

Learning Guide



Earth Day: Rivers

We hope you enjoyed learning all about the importance of and how to protect our rivers and watersheds. Extend your learning with this print-ready Learning Guide!



What's in this Learning Guide?

Get Set to Listen

Answer TRUE or FALSE statements before and after listening to the episode.

Vocabulary

Discussion Questions

CCSS.ELA-Literacy.SL.3-8.1, SL.3-8.3

Writing Prompts and Extension Projects

CCSS.ELA-Literacy.W.3-8.1, W.3-8.2, W.3-8.3, W.3-8.4, W.3-8.7, W.3-8.8

Build a Watershed Model

NGSS: 5-ESS2-1, MS-ESS2-4; CCSS.ELA-LITERACY.SL.3-5.1

Environmental Action Project

NGSS: 5-ESS3-1, MS-ESS3-3; CCSS.MATH.3.MD.B.3, C3 Social Studies: D2.Civ.2.3-5, D2.Geo.4.3-5

Trash Audit: Activity & Data Tracker

NGSS: 5-ESS3-1, MS-ESS3-3; CCSS.MATH.3.MD.B.3, 4.MD.A.2; C3 Social Studies: D2.Civ.2.3-5, D2.Geo.4.3-5

Waste Reduction Project

NGSS: 3-ESS3-1, 4-ESS3-2, 5-ESS3-1, MS-ESS3-3; C3 Social Studies: D2.Civ.2.3-5, D2.Geo.4.3-5

Environmental Tracking Journal & Data Tracker

CCSS.ELA-LITERACY.W.3-5.10; CCSS.MATH.3.OA.A.1, 3.OA.A.3, 3.MD.B.3, 4.MD.B.4, 4.MD.A.2, 5.NF.B.6, 6.RP.A.3.C; NGSS: 5-ESS3-1, MS-ESS3-3

Math to Help the Earth!

CCSS.MATH.3.OA.A.1, 3.OA.A.3, 3.MD.B.3, 4.MD.B.4, 4.MD.A.2, 5.NF.B.6, 6.RP.A.3.C; NGSS: 5-ESS3-1, MS-ESS3-3

Additional Resources & Book List



The Children's Hour
kids public radio

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<https://www.childrenshour.org/earth-day-rivers/>



Get Set to Listen

1. Before listening!

Read each statement and write TRUE or FALSE based on what you already know.



2. After listening!

Based on what the experts said in the episode, write TRUE or FALSE.



Before Listening	TRUE or FALSE?	After Listening
	1. Watersheds are places that only store drinking water.	
	2. Senator Gaylord Nelson is known as the father of Earth Day.	
	3. Earth Day started in 1990.	
	4. Gaylord Nelson was inspired by anti-war teach-ins.	
	5. The Rio Grande is not important for drinking water.	
	6. Planting trees near watersheds like the Rio Grande helps protect them.	
	7. The River XChange program teaches kids to identify problems and take action.	

What did you learn?



Get Set to Listen

Answer key

1. FALSE. In addition to soaking up all our rain and snow, watersheds also play an important role in draining water to our rivers, lakes, streams, and marshes.
2. TRUE. However, the concept of environmentalism has a long history in our country, stretching back to even before the word existed, with Indigenous tribes practicing sustainable agriculture and architecture. Learn more in our [Brief History of the American Southwest for Kids series](#).
3. FALSE. The first Earth Day was in 1970.
4. TRUE
5. FALSE. The Rio Grande is a major source of drinking water and is essential for the health of the environment, so it's very important that we take care of it and keep it clean!
6. TRUE
7. TRUE



Vocabulary

Listening for Words

1. Make a four-column chart and label the columns “I don’t know,” “I’ve seen or heard, but don’t know the meaning,” “I think I know the meaning,” and “I know the meaning.”
2. Write the vocabulary word in the column that describes how well you know the meaning of the word.
3. Listen to [the episode](#). Note how the speaker uses the words.

Matching Words with Definitions

1. Print and cut apart the word and definition cards.
2. Spread out the word cards so you can see them all. One by one, attach a definition card to each word card.

Writing with New Words

After working with the words and definitions, write a one-page essay or story that uses at least three of the words.

watersheds

Land that collects rain and snow and drains it into rivers, lakes, and streams.

environmentalism

Taking care of the natural environment—including air, water, land, plants, and animals—and using Earth’s resources responsibly so they last for future generations.



Vocabulary

ecology

The study of how living things interact with each other and their environment.

teach-in

A learning event focused on a specific topic, often to raise awareness.

sustainability

Using resources in a way that does not harm the future.

impact

The effect something has on people or the environment.



Discussion Questions

1. Why do you think rivers are important to both people and the environment?
2. Why is it important to not litter, and how can litter affect rivers and wildlife?
3. What are some ways the students tried to stop littering? Which do you think would work best?
4. Why do you think Earth Day was created?
5. Why is it important for regular people—not just leaders—to help protect the environment?
6. Why do you think the show focuses on kids instead of experts in this episode?
7. How do small actions (like planting a tree or recycling) create a bigger impact over time?
8. What is one action you could take in your own school or community to help the environment?

Group Discussion Strategies

Think Pair Share:

1. Individually, student writes down their answer to a question.
2. Students pair up and tell each other their answers.
3. Teacher calls for volunteers to share with the whole class their answer (and/or their partner's answer). Teacher notes key words/phrases on board.

Round Robin:

1. Teacher poses one question (written on top of a large page) to students, who are assembled into small groups of 3 or 4.
2. Students take turns brainstorming the answers. The recorder of the group writes down all answers.
3. The leader reads the group's ideas to the entire class. Teacher moderates.



Writing Prompts

Narrative Prompts

1. Keep a 1-week environmental journal tracking your actions (recycling, water use, etc.).
2. Write about a day when your school decides to stop littering completely. What happens before, during, and after?

Informative/Explanatory Prompts

1. Explain what a watershed is and why it is important for rivers and communities.

Extension:

- Include a labeled diagram or real-life example from your area.

2. Describe different ways kids can protect the environment (recycling, planting trees, picking up trash).

Extensions:

- Create a step-by-step “action plan” like the River Exchange framework.

3. Research and explain the history of environmentalism in America. Include indigenous agricultural practices and architecture, as well as the history of Earth Day and environmental teach-ins.

4. Explain how litter affects rivers, animals, and people.

- Use examples like plastic in oceans and rivers or trash in schoolyards.
- Suggest solutions.

Extension: Hold an environmental “Teach-In” like the ones that inspired the first Earth Day. Students become “experts” and teach mini-lessons. Invite other classes to attend.

Opinion/Persuasive Prompts

1. Write a speech convincing your school to reduce littering.

Extension: Design a school or community-wide campaign, including posters and announcements. Get others involved--hold a community meeting to plan a project. Listen to [The Children's Hour's “Earth Day: Rivers” episode](#) (segment 37:16-40:06) for inspiration.

2. Plastic, especially single-use plastic like disposable water bottles, plasticware, and shopping bags, is a major source of litter. Should plastic be banned in schools?

Extension: Hold a debate.



Build a Watershed Model

Build a model to understand how a watershed works and how water (and pollution) moves through it.

Materials

- Tray or shallow container
- Soil or dirt
- Small rocks or pebbles
- Cup of water
- Food coloring (for “pollution”)
- Spoon or small cup (for pouring)

Watch

[What's a Watershed and Why Does it Matter?](#)

Setup

1. Fill the tray with soil and shape it into hills, slopes, and a low area (this will be your “river”).
2. Add rocks to create barriers or pathways for water.
3. Make sure one side is slightly lower to show where water collects.

Directions

1. Slowly pour water onto the “land” (like rain).
2. Watch how the water flows downhill.
3. Observe where the water collects and forms rivers or pools.

Discuss

- *Where did the water flow the fastest?*
- *Where did it collect?*
- *How did the shape of the land affect the water's path?*

Pollution Experiment

1. Add a few drops of food coloring to one area (this represents pollution).
2. Pour water again.
3. Watch how the “pollution” spreads through the watershed.

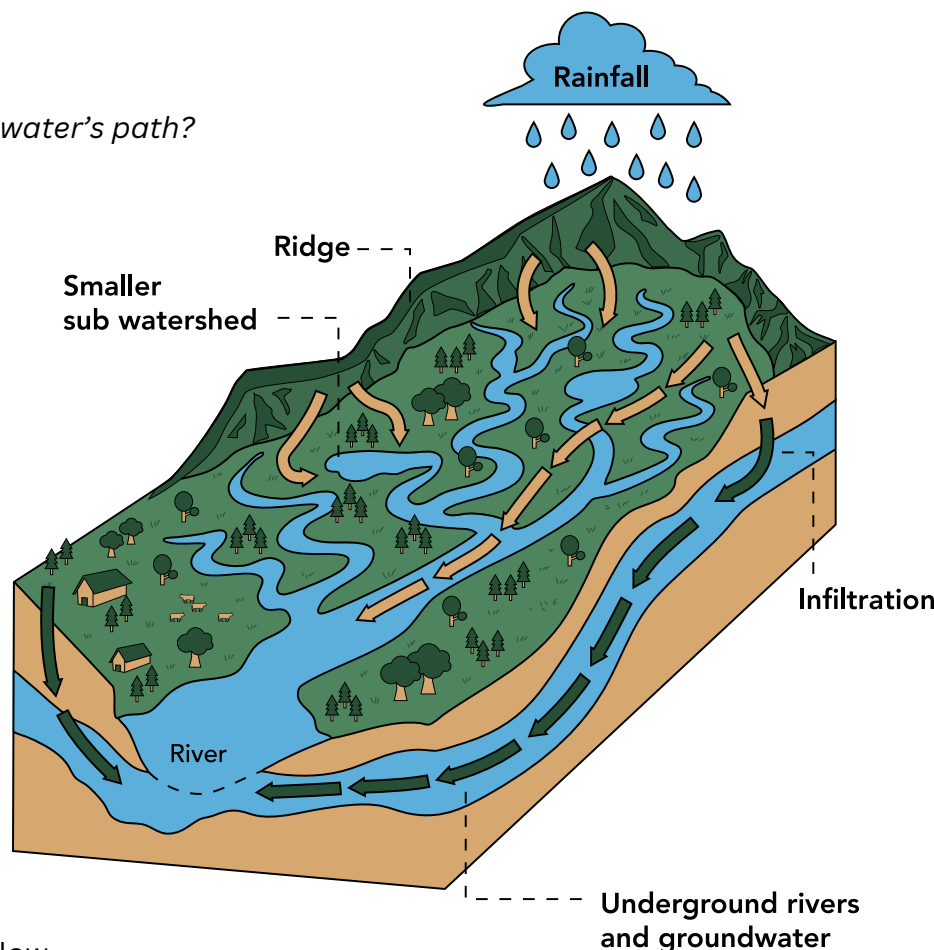
Reflect

- *What happened to the pollution as the water moved?*
- *How might this affect real rivers like the Rio Grande?*
- *Why is it important to keep our environment clean?*

Extensions

Try changing your land design:

- Add more hills or rocks.
- Create multiple “rivers”.
- Test how different shapes change water flow.





Environmental Action Project

What does it mean to be an environmentalist? How can you help protect the environment?

Environmentalism is the belief and movement focused on protecting the natural environment—including air, water, land, plants, and animals—and using Earth’s resources responsibly so they last for future generations. Environmentalism means taking care of the planet.

This is what Environmentalism can look like in action:

- Protecting nature (forests, rivers, wildlife)
- Reducing pollution and waste
- Using resources wisely (like water and energy)
- Taking action to keep the Earth healthy



Picking up trash, recycling, planting trees, and keeping rivers clean (like the Rio Grande) are all part of environmentalism.

Listen

to [The Children’s Hour, “Earth Day: Rivers” episode](#) (segment 37:16-40:06) & (segment 9:58-12:20) to learn how some students are taking environmental action.

Take Action

Use the [Action Project Framework](#) to help you make a difference in your community!

Step 1: Identify a problem

Step 2: Develop a plan

Step 3: Take action

Step 4: Reflect

Step 5: Celebrate

Project Ideas

1. Community Clean-Up Challenge

Work with others to pick up trash around your neighborhood or school.

- Weigh and record the trash collected (like the students in the show!)
- Track results over time

Extension: Create graphs to show improvement each week.

2. Plant a Tree or Garden

Plant flowers, vegetables, or trees to help the environment.

Extension: Keep a growth journal with drawings and observations.

3. Anti-Litter Poster Campaign or Public Service Announcement (PSA)

Design posters or record a *Children’s Hour* style PSA encouraging others to stop littering. Display them in your community or school and/or broadcast your PSA over the announcements or on the radio.

4. Waste Reduction Project

Work to reduce waste in your home, school, or larger community. Use the “Trash Audit” and “Waste Reduction Project” activity sheets in this Learning Guide.





Trash Audit

It's important to reduce waste and not litter because trash can travel from streets into waterways like the Rio Grande, polluting the water and harming the environment. Litter can make water unsafe for people and animals, and wildlife may eat or get tangled in trash, which can cause injury or death. Properly throwing away or recycling waste is helpful, but reducing waste by refusing or reusing disposable items is the best way to help keep our communities clean and protect rivers, habitats, and living things. Learn about the kinds of waste you produce and how to reduce it with the activities below!

Discuss

- *Why is it important to reduce waste, and how can litter affect rivers and wildlife?*

Listen

to [The Children's Hour, episode "Earth Day: Rivers"](#) (segment 9:58-12:20) to learn about the project students at North Valley Academy in Albuquerque, New Mexico, where they studied and picked up litter at their school.

Discuss

- *What are some ways the students tried to stop littering? Which do you think would work best?*
- *How does collecting and measuring trash help students understand the problem better?*

Trash Audit

Collect and analyze one or more days' worth of household or classroom trash. Use the datasheet to record your findings.

Analyze Data

- Sort trash into categories and identify how much of it is recyclable, compostable, reusable, avoidable, or truly trash.
- Estimate or measure the weight of trash collected (in pounds or grams).
- Repeat on multiple days and compare weights between days.
- Find the difference between the heaviest and lightest day. Why do you think this is?

Take Action

Use the "Waste Reduction Project" resources to reflect and plan how you can reduce waste and improve the health of the environment!





Trash Audit: Datasheet

Collect and analyze one or more days' worth of household or classroom trash. Use this datasheet to record your findings.

Type of Trash	Number of Items (tally)	Weight
Avoidable (Could this trash have been refused in favor of a reusable option?)		
Refusable (Was this trash really necessary, or was it just something taken because it was free?)		
Reusable (Could this have been reused or repaired?)		
Recyclable (Could this have been recycled to extend its life? How recyclable is the item? Metal, paper, and glass are the most recyclable items.)		
Compostable (Is this item food or yard waste?)		
Truly Trash (Nothing better could have been done with this.)		



Waste Reduction Project

Properly throwing away or recycling waste is helpful, but reducing waste by refusing or reusing disposable items is the best way to help keep our communities clean and protect rivers, habitats, and living things. Learn about how you can reduce waste with the activities below!

Discuss

- *Why is it important to reduce waste, and how can litter affect rivers and wildlife?*

Take Action

Learn about and use the [Five Rs](#):

- **Reduce** – To use less of something to create less waste.
- **Reuse** – To use something again instead of throwing it away.
- **Refuse** – To say no to using things that create litter, like plastic bags and freebies you don't really need.
- **Recycle** – To convert some materials into something new to extend their lifespan.
- **Rot** – To compost (create valuable soil from food and yard scraps.)

Work to Reduce Waste

- Encourage reusable lunch containers, including water bottles, and utensils
- Add composting and recycling bins
- Organize a toy/book/clothes exchange to give your unused things a new life with another owner
- Organize a toy fix-it clinic
- **Extension:** Collect data (before/after) to measure impact.



Image [source](#)

Additional Resources

[Reduce Your Waste](#)

Ideas for cutting back on waste in your home or classroom from National Geographic Kids.

[Top 10 Ways You Can Help Your Kids Reduce Their Solid Waste](#)

Use these waste reduction tips to teach your kids how to be more sustainable.

[Waste Reduction in the Classroom](#)

How to teach and implement waste reduction in the classroom year-round.



Environmental Tracking Journal

Keep a 1-week environmental journal tracking your actions (recycling, water use, etc.).

Date: _____



Waste Reduction: Describe the times you refused/reused disposable items (like food/drink packaging, straws, single-use toys) _____

_____ # of times I refused/reused disposable items: _____



Water Use: These are the activities I did that used water: _____

_____ # of minutes I used water: _____



Other Eco-Friendly Actions: _____

Reflect: How did you help the environment today? _____

Date: _____



Waste Reduction: Describe the times you refused/reused disposable items (like food/drink packaging, straws, single-use toys) _____

_____ # of times I refused/reused disposable items: _____



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_____ # of times I refused/reused disposable items: _____



Water Use: These are the activities I did that used water: _____

_____ # of minutes I used water: _____



Other Eco-Friendly Actions: _____

Reflect: How did you help the environment today? _____



Environmental Data Tracker

Use this worksheet to track data from your weekly "Environmental Tracking Journal".

Day	Disposable Items Refused/Reused	Minutes of Water Use
1		
2		
3		
4		
5		
6		
7		

Totals

1. Total disposable items refused/reused this week: _____

2. Total minutes of water use this week: _____

Averages

3. Average disposable items refused/reused per day: _____

4. Average minutes of water use per day: _____



Environmental Data Tracker

Multiplication & Impact

5. If you refuse _____ disposable items every day, how many items would you refuse in 7 days?
In a month (30 days)?

6. If you save _____ gallons of water per minute for _____ minutes each day, how many gallons would you save in 1 week?

Graphing

Remember

- Label axes correctly
- Identify trends (increase/decrease)

7. Use graphing paper to create a **bar graph** showing the **number of disposable items you refused/reused** each day of the week.

8. Use graphing paper to create a **line graph** showing **water use** over the week.

Bonus Challenge

9. On how many days did you refuse/reuse 5 or more disposable items? _____

10. What percent of the week is that? _____

Extension

Repeat this activity and compare your waste reduction and water usage with the first week.



Math to Help the Earth!

Use this Sample Data from a 1-week Environmental Tracker Journal to calculate much waste and water use.

Day	Disposable Items Refused/Reused	Minutes of Water Use
1	4	20
2	6	15
3	5	18
4	3	22
5	7	16
6	2	25
7	6	14

Totals

1. Total disposable items refused/reused this week: _____

2. Total minutes of water use this week: _____

Averages

3. Average disposable items refused/reused per day: _____

4. Average minutes of water use per day: _____



Math to Help the Earth!

Multiplication & Impact

5. If you refuse 5 disposable items every day, how many items would you refuse in 7 days?
6. If you save 2 gallons of water per minute for 3 minutes each day, how many gallons would you save in 1 week?

Word Problems

7. You recycled 4 items on Monday and 6 on Tuesday. How many total?
8. You used 20 minutes of water one day and 14 the next. What is the difference?

Bonus Challenge

9. On how many days did you refuse/reuse 5 or more disposable items? _____
10. What percent of the week is that? _____

Extension

Complete the Environmental Tracker Journal and Environmental Data Tracker with your own data!



Math to Help the Earth!

Answer key

1. **33 items**
2. **130 minutes**
3. **4.7 items/day ($33 \div 7 \approx 4.7$)**
4. **18.6 minutes/day ($130 \div 7 \approx 18.6$)**
5. **35 items (5×7)**
6. **42 gallons ($2 \times 3 \times 7$)**
7. **10 items ($4 + 6$)**
8. **6 minutes ($20 - 14$)**
9. **4**
10. **57% (4 out of 7 days $\approx 57\%$)**



Additional Resources

[RiverXchange® Program Overview](#)

- RiverXchange® students explore local water resources and conservation concerns with water resource professionals and educators from local institutions.
- Classes receive 4 in-class presentations and a field trip to help students explore these issues.
- Through their hands-on curriculum, students learn about [The Big Water Questions](#) and gain the knowledge they need to decide for themselves what they can do to protect water resources.
- Students advocate for their local watershed in their community through a service [learning action project](#) of interest.

[ABCWUA Watershed Education Programs](#)

The Albuquerque Bernalillo County Water Utility Authority provides awesome education programs for grades pre-K-12, including puppet shows, in-class activities, online learning, field trips, and wastewater reclamation tours!

[Reduce Your Waste](#)

Ideas for cutting back on waste in your home or classroom from National Geographic Kids.

[Top 10 Ways You Can Help Your Kids Reduce Their Solid Waste](#)

Use these waste reduction tips to teach your kids how to be more sustainable.

[Waste Reduction in the Classroom](#)

How to teach and implement waste reduction in the classroom year-round.

[The Five Rs: Refuse, Reduce, Reuse, Recycle, Rot](#)

We've all probably heard about the phrase "Reduce, Reuse, Recycle", but do you know about the other two Rs?

Videos

[Gaylord Nelson: A Vision for the Earth](#)

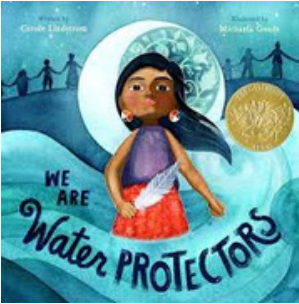
Watch this video from PBS Wisconsin Education to learn about how Wisconsin Senator Gaylord Nelson created the Earth Day holiday in the 1970's to bring awareness about each person's role in protecting the environment.

[What's a Watershed and Why Does it Matter?](#)

A simple and clear explanation.



Book List

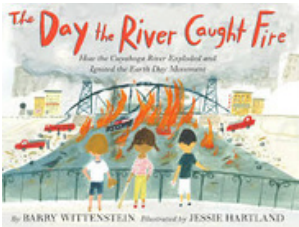


We Are Water Protectors

by Carole Lindstrom

This award-winning picture book rallies readers to protect Earth's water, inspired by Indigenous-led movements like the Dakota Access Pipeline protests.

ages 4-8

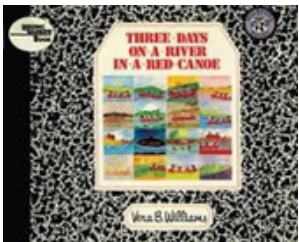


The Day the River Caught Fire

by Barry Wittenstein, illustrated by Jessie Hartland

Learn the true story of how a 1969 fire on one of America's most polluted rivers helped ignite the national Earth Day movement.

ages 4-8



National Trust: Go Wild on the River

by Goldie Hawk, illustrated by Rachael Saunders

A pocket-sized adventure guide: what to pack, how to spot river animals and wildlife, how to catch fish, build your own raft, and much more!

ages 8-12

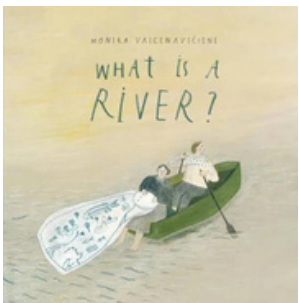


3 Days on a River in a Red Canoe

by Vera B. Williams

Follow a girl and her family in this heartwarming adventure about family and nature. Watch the [Reading Rainbow episode](#).

ages 4-8

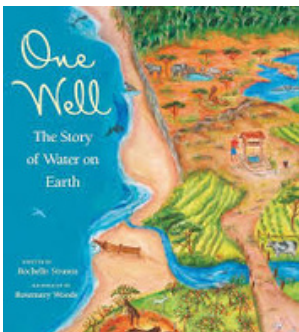


What Is a River?

by Monika VAICENAVIČIENĖ

Drawing on geographical, historical, mythological references, and personal observations, the book brings together both factually accurate and poetic storytelling to tell a tale of interconnectedness and wonder.

ages 4-9



One Well: The Story of Water on Earth

by Rochelle Strauss, illustrated by Rosemary Woods

This picture book shows how water connects us all, and how every one of us has the power to conserve and protect this global resource.

ages 8-13