

Can 4th Graders Improve Water Quality for Our Planet?

Water is essential for life. All living things depend upon it. Yet every day, our actions contribute to pollution that is detrimental to our waterways—and ultimately our watersheds. In this project, students will take action to protect our watersheds. They will investigate water samples to determine what's in their water, and investigate ways to improve water quality. Then, they'll share what they've learned by creating a fundraiser to raise money for a charity that focuses on improving water quality and water pollution issues.

Imagine if the actions we take now to protect our watersheds resulted in cleaner and more sustainable waterways. What a difference this would make for all of Earth's living creatures!



Start
with why

Lesson 1: Play “Water” You Gonna Do about It?

Engage student interest by playing a game in which students engineer a device to try and keep “polluted” water from contaminating a nearby body of water. Expand their understanding by teaching them about watersheds and why they are important. **SOCIAL STUDIES**



Think it
through

Lesson 2: Diving into Watersheds

Develop student research skills by leading an investigation on watersheds and your Hydrologic Unit Code address.

Lesson 3: Makin' it Rain: DIY Watersheds

Help students become builders, makers, and creators by constructing a watershed that teaches students how water from very different places is really deeply connected. **SOCIAL EMOTIONAL LEARNING**



Work it out

Lesson 4: Sample That Water!

Get out into nature and visit a local body of water to collect and analyze water samples. **SCIENCE**

Lesson 5: Connect to Worldwide Water Issues

Think globally by helping students understand the connection between what they discovered in their local water sampling activity, and the broader issues related to clean drinking water around the world. Then, select a charity that can help your class address a specific real-world, water-related issue. **MATH ENGLISH LANGUAGE ARTS**

Lesson 6: Raisin' for our Basin: A Fundraiser Plan

Don't just learn about problems with water pollution—do something about it! Plan a fundraiser for the charity your class selected to help address the issue head-on.



Fix it up

Lesson 7: Improve Your Fundraiser Plan

Teach students to seek constant improvement as they work to prepare for their fundraiser by guiding them to think iteratively, constantly refining their ideas until they sparkle like brilliant little conceptual diamonds.



Share your
awesome

Lesson 8: “Rap” it Up: Raise Funds and Awareness

Make your classroom a force for good by putting on an awesome fundraiser that collects funds for the charity your class selected. As added entertainment, your students will perform their self-produced watershed rap!

Suggested project time: **8 hours**



Get started at [BlueAppleTeacher.org](https://www.BlueAppleTeacher.org)



Math
UNITS OF MEASURE
After viewing stories about children who must walk long distances for water, help students understand the distances traveled by converting between metric units.
CCSS.MATH.CONTENT.4.MD.A.1

English Language Arts
VISUAL AND ORAL INFORMATION
As students read about the different water gathering experiences of two children, integrate the two stories to construct a more complete understanding.
CCSS.ELA-LITERACY.RI.4.9

Science
WATER AND EROSION
As students sample their water, explore the way in which water affects the land around it. **NGSS 4-ESS2-1**

Social Studies
FREEDOMS AND RESPONSIBILITIES
Examine how the issue of water pollution can help students reflect on the balance between freedoms and responsibilities. **D2.Civ.4.3-5**

Social Emotional Learning
SELF-MANAGEMENT AND RELATIONSHIP SKILLS
Develop list of group expectations for sharing materials effectively as students construct their watersheds.
CASEL CORE COMPETENCIES

Not teaching these standards?
Go to BlueAppleTeacher.org for more content-connection options.



- Kit Supplies**
- Food Coloring
 - Pipe Cleaners
 - Clothes Pins
 - Glitter
 - Duct Tape
 - Oil
 - Spray Bottles
 - Garbage Bags
 - Water Testing Strips

- Online Resources**
- “‘Water’ You Gonna Do about It?” Game
 - Cheru’s Journey (**YouTube 0:54**)
 - Hydrological Unit Code Locator
 - “Build a Watershed” Activity
 - “Water Within Reach” Article
 - And so much more!



- Bring the World to Your Students**
- Meet a Defender
 - Explore Aquifers with a Wildlife Biologist
 - Skype a Scientist
 - Meet and Tweet with the Kings of the Springs

- Bring Your Students to the World**
- Wrap it Up—and Rap it Out!
 - ‘Ello, Guv’nor
 - Be Ellen-Worthy
 - Meet the Press



Basin Buddies
Use web searches in conjunction with the Hydrologic Unit Code tool to find schools who share your same basin, but who have different watersheds. Write them a letter to inform them about how you share your water.



Rules and Routines
What are some effective rules and routines I can use to improve classroom management?

Risk-Taking and Perseverance
How can I develop a culture that supports risk-taking and increases student perseverance?

This is just the beginning!

Go online to access the complete project.



- Clear **learning targets** and **step-by-step instructions**
- Dozens of links to **supporting resources**
- **Mini-lessons** aligned to content standards
- **Videos and contact information** from industry experts
- **Ideas to collaborate** with other classrooms
 - Practical, point-of-use **instructional strategies**
 - Access to a grade-specific **Project Coach**

