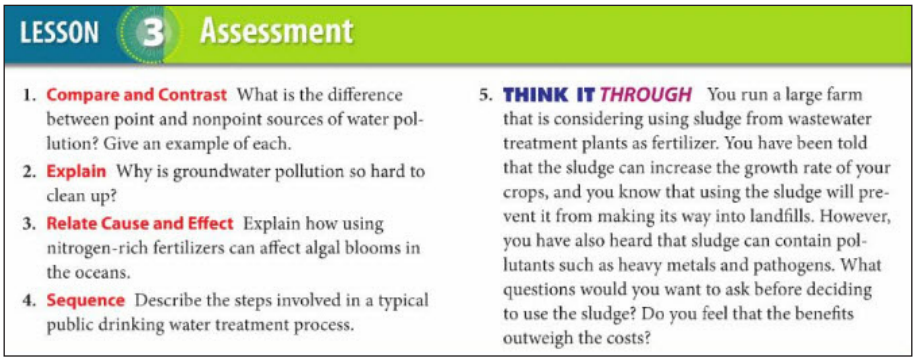
Online inquiry activities include research-based activities that connect students with their local environment, field experiments, minds-on inquiry, and traditional labs.

Assessment

Next, a wide range of assessment opportunities help you monitor your students' progress, evaluate content mastery, and ensure their success on high-stakes tests. Students complete assessments from their student edition to think critically and apply the chapter concepts.

Additionally, MyEnvironmentalScience.com offers a variety of assessment options. Students can take chapter-level self-tests. You can access MyEnvironmentalScience.com for two levels of editable unit and chapter tests, as well as online assessments.

You can also use the ExamView® test banks to create and print additional assessments.



LESSON 3 Assessment

1. **Compare and Contrast** What is the difference between point and nonpoint sources of water pollution? Give an example of each.
2. **Explain** Why is groundwater pollution so hard to clean up?
3. **Relate Cause and Effect** Explain how using nitrogen-rich fertilizers can affect algal blooms in the oceans.
4. **Sequence** Describe the steps involved in a typical public drinking water treatment process.
5. **THINK IT *THROUGH*** You run a large farm that is considering using sludge from wastewater treatment plants as fertilizer. You have been told that the sludge can increase the growth rate of your crops, and you know that using the sludge will prevent it from making its way into landfills. However, you have also heard that sludge can contain pollutants such as heavy metals and pathogens. What questions would you want to ask before deciding to use the sludge? Do you feel that the benefits outweigh the costs?

Review

This guide discussed the program philosophy, including the Understanding by Design® framework.

It introduced program author, Jay H. Withgott, and it discussed how the program introduces real issues and utilizes authentic data.

Finally, this guide took a look at the various types of inquiry offered in the program and described how the program tackles assessment.