

## • Resources for Elementary Grades •

Earth Day 2024's theme is **Planet vs. Plastics**. The activities below explore the magnitude, inequality, and impacts of plastic pollution at home and across the planet. They'll also inspire and guide students to take informed action and be part of a solution to the plastic problem.

### Lesson Plans:

**Waste Not, Want Not** – *Students visit the supermarket and investigate products' containers and packaging options to determine which products would produce the least solid waste.*

**Lend a Hand to the Earth** – *Students compare the life cycle stages of four everyday products in order to hypothesize which item has the lowest environmental footprint, and then brainstorm ways to minimize its eco-impact.*

**Who Polluted the River?** (Water pollution lesson for grades K-2) – *Through an interactive story, students experience the pollution of a local river over time and propose methods to protect the river from current and future pollution.*

**Who Polluted the Potomac?** (Water pollution lesson for grades 3-5) – *Through an interactive story, students experience the pollution of a local river over time and propose methods to protect the river from current and future pollution.*

**What Would You Do?** – *Students examine their own values by considering various environmental dilemmas and evaluating how different reactions impact the planet.*

\*For more great resources, visit us at [www.PopulationEducation.org](http://www.PopulationEducation.org)!

## UNIT 6 | PEOPLE AND WASTE

# WASTE NOT, WANT NOT

### METHOD

Students identify ways to reduce solid waste by creatively reusing items that might be disposed of.

### MATERIALS

- *Joseph Had a Little Overcoat* by Simms Taback
- Art supplies
- Image Bank (provided)

## INTRODUCTION

Reusing old items rather than throwing them away is important for both reducing the amount of waste in our landfills and decreasing the need to produce more goods from raw natural resources. Producing more goods requires the use of energy to manufacture, package, and transport the new item and also means that even more garbage will end up in the landfill once the item becomes worn or unwanted. Many household items that are routinely discarded in students' homes could be reused for a different purpose. By learning about creative reusability, students can develop healthier relationships with the material items in their lives and feel empowered to make environmentally-friendly decisions when these items begin to wear out.



## PROCEDURE

1. Read the book *Joseph Had a Little Overcoat* by Simms Taback (1999) aloud to the class. Stop along the way to have students predict what Joseph will do with his old, tattered garments.



### CONCEPT

Reusing items that would typically be thrown away saves space in landfills and can reduce the demand for new items to be manufactured.

### GRADE LEVEL

Lower and upper elementary

### SUBJECTS

Science, Social Studies

### OBJECTIVES

Students will be able to:

- Explain the benefits of reusing old materials.
- Determine creative ways to reuse old or unwanted household goods.
- Use writing to illustrate how an object was reused either through a descriptive story or detailed instructions.

### SKILLS

Answering questions about a text read aloud, communicating with a partner, brainstorming, creative thinking, 3-D building, creative and informative writing

2. After the story, ask the students to talk to a partner about what they think the author is trying to teach through Joseph's story. (*Even when something is old and seems useless, it can be re-made or used in a different way instead of going into the garbage.*) Discuss as a class the moral of the story and the significance of the last line: "You can always make something out of nothing."
3. Tell students that most people have items in their homes that they consider to be "nothing" – things that they throw away because they seem useless. Oftentimes, these items end up in a **landfill**.
4. Ask students, "Who has heard the word landfill? What do you know about them?"

Share the below information as needed:

*"Landfills are large holes in the ground where garbage gets stored. Many of the items dumped in landfills, like plastics, cans, and glass bottles can take hundreds, or even millions of years to break down (or **decompose**) into soil. All this trash in the ground takes up a lot of space and smells bad. If a landfill isn't taken care of, bad liquids and gasses go into the soil, water, and air."*

5. Ask students if they can think of ways to keep some of this trash out of the landfill. (*Students may mention recycling, buying less to start with, reusing, etc.*)

Explain that, just like Joseph, you'll be focusing on reusing – turning items that seem like "nothing" into "something"! Reusing not only keeps trash out of landfills, it also means that fewer new items need to be produced. Producing new things requires the use of energy to create, package, and transport the item. When less energy is used, we are helping to save Earth's natural resources. While recycling is also a great way to keep items out of landfills, it's not perfect, since recycling centers also use a lot of energy.

6. As a class, brainstorm a list of household items that would typically get thrown away or recycled.
7. Share with students that over the course of one school week, you'd like them each to bring 3-5 "throwaway" household items into class. Students will then choose "trash" from the class collection to create something new.
8. Contact students' guardians to share information about the project so they can assist students as needed with collecting objects. Establish an area for storing the collected items.
9. At the end of the week, select one item from the pool of collected "throwaway" items and have the whole class brainstorm possible ways the item can be reused. List ideas on the board. Creativity is strongly encouraged – no suggestion is too absurd to be included during brainstorming!

To further spark imaginations, show students the provided pictures of "throwaway" items made into something new from the provided Image Bank.

10. Divide students into groups of 3-4 and provide each group with a variety of art supplies.

11. Place all the collected “throwaway” items in an easy-to-access place in the classroom. Invite students to select one or several pieces of trash to work with and take back to their groups.

12. Allow time for groups to design and create their new item.

13. Have students choose between two writing prompts to accompany their project, the length and depth of which will vary by grade level. This should be done individually rather than as a group.

- Write a detailed description of the purpose of both the old and the new item and steps that went into its transformation. Students may choose to include labeled diagrams.
- Write a descriptive story that tells the journey of the object (ex. “From the Freezer to the Forest – How I, a Popsicle Stick, Became a Birdhouse”). Students could parallel their story with what would happen to the item if it wasn’t reused.

14. If space allows, put student creations on display for the class or, if possible, showcase students’ work and accompanied writings throughout the school or at a “No Waste Party” hosted in your classroom. Their work may inspire teachers and other students to consider new ways to use “throwaway” materials.



## DISCUSSION QUESTIONS

1. Is there a design or project other than yours that you would want to recreate at home? Why?

*Answers will vary.*

2. Is there anything you would have done differently to improve your design if you had more supplies or tools (could melt things, cut smaller pieces, had stronger glue)?

*Answers will vary.*

3. How can you help the people in your house reuse things they would normally throw away?

*Answers may include: teaching them why it's important to reuse items, giving them ideas from what was presented in the class that day, leading by example, etc.*

4. How do you think the school or community could make it easier for people to reuse unwanted items?

*Answers may include: providing more bins to collect unwanted items, making more thrift stores, organizing swaps, etc.*

5. What do you think would happen if everyone in the world reused items instead of throwing them away?

*If everyone in the world reused items instead of throwing them away, landfills wouldn't be as big and there wouldn't be as many of them so we could keep that land natural or use it for another purpose. With less landfills there will then be less trash harming the soil, water, and air.*

6. We know reusing items will keep them out of landfills. What are some other good things that happen as a result of reusing “throwaway” items?

*When people reuse “throwaway” items they don't have to buy as many new things. The less people buy, the less resources we have to use to make new things which is better for the environment, and helps people save money.*

7. The phrase “one person’s trash is another person’s treasure” means that something considered “trash” by one person, might be valuable to someone else. What are some ways we can get “treasures” that other people don’t want anymore?

*We could purchase items from second-hand stores, swap clothes/toys/books with friends and neighbors, visit little free libraries in neighborhoods, get hand-me-downs from older siblings, etc.*

## MEASURING LEARNING

Have students work in small groups to reflect on what they learned about creating “something” from “nothing.” Each small group should prepare a short presentation about what was done in class, how their projects may have been the same or different, and why it’s important to reuse old or unwanted items instead of throwing them away. Presentations can be done on any form of visual representation (PowerPoint, posterboard, Prezi, etc.) based on what resources allow. Presentations can be very basic or can be more detailed and elaborate based on the grade level of your students. Each small group shares their presentation with the class.

## FOLLOW-UP ACTIVITIES

1. Have students continue teaching Joseph’s message by writing to the local newspaper to explain what they’ve done as a class to promote reusing and to reduce landfill waste. This can be done either as a whole class (one letter) or individually (each student writes a letter). The letters should include information about why it is important to reuse old items and how each individual in the community can do their part.
2. Have your class (or school) plan a reusing event that focuses on the collection of different materials. Ideas could include an old toy swap, book exchange, or a clothing drive.

# IMAGE BANK

## EXAMPLES OF TRANSFORMED “THROWAWAY” ITEMS



Plastic bottle planters



Headband from cloth straps



Water bottle vase



Toilet paper roll art



Piggy bank from aluminum can



Bows for presents made from books

Plastic bottle planters: “[Plastic bottle recycling ideas 11](#)” by Nguyen Tan Tin, [CC BY-NC 2.0](#)

Headband: “[Headband](#)” by KnitSpirit, [CC BY-NC-ND 2.0](#)

Water bottle vase: “[Decorated bottle - mosaic](#)” by EvelynGiggles, [CC BY 2.0](#)

Toilet paper roll art: “[#48: Reuse, renew, recycle](#)” by Kelley Minars, [CC BY 2.0](#)

Piggy bank: “[Vintage American Can Company Coin Bank](#)” by Joe Haupt, [CC BY-SA 2.0](#)

Book bows: “[Upcycled book jacket flower bows](#)” by crostinidesigns, [CC BY-NC-ND 2.0](#)

## UNIT 6 | PEOPLE AND RESOURCE USE

# LEND A HAND TO THE EARTH

### METHOD

Students create both class and individual pledges to protect the environment, and discuss the power of cumulative action.

### MATERIALS

#### Part 1:

- *10 Things I Can Do to Help My World* by Melanie Walsh (optional)
- Construction paper
- Scissors
- Markers, crayons, or colored pencils
- Poster board

#### Part 2:

- Pledge Worksheet

## INTRODUCTION

Even the youngest students care about living in a better world. They notice things that hurt the natural environment, and can identify actions that help the planet be cleaner and healthier. We want our next generation of leaders, citizens, and voters to feel empowered to make the changes that improve the Earth for us all.

All too often, we encourage students to think of actions they can take by themselves: things like turning off a light switch or picking up trash. Although these small steps help students feel in control of environmental problems, we know that individuals can only have a limited impact on the really big global environmental challenges. In order to tackle the really big problems, we need really big groups of people working together.

It's a lot more challenging to work as a group to make change. It takes cooperation, creativity, communication, and accountability. Throughout this lesson, students will think bigger and plan together to make as big an impact as possible in the world around them.



### CONCEPT

Every person can take action to help the environment, and the cumulative effect of individual actions can make a big impact.

### GRADE LEVEL

Lower elementary

### SUBJECTS

Science, Social Studies, Math, English Language Arts

### OBJECTIVES

Students will be able to:

- Identify an action that will help protect the environment.
- Create and write a pledge about their action.
- Collect data on completed pledges.
- Discuss the cumulative effects of individual actions.

### SKILLS

Participating in class conversations, brainstorming, writing, voting, tallying data, problem solving

# PART 1: CLASS PLEDGE

## PROCEDURE

1. Read students *10 Things I Can Do to Help My World* by Melanie Walsh (2012) or another book about children helping the environment. Additional suggestions can be found in the [Recommended Children's Books](#) for this lesson.
2. Take a few suggestions from the book, and ask students to explain in their own words how the action benefits the planet. For example:

*“Why is it important to put trash in a trashcan, rather than throw it on the ground?” (If trash goes into a trashcan, then it won't end up in nature where animals could eat it and get sick.)*

*“Why is it important to turn off water when you brush your teeth?” (Turning off water when I'm brushing saves water for drinking later.)*

*“Why is it important to turn off lights when we are not using them?” (Lights use electricity, and when you use electricity, you make pollution. Turning off lights means making less pollution.)*
3. As a class, brainstorm other possible ways that students can help the planet in their everyday lives, and record ideas on the board. You may wish to start the brainstorm by writing or drawing pictures of the actions from the book *10 Things I Can Do to Help My World*. If students struggle to think of new ideas, ask them to think about things they do in their everyday lives that create trash, items that get wasted, or to think about times that they are outside in natural spaces and can have a direct impact on nature.
4. Ask students what they know about the word **pledge**. Have they ever heard that word before? Then define “pledge” as being a promise that is made in public so everyone knows about it.
5. Tell students that you will be making a class pledge to do something in the next week to help the Earth. The class pledge should be based on an action that students think they can do at school and within a one-week timeframe.
6. Narrow the list of brainstormed ideas to actions that can be accomplished during school hours and are reasonable to accomplish by students within a week. You may want to take a picture of the entire brainstorm list to remember all of the ideas for Part 2 of the lesson.
7. Ask students to vote for the action they want to turn into a class pledge. Tally votes next to each idea on the board. Count up votes and determine which action received the most.
8. If the action is vague, students might need help rewording to be specific and doable at school. For example, if the action is “pick up trash,” the pledge might be “pick up trash on the playground.” If the action is “waste less water,” the pledge might be “turn off the water while washing our hands.”

- Using the poster board, create a poster with the class pledge written across the top. Pass out construction paper to each student. Ask them to trace their hand, then cut out their handprint. Alternatively, students can cut out the handprint from extra copies of the Pledge Worksheet, or use pre-cut heart shapes. Students should draw a picture of themselves accomplishing the pledge on their handprint or heart. Paste the handprints or hearts to the poster, leaving blank space in the middle to tally their accomplishments.
- Each day, ask the class who was able to accomplish the pledge at school that day. Create a tally in the center of the poster for every time a student accomplishes the pledge. Some students might be able to accomplish the pledge multiple times a day, some might accomplish it only once during the week, and some might not be able to accomplish it at all.
- Invite one or two students to tell the story of how they fulfilled the pledge, and what difference their action made for the Earth. If no students accomplished the pledge that day, you can share how you accomplished the pledge, and what impact it had.
- At the end of the week, display the class pledge poster so the whole school can see.

## DISCUSSION QUESTIONS

- How did my action make the planet a better, healthier place?
- Model describing how you felt after completing the pledge. You might say, "I felt proud of myself because I knew that I was helping the animals and plants around our school be healthier by picking up the trash." Then ask students to describe how they felt. They can use the prompt, "I felt \_\_\_\_\_ because \_\_\_\_\_."
- How does it feel seeing the tally marks for all of the actions everyone took together? Is it the same or different from how you felt about taking your own individual action? How?
- Notice the total number of times that we completed the class pledge. What difference do you think all of those actions had for our planet?
- What do you think the world would look like if our whole school completed the pledge? Or everyone in our community?



## PART 2: INDIVIDUAL PLEDGE

### PROCEDURE

1. Distribute the Pledge Worksheet to each student.
2. Ask everyone to think of their own individual pledge for the Earth. You may want to remind students of all of the actions that they brainstormed in Part 1 of the lesson.
3. Students should draw a picture of themselves completing their pledge in the handprint and write their pledge below. They can use the space at the bottom of the Worksheet to make a tally mark each time they accomplish their pledge.
4. Pledge Worksheets can go home to remind students to take action in their everyday lives. Or Pledge Worksheets can stay at school to show the entire class all the actions being taken by their classmates.

## MEASURING LEARNING

Students write a sentence or draw a picture showing how everyone completing the pledge together helps the Earth.

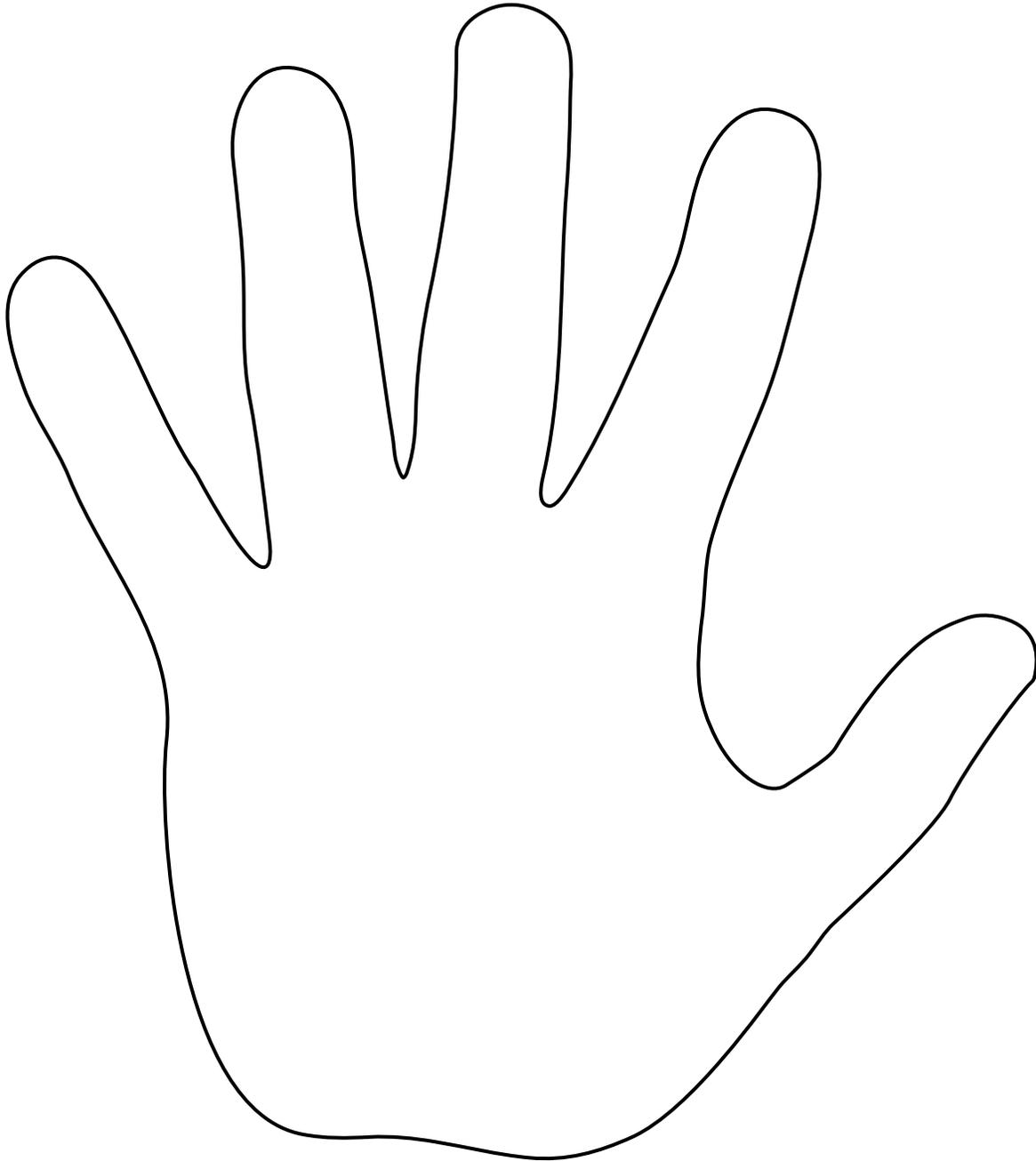
## FOLLOW-UP ACTIVITIES

1. Measure the difference a group of people can make. Pick a pledge from the brainstormed list that can be easily measured. Estimate how big an impact a group of people can make if everyone accomplished the pledge. For example, how much litter could we collect if everyone in the school picked up one piece? If turning off water when brushing your teeth saves two gallons of water, how much water could our class save if everyone turned off the sink one time while brushing? If everyone in our grade uses the back of one sheet of paper, how much paper would we save?
2. Pick a pledge for the school. Create posters encouraging students in other classes to accomplish the pledge. Hang the posters around school.

# LEND A HAND TO THE EARTH PLEDGE WORKSHEET

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**To help the Earth, I can...**



---

---

Add a tally mark each time I do my pledge:

## UNIT 7 | PEOPLE AND WASTE

# WHO POLLUTED THE RIVER?

### METHOD

Through an interactive story, students experience the pollution of a river over time and propose methods to protect the river from current and future pollution.

### MATERIALS

- Clear gallon jar or bowl of water
- Small lidded containers
- Container Labels (provided)
- Character Nametags (provided)
- Story: “Who Polluted the River?” (provided)
- Container ingredients
- Slotted spoon
- Plastic fish toy (optional)

## INTRODUCTION

Rivers have always been an important resource. They provide water for drinking, a means of transportation, a home for wildlife, and more. As human populations have increased, so has our impact on the water system and many rivers have become polluted as a result. Some pollutants enter rivers through the actions of individual people, like leaving trash on the ground. However, other pollutants come from larger problems like factory run-off or driving cars. It is important that we know where river pollution comes from so that we can work together toward cleaner rivers today and in the future.

## PROCEDURE

1. Before class, tape the Volunteers label to the handle of the slotted spoon. Then prepare and label the small containers using the items in the chart on the next page. Prepare enough characters for each student to have at least one. There are 10 different container labels, so you will most likely need to double some characters and students will have identical containers.

NOTE: Don't have more than one barnyard container (coffee), as two doses of it will make the water too dark to notice the progression of pollution afterwards.



### CONCEPT

Over time, the actions of people have caused some rivers to become polluted. We must work together to protect and clean our rivers.

### GRADE LEVEL

Lower elementary

### SUBJECTS

Science, Social Studies,  
Language Arts

### OBJECTIVES

Students will be able to:

- Name two pollutants that can harm the health of a river.
- Identify how the health and use of rivers has changed over time.
- Propose methods for preventing and cleaning up water pollution.

### SKILLS

Critical thinking, listening and observing, role playing, understanding cause and effect, describing



<b>CHARACTER (CONTAINER LABEL)</b>	<b>CONTAINER INGREDIENTS</b>
Natural materials	Dry leaves
Building sites	Soil
Farmers	Baking soda
Family picnics	Litter, assorted (shreds of paper, pieces of plastic, etc.)
Person fishing	Tangle of fishing line or dental floss
Barnyards	Water + instant coffee
Factories	Water + 1 drop red food coloring
Drivers	Vegetable oil + 1 drop red and green food coloring
Washing the car	Water + 1 drop of dishwashing soap
Motorboats	Vegetable oil + 1 drop red and green food coloring

2. Cut out the Character Nametags. Make sure there is a Character Nametag for each container you've made (i.e. if there are two "Driver" containers, there should be two "Driver" nametags). One Nametag will be the "Volunteers." They will not have a matching container and instead, will use the labeled slotted spoon.
3. Fill a clear jar or bowl with water. Place the bowl in a location that can be seen by all students. Set up the labeled containers and slotted spoon within easy reach of where you'll be facilitating the activity, lined up in the order that they appear in the story.
4. Distribute one Character Nametag to each student. To activate background knowledge, ask students to share one thing they already know about the character they are given (the sound it makes, what color it is, etc.).
5. Explain that you will tell a story about a river, and that each of the students will play a part in the story. The jar or bowl of water represents the river.  
NOTE: This lesson can be easily localized by replacing the italicized words with the river and Native American groups that are local to your area. This map of Native lands may help: <https://native-land.ca/>.
6. When students hear the name of the item pictured on the Character Nametag you've given them, they should come up to you to find their matching container, open it, and empty its contents into the bowl of water. If you feel the students will have trouble opening the containers without spilling the contents, remove the lids for them, or leave the lids off altogether.
7. If using a fish toy, put it in the water now and explain that the fish lives in the river.
8. Read the story "Who Polluted the River?" aloud to the class. Add emphasis as you read each bolded character name and pause after each question to give the students time to think and respond. If using a fish toy, occasionally include the question "How do you think the fish feels?"
9. Go over the Discussion Questions as a class.

## DISCUSSION QUESTIONS

1. Who polluted the river?

*Everyone played a role.*

2. How did people impact the river over time?

*The impact that people had on the river grew over time. Negative impacts include trash and toxic materials going into the water from boats, factories, and farms. People had a positive impact on the river when they volunteered to collect trash along the riverbank.*

3. Think about the pollution in your container. To keep the river clean, what could each of us do to keep the pollution from ever getting into the river?

*Answers may include: biking or walking instead of driving, using water carefully, picking up litter so it doesn't end up in our fresh water supply, talking to friends, family and neighbors about the importance of keeping our rivers clean.*

4. Challenge students to come up with ways to clean the water in the bowl. Can water in a river be cleaned up in the real world?

*Solids can be strained using a kitchen strainer or netting. Students may also find coffee filters or absorbent cotton helpful. In reality, people clean up rivers in many ways – using nets to pull out large items, treating the water with chemicals, or introducing organisms that filter or digest pollutants from the water.*

5. Is it easier to prevent pollution, or to clean it up later? Have students explain their ideas.

*Preventing pollution is more effective for keeping waterways clean.*

## MEASURING LEARNING

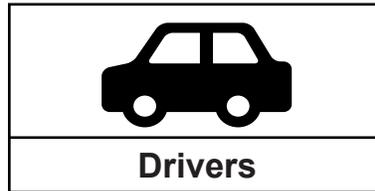
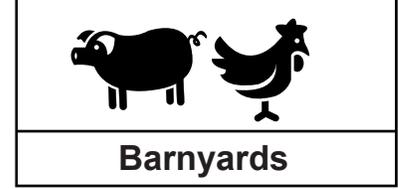
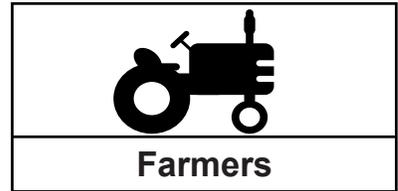
Ask students to pick a pollutant from the story and illustrate:

1. an action that would cause that pollutant to go into the river.
2. an action that would prevent that pollutant from entering the river.

## FOLLOW-UP ACTIVITIES

1. Arrange a class field trip to your local waste water treatment plant. Prior to your visit, have each student write down one question they have about polluted water and/or the cleaning process. At the plant, ask that an employee provide a tour of the facility and provide information such as how the water is cleaned, how much water goes through the plant, and why the plant is an important part of the local community. Be sure to leave time for student questions!
2. Ask someone from a local Indigenous group to speak with your students about their experience with the river. In their community, how was the river used in the past and how is it used currently? What are current watershed issues in their community?

**WHO POLLUTED THE RIVER?  
CONTAINER LABELS**



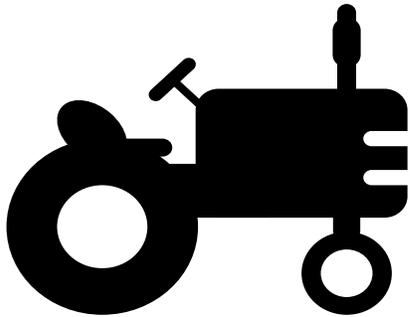
WHO POLLUTED THE RIVER?  
CHARACTER NAMETAGS



**Natural materials**



**Building sites**



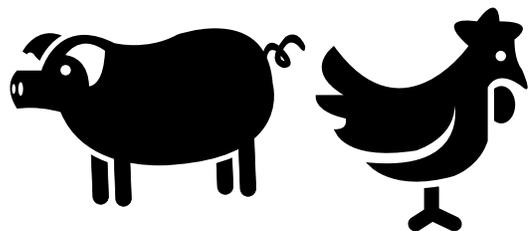
**Farmers**



**Person fishing**



**Family picnics**



**Barnyards**

**WHO POLLUTED THE RIVER?  
CHARACTER NAMETAGS**



**Factories**



**Drivers**



**Washing the car**



**Motorboats**



**Volunteers**

## STORY: WHO POLLUTED THE RIVER?

Feel free to localize this lesson by replacing the italicized words (*river* and *Native American*) to reflect your local river and history.

For more than 10,000 years, people lived on the banks of this *river*. This was a time before roads and cars, and the land was very wild. Imagine that the bowl of water in front of you was collected by a *Native American* a long, long time ago.

- Describe how the water looks to you. Would you drink this water? Eat fish that came from it? Swim in it?
- How do you think *Native Americans* used the river? (*Answers may include: bathing, drinking and cooking water, transportation, food source, etc.*)

*Native American* groups built villages along the banks of the *river*. They raised families, hunted in the forests, grew crops, and caught fish in the *river*. But they didn't change the natural surroundings too much. We can guess that all of these actions led to **NATURAL MATERIALS**, like twigs, leaves, and pebbles being washed into the *river*. Eventually, people from Europe traveled to this land from across the ocean. These settlers found rich soil for farming, forests full of wildlife, and a *river* that provided plenty of food and water. It was a perfect place to live.

- How do you think the new settlers used the river? (*Answers may include: for water to drink, cook with, bathe and wash clothes in; to catch fish from; to go boating on; to move supplies from place to place*)

More and more people moved to the area. Gradually, a city grew up around the *river*. People drained swamps and cut down forests to build houses, schools, churches, stores, roads, hospitals and many other buildings. Rains washed loose soil from these **BUILDING SITES** into the *river*.

- Is this water safe to drink? (*If the response is "no," ask if the river had leaves or soil in it when people long ago drank from it.*)
- Would you swim in it? Is it safe for animals to drink and fish to swim in?

At first, the city was small. Upstream, **FARMERS** planted crops to feed all the people as the city grew. They used chemicals called fertilizers to make their crops grow faster. Some farmers kept pigs and other animals in **BARNYARDS**. As rainwater drained out of the fields and barnyard, it carried some of the fertilizers and manure into a little creek behind the farm. The creek flows into the *river*.

- Would you drink this water now? Would you swim in it? Go boating on it?
- Is the water safe for fish and animals?

Now, the city along the *river* has grown to be one of the largest cities in the country. Many people live and work in and around the city. Many businesses provide services for the people. Several **FACTORIES** make things that people want, like cars and furniture, but the factories leak paint and other chemicals into the *river*. These pollutants cause the fish to become sick. As people move about their busy days, they often drive from place to

place. Traffic jams are a big problem for **DRIVERS** who take their cars to and from work. If a car is not taken good care of, it might also leak oil or other fluids, which will be washed off the roads and into the *river* with the next rain.

- Would you drink this water now? Would you swim in it? Go boating on it?
- How could we tell if this water is safe for wildlife? (*Answers may include: looking at the health of the plants and animals in and around the river, smelling the water, or testing the water.*)

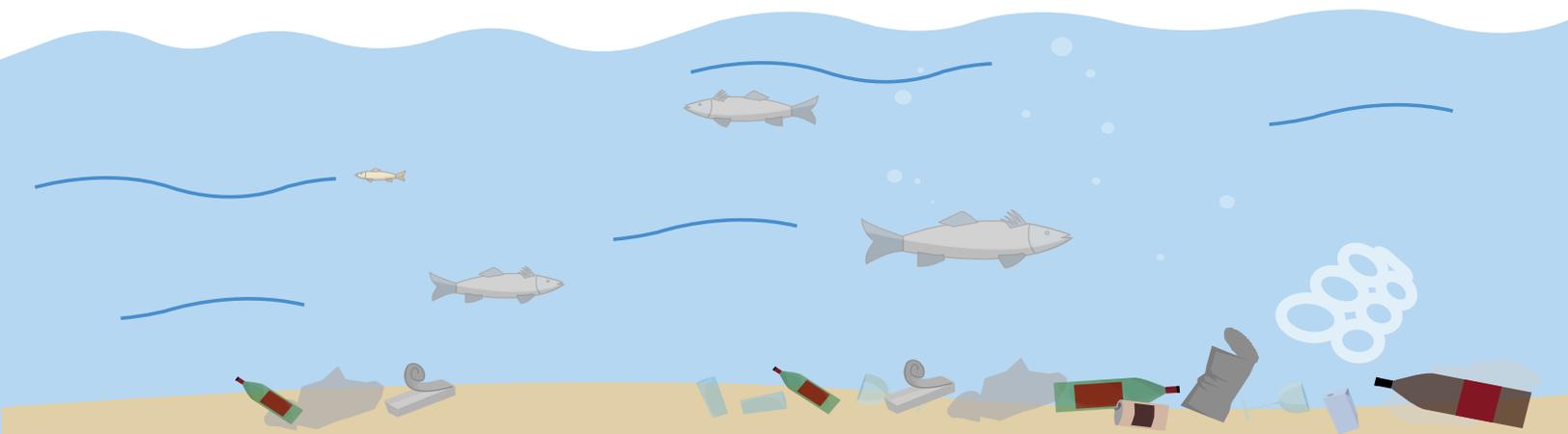
In one neighborhood, a person is outside **WASHING THE CAR**. The soapy water rushes down the driveway into the storm drain by the curb; the storm drain empties into the *river*. The grease and grime on a car contains tar from the roads, very tiny bits of rubber from the tires, and rust. If the person had gone to a local car wash, the water would have been cleaned before it went back into the *river* or was recycled.

On nice days, many people head down to the *river*. Some zoom up and down the *river* in **MOTORBOATS** and don't notice that a little engine oil leaks into the water. The oil will not mix with the river water, but will float on the surface. It will coat the feathers of ducks or other birds that paddle around on the water looking for food, making it harder for them to stay afloat or fly. Lots of people are having **FAMILY PICNICS** in the parks along the *river*, too. Some of these people have left trash on the shore. With the next storm, that trash will wash into the *river*. On the shore a **PERSON FISHING** snags a hook on a log. Instead of untangling it, the person breaks off the snagged piece of the nylon fishing line and lets it fall into the *river*.

One weekend, a group of **VOLUNTEERS** visits the *river*. They walk up and down the riverbank and collect trash. [Student uses the slotted spoon to scoop out some garbage.] They gather over 100 bags of garbage that will go to a recycling center or proper landfill and will no longer pollute the *river*.

The *Native Americans* living today see a very different *river* than their ancestors saw 500 years ago. People have changed the river in many ways.

- How do we use the *river* today? (*Answers may include: boating, fishing, swimming, etc.*)
- In what ways do we use the *river* the same as the *Native Americans* and settlers? What ways do we use the *river* differently? (*Answers will vary. Students may recognize similarities like transportation and food, but may not realize that the water they use every day also may come from a local waterway.*)



## UNIT 7 | PEOPLE AND WASTE

# WHO POLLUTED THE POTOMAC?

### METHOD

Through an interactive story, students experience the pollution of a river over time and propose methods to protect the river from current and future pollution.

### MATERIALS

- Clear gallon jar or bowl of water
- Small lidded containers
- Container ingredients
- Container Labels (provided)
- Slotted spoon
- Story: “Who Polluted the Potomac?” (provided)

## INTRODUCTION

Rivers and **watersheds** are vitally important to the establishment of thriving societies – we see examples of this throughout history with early civilizations sprouting up close to rivers and bodies of water. As human population has increased and land uses have changed over time, many of our rivers have become **polluted**.

Pollution can come from individual actions, like leaving trash on the ground, or from larger problems like factory pollution. Examining the many ways in which pollutants enter rivers is an important first step in combating water pollution and achieving sustainable communities.



### CONCEPT

Humans impact rivers in many ways, and water pollution has increased over time due to changes in population and technology.

### GRADE LEVEL

Upper elementary

### SUBJECTS

Science, Social Studies, Language Arts

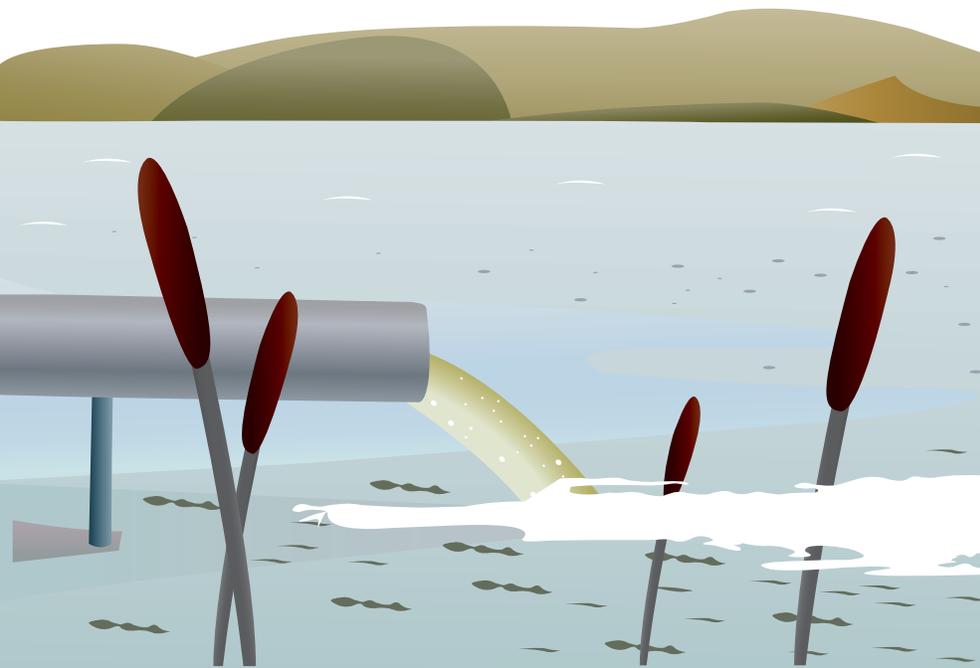
### OBJECTIVES

Students will be able to:

- List three pollutants that can impact rivers.
- Compare the health and use of rivers in modern times to that of rivers both before and during colonization.
- Draw connections between individual actions and pollution of a river.
- Develop strategies for minimizing and counteracting water pollution.

### SKILLS

Critical thinking, listening and observing, role playing, understanding cause and effect



# PROCEDURE

1. Before class, prepare and label the small containers using the items in the chart below. Tape the Volunteers label to the slotted spoon. Prepare enough characters for each student to have at least one. There are 17 different characters, so for large classes, double some characters and some students will have identical containers.

CHARACTER (CHARACTER LABEL)	CONTAINER INGREDIENTS
Natural Debris	Leaves, pebbles, and/or twigs
Soil	Soil
Construction sites	Soil
Picnicking	Litter, assorted
Person fishing	Fishing line or dental floss
Farmers	Baking soda
Gardeners	Baking soda
Commuters	Vinegar
Coal mine	Vinegar
Electric power plant	Vinegar
Barnyards	Water + instant coffee grounds
Washing the car	Water + 1 drop of dishwashing soap
Homeowner	Water + 1 drop yellow food coloring
Antifreeze	Water + 1 drop green food coloring
Mysterious liquid	Water + 1 drop red food coloring
Motorboats	Water + 1 drop each of red and green food coloring

2. Fill a clear jar or bowl with water. Place the jar or bowl in a location that can be seen by all students.
3. Distribute one character to each student. Ask them to keep the container closed and upright, and not to reveal the identity of their character.
4. Read the story “Who Polluted the Potomac?” aloud. Add emphasis as you read each bolded character name, and pause after each question to give the students time to think and respond.

NOTE: Italicized names in the story are specific to the Washington, DC area. Feel free to change the names and other details to reflect your own community and history. This map of Native lands may help: <https://native-land.ca/>.

# DISCUSSION QUESTIONS

## 1. Who polluted the Potomac?

*Everyone played a role, either directly or indirectly, in polluting the Potomac River.*

## 2. What effect did the increasing population have on the health of the river and watershed? Can you think of any ways that population growth could improve a river's health?

*In this situation, population growth led to increases in pollution sources like the farmer's fertilizer and boat oil. However, an increase in population may also lead to stronger environmental laws, better use of resources, and public services like sewage treatment plants that keep pollutants out of rivers. Also, population growth could mean more people working together to clean up a dirty river, like the volunteers in the story.*

## 3. Think about the pollution represented in the containers. What could be done to prevent those types of materials from entering the water in the first place? Think about both individual and larger, community level actions?

*Individual actions: walk or ride a bike instead of driving, pick up trash off the ground, take a car to the car wash, keep cars and boats in good repair, advocate for community level actions, etc.*

*Community level actions: the town could implement soil-erosion control at the construction site, city council could limit or ban single-use plastics, power plants could install smokestack technology at the power plant, the state can create more laws/fines for factories that pollute, the community can start a campaign to inform neighbors about the impacts of weed killers and insect sprays, etc.*

## 4. Many of the pollutants were the result of an individual person's action. Is an individual the only person impacted by their decision? Does something added to the river in one location stay there? Where does it go and what is the impact?

*No. Rivers are a shared resource, so individual actions impact the entire community. Because rivers run through multiple towns and states, pollutants that enter the river at one point move downstream and the effects are felt all along the river's path.*

## 5. Do upriver cities or states have a responsibility to keep rivers clean for downriver cities or states? Do you think they should?

*Answers will vary.*

6. Challenge students to come up with ways to clean the water in the jar or bowl. Once pollution has entered the river, how can we get it out? How can we clean up the river?

*To practice engineering skills, invite students to propose a way to clean the water in the bowl. They should design a plan, make notes on the effectiveness of their strategy, and propose ways to improve their design. In the classroom, solids can be strained using a kitchen strainer or netting. Students may also find coffee filters or absorbent cotton helpful. In reality, humans clean up waterways using a variety of methods. Examples include using nets to retrieve large items, treating the water with chemicals, or introducing organisms that filter or digest pollutants from the water.*

7. Do you think that it is easier to prevent pollution, or to clean water that is already polluted? Have students explain their ideas. What could each of us do to help improve the health of our rivers by preventing some of this pollution?

*Preventing pollution is known to be a more effective approach to ensuring clean waterways. Answers may include: biking or walking instead of driving, conserving water, picking up litter, advocating for changes to environmental policies at your school or in your town, pulling weeds instead of spraying them, etc.*

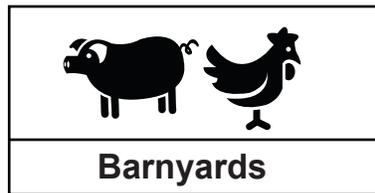
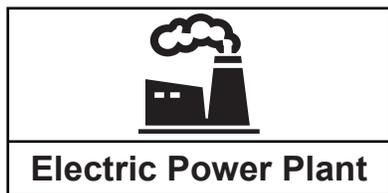
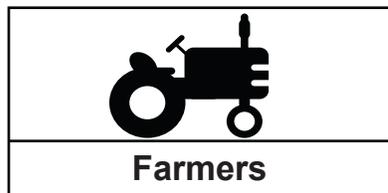
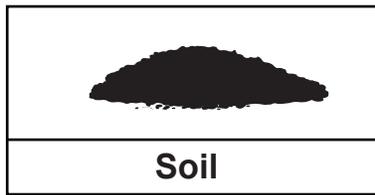
## MEASURING LEARNING

Students list three things that can cause pollution of a river and two ways that we can keep rivers clean.

## FOLLOW-UP ACTIVITIES

1. Learn what members of your community are doing to address a current watershed issue. Students brainstorm ways they can help. For inspiration, watch the video [Thousands of Mussels in the Anacostia River](#) to learn about an initiative to restore one of Washington, DC's rivers with mussels, or the video about [Mr. Trash Wheel](#), a project to sustainably clean Baltimore's Inner Harbor.
2. Create a timeline of human impacts on your own watershed. Research the people, industries, and events that have changed it over time. Include things like photos, primary source documents, and articles to explain the history.
3. As a class, research local water services in your community. Or, invite a local government official to discuss your region's water facilities and programs for waste and pollution management.
4. Ask someone from a local Indigenous group to speak with your students about their experience with the river. In their community, how was the river used in the past and how is it used currently? What are current watershed issues in their community?

**WHO POLLUTED THE POTOMAC?  
CONTAINER LABELS**



## STORY: WHO POLLUTED THE POTOMAC?

*Italicized names are specific to the Washington, DC area. Feel free to change the names and other details of the story to reflect your own community and history.*

This is the story of the *Potomac River*, and the changes to the river that humans made over time. Listen for the name of the character printed on your container. When you hear your character named, come up to the river (bowl of water), open your container and dump in its contents.

(Story begins:) For more than 10,000 years, people lived on the banks of this river. During that time, they raised families, hunted in the forests, grew crops, and caught fish. Imagine that the bowl of water in front of you was taken from the *Potomac River* by a *Nacotchtank* (*na-COTCH-tunk*) about 500 years ago.

- How does the water look to you?
- Does this look like water that you might drink? Swim in? Eat fish from?

The *Nacotchtank* built small seasonal villages and a fur trading town on the banks of the *Potomac*. They cut down trees and used the lumber and bark to build buildings. They cleared sections of wetland and planted crops of corn, beans, squash, and potatoes. They quarried rock to create tools like axes and arrowheads. They fished from the river during the seasonal fish runs. We can guess that all of these actions led to **NATURAL DEBRIS**, like twigs, leaves and pebbles, being washed into the river. While there is some archeological evidence that helps us imagine what their life may have been like, there isn't evidence that they greatly impacted the river itself.

- How do you think the *Nacotchtank* used the river? (*Answers may include: bathing, drinking and cooking water, transportation, food source, etc.*)

About 400 years ago, European colonists arrived to this place. One of the first Europeans kept a journal of his discoveries. He wrote about the Native American communities, the tributaries of "sweet water," and seeing so many fish that he and his crew tried to scoop them out with a frying pan. The colonists pushed the *Nacotchtank* away from the banks of the *Potomac*, and many other *Nacotchtank* died from diseases the colonists introduced. They established permanent plantations to feed the city's growing population and grew tobacco to sell. **SOIL** washed off plantations and into the river. The European settlers introduced new animals to this land, including livestock. Farmers kept pigs and other animals in their **BARNYARDS**. As rainwater drained out of the barnyard, it carried some of the manure into a little creek behind the farm. The creek flowed into the river.

- How do you think the European colonists used the river? (*Answers may include: bathing, food, drinking and cooking water, transportation, food source, etc.*)

By 1800, *Washington, DC* had been established as the new nation's capital, and, gradually, the city grew on the banks of the *Potomac*. Developers cleared wetlands and forests to build houses and businesses. Rains washed loose soil from **CONSTRUCTION SITES** into the river. So much soil entered the river that the city dug out a channel to make the river deeper so that ships could reach *DC*.

By the early 1900s, electric power arrived in the city. Far upstream, a **COAL MINE** was dug. Rain water drained down into the mine shaft and soaked the piles of wastes and scraps from mining. This made the rain water become acidic – sort of like a strong vinegar. Then the acid water trickled off the banks and back out into the river.

To burn the coal and produce the power, an **ELECTRIC POWER PLANT** was built along the river. Gasses coming out of the smokestacks combined with moisture in the air to form acids. The pollution fell back to the Earth as acid rain or smog.

- Would you drink this water now? Would you swim in it? Go boating?
- How could we determine if this water is safe for wildlife? (*Answers may include: noticing evidence of dead animals, counting the different animal species in and around the water, viewing water samples under a microscope, and doing chemical tests on the water.*)

Upstream, large farms planted crops to feed the city's increasing population. **FARMERS** used fertilizers and pesticides to grow enough food for the city. Some of these crops grew right up against the banks of the river, and fertilizer washed off the land and into the water.

*Washington, DC* is now one of the largest metropolitan areas in the country. Traffic congestion is a big problem for **COMMUTERS** who drive their cars to and from work. Car exhaust fumes (just like power plant fumes) cause acid rain. If a car is not kept in good repair it may also leak oil or other fluids, which will be washed off the pavement and into the river with the next rain.

As the city grew, more and more people moved to the nearby countryside. These rural houses were not connected to the city sewer system. Wastewater from these houses flowed into septic tanks under the ground. One **HOMEOWNER** did not maintain the septic tank, and poorly treated sewage seeped into the river.

And how do the residents of the city and its suburbs spend their time? In one neighborhood, **GARDENERS** work in their yards. Many of them use weed killers and chemicals to keep their lawns green. The next rain will wash these chemicals into a little creek nearby, and then into the river.

One parent teaches their child how to change the **ANTIFREEZE** in their truck. They pour out the used antifreeze into the driveway. Animals can lick the sweet-tasting antifreeze and be poisoned. It can also trickle into the nearby creek and poison fish.

In another neighborhood, a teenager is **WASHING THE CAR**. The soapy water rushes down the driveway into the storm drain; the storm drain empties into the river. The grease and grime on a car can contain asphalt from the roads, rubber particles from the tires, toxic metals, and rust. If the teenager had gone to a local car wash, the water would have been treated before it returned to the river.

Next door is a family cleaning out their garage. They find an old rusty can with a tattered skull and crossbones label still stuck on it. This **MYSTERIOUS LIQUID** looks dangerous and they want to get rid of it before someone gets hurt. They decide to pour it down the storm drain out by the curb. The mysterious liquid is out of sight, but it is headed for the river.

On nice days, many people head down to the river. Some zoom up and down the water in **MOTORBOATS** and don't notice that a little engine oil leaks into the water. Families are **PICNICKING** in the parks along the riverbanks. Some of these people leave trash on the shore. With the next storm, that trash will wash into the river. Further upstream is a **PERSON FISHING**. The person snags their hook on a log and rather than untangling it, breaks off the nylon fishing line and leaves it behind.

One weekend, a group of **VOLUNTEERS** visits the river. They walk up and down the riverbanks and collect trash. [Note: Student uses the slotted spoon or tea strainer to scoop out some garbage. Place spoon and wet garbage on the paper towels.] They gather over 100 bags of garbage that will go to a recycling center or proper landfill and will no longer pollute the river.

The *Nacotchtank* people living today see a very different river than their ancestors saw 500 years ago. People changed the river in many ways.

- How do we use the river today? (*Answers may include: recreation, fishing, and using the river to generate electricity.*)
- What are similarities and differences in the way we use the river compared to the *Nacotchtank* people and the European colonists? (*Answers will vary. Students may recognize direct similarities like transportation and food, but may not realize that the water they use every day also may come from a local waterway to their tap.*)
- What do you imagine the river will look like in another 50 or 100 years?

# WHAT WOULD YOU DO?

## METHOD

In groups, students consider several environmental and social dilemmas and discuss the consequences of various reactions.

## MATERIALS

- Dilemma cards (provided)

## INTRODUCTION

This activity is designed to give students the opportunity to examine their own values and beliefs as they relate to the environment and social issues. While they probably know that it is important to be good stewards of the environment, they may not know how this can apply to everyday actions or that they can use their knowledge to educate others and advocate for more eco-friendly practices at home, school, and in their communities.

It is not the intent of this activity to prescribe “right” and “wrong” answers for the students. In some cases, students may perceive what would be the most ethical solution to a given problem, while admitting that they realistically might not choose that option. On each Dilemma Card, the action choices are preceded by “would you” rather than “should you.” This will encourage students to offer what they probably would do in each given situation.



## PROCEDURE

1. Before class, copy and cut the Dilemma Cards so that there are enough cards for each student to get one.
2. Divide the class into groups of four and give each student a Dilemma Card.
3. Give students a couple of minutes to read and consider the dilemmas and choices presented on their individual cards.

## CONCEPT

In our daily lives we may face difficult situations and how we choose to react can impact the environment, our neighbors, and the community.

## GRADE LEVEL

Upper elementary

## SUBJECTS

Science, Social Studies, Language Arts, Family and Consumer Sciences

## OBJECTIVES

Students will be able to:

- Explain and/or defend their positions on presented environmental dilemmas in small groups and in writing.
- Describe how their experience discussing and thinking about the dilemmas will influence or change their behavior when they come across environmental dilemmas in the future.

## SKILLS

Decision making, critical thinking, writing, clarifying values

4. Taking turns, each student will read his or her dilemma to the rest of the group and say which option he or she would choose, briefly describing the reasoning involved. In turn, each of the other members of the group is invited to comment on the dilemma and what they would do in the situation. The discussion of each dilemma by the group members should take about 10 minutes. The person whose dilemma is being discussed should have the opportunity to ask questions of the other members of the group and to offer clarification about his/her decision. The discussion gives students experience in having ideas examined by peers and is intended to remind the students of the need to take personal responsibility for decision making. It is not necessary and may not be desirable for the students to reach consensus; there are legitimately diverse views of the most appropriate and responsible actions to take in many situations. The purpose is to provide students with an opportunity to examine, express, clarify, and take responsibility for their own reasoning. Be sure to encourage respectful listening and disagreeing in a way that values the opinions of others.
5. Continue this process until each student has had the opportunity to express his/her decision and rationale about the dilemma on his/her card.
6. If time permits, you may want to discuss a few of the dilemmas as a class and go over the “Did You Know?” facts about the environmental issues addressed in their dilemmas.

## DISCUSSION QUESTIONS

1. Think about the dilemma you had. What would have been the consequences of doing nothing?
2. Sometimes what we think we “would” do and what we think we “should” do are two different things. Was that the case with your dilemma? If so, why?
3. In some of the dilemmas, the environmental connections are very clear, such as picking up litter or turning off lights. In other dilemmas, the environmental connection may not seem as direct. Were there any that you were not sure about?

*For example, in the case of the cafeteria food, students may understand that eating less meat may be beneficial for their health, but may not know the environmental impacts of raising more livestock for food. As for reusing clothes, they may immediately understand that this saves their parents money, but they may not also connect reusing items to having to produce fewer items and use more resources.*

## MEASURING LEARNING

In their writing journals, have students:

- a. Restate their dilemmas (or the dilemma that they found most difficult to choose a solution for).
- b. State the option they chose and the reason(s).

- c. Record any alternative viewpoints presented by other members of their group.
- d. Record any options they rejected and why.
- e. Describe how this experience will influence or change their behavior when they come across an environmental dilemma in the future.

## **FOLLOW-UP ACTIVITY**

Invite students to pick an environmental issue they would like to learn more about and do something to make a difference. They can use the different issues presented in the Dilemma Cards as a starting point (combating litter/pollution, recycling/reusing items, making eco-friendly transportation or meal choices, conserving energy and water, and taking care of wildlife). After talking with family members and, perhaps, doing a bit of online research (searching “what kids can do” and the topic), have students write down a resolution to do something (changing a habit or getting involved in a cause) that can help their local environment or the global environment. This could be as simple as resolving to find new homes for their old toys or electronics, or as involved as initiating a school-wide event to “adopt a creek.” Some kid-friendly websites that students may find useful include:

[www.50simplekids.com](http://www.50simplekids.com) from EarthWorks Group

[www.tvakids.com](http://www.tvakids.com) from Tennessee Valley Authority

[www.energystar.gov](http://www.energystar.gov) from the U.S. Department of Energy

<http://kids.niehs.nih.gov> from the National Institute of Environmental Health Sciences

[www.kab.org](http://www.kab.org) from Keep America Beautiful

# DID YOU KNOW...?

## **Litter**

Most of the garbage in the ocean comes from beaches or from garbage that spills into rivers and flows into the ocean. Plastic bags and other garbage kill more than one million sea creatures every year who mistakenly eat the pieces of trash. So picking up beach litter might save an animal's life.

## **Water Bottles/Recycling**

Until about 50 years ago, hardly anyone used plastic bottles for drinks. Today, Americans throw away more than 2 1/2 million plastic water bottles every hour, even though they are easy to recycle.

## **Meatless**

Reducing meat consumption can help the environment as well as human health. The meat industry generates nearly one-fifth of greenhouse gases and uses far more water than growing crops. About 2,000 gallons of water go into producing just one pound of beef.

## **Transportation**

Every year Americans drive three trillion miles. Car exhaust contains invisible gases that add to climate change and air pollution. The more passengers sharing a vehicle (like carpooling or taking the bus) the less the amount of exhaust in the air per passenger. Bicycles do not emit any pollution.

## **Wildlife/Pets**

Too often, kids want exotic pets (like reptiles or birds) that need special care and have long life spans. Such a pet is a long-term commitment and neglect causes the animal to suffer. Do not take on this responsibility unless you know you are in it for the long haul.

## **Reusing items**

Because the things you use are all made from materials that come from the earth, they're still valuable, even when you don't need them anymore. Instead of throwing things away, you can find a new home for them or invent a new way to use them.

## **Energy/Lights**

Energy efficiency is smart for your wallet and for the environment. If every American home replaced just one incandescent light bulb with a compact fluorescent, we could save enough energy to light more than three million homes a year and keep 90 billion pounds of global warming gases out of the air.

## **Water Conservation**

You can save up to 20,000 gallons of water a year by not letting the water run when you do not need it. That is enough to fill a swimming pool.

Sources: The EarthWorks Group, *The New 50 Simple Things Kids Can Do to Save the Earth*, 2009; The Monday Campaigns, [www.meatlessmondays.com](http://www.meatlessmondays.com).

## DILEMMA CARDS

<p style="text-align: center;"><b>Here's Your Dilemma</b></p> <p>You are having a picnic with your family at the beach and you see another family leaving to go home without having picked up their trash. It is clear the other family is going to leave litter all around. What would you do and why?</p> <p>Would you:</p> <ul style="list-style-type: none"><li>• Move quickly and ask them to pick up the trash before they leave?</li><li>• Wait for them to leave and pick up the trash for them?</li><li>• Do nothing?</li><li>• Other? (explain)</li></ul>	<p style="text-align: center;"><b>Here's Your Dilemma</b></p> <p>At summer camp, you see the trash cans full of empty, plastic water bottles. You have heard that all of these bottles pile up at trash dumps or float around in the ocean. What would you do and why?</p> <p>Would you:</p> <ul style="list-style-type: none"><li>• Ask the people running the camp to offer water filling stations and provide campers with refillable bottles?</li><li>• Ask the head counselor to set up recycling bins for plastic bottles?</li><li>• Bring your own refillable bottle from home to use and maybe talk to your friends about doing the same?</li><li>• Do nothing?</li><li>• Other? (explain)</li></ul>
<p style="text-align: center;"><b>Here's Your Dilemma</b></p> <p>Your school cafeteria offers meals that kids like (burgers, hot dogs, pepperoni pizza, chicken fingers). You like these foods too but think it would be good to have some food choices that are healthier for people and the environment. What would you do and why?</p> <p>Would you:</p> <ul style="list-style-type: none"><li>• Visit with the food service manager to suggest having "Meatless Mondays" to encourage kids to try healthier options?</li><li>• Bring your own lunch and not worry about the cafeteria menu?</li><li>• Eat whatever is served?</li><li>• Other? (explain)</li></ul>	<p style="text-align: center;"><b>Here's Your Dilemma</b></p> <p>The school you attend is not within walking distance from your home. Your parents have given you the option of catching the bus on the corner or getting a ride from one of them in the family car. The car would get you to school faster and without waiting outside. But the bus uses less gas per passenger. What would you do and why?</p> <p>Would you:</p> <ul style="list-style-type: none"><li>• Take the bus?</li><li>• Get a ride in the car?</li><li>• Carpool with other kids in the neighborhood?</li><li>• Ride your bike?</li><li>• Other? (explain)</li></ul>

## DILEMMA CARDS

### Here's Your Dilemma

After months of asking, you were given a pet lizard for your birthday, along with a book on how to care for it. In it you learn that this type of lizard can live up to 25 years. A few months have passed and you are tired of feeding and cleaning up after your lizard. What would you do and why?

Would you:

- Flush it down the toilet?
- Release the pet outside knowing that it will not survive long in your climate?
- Beg a friend to take your lizard without telling him or her about its life span?
- Secretly drop the pet off on the doorstep of a local veterinarian or animal shelter?
- Other? (explain)

### Here's Your Dilemma

You have outgrown your old snow boots. Your aunt has dropped off a box of your older cousin's hand-me-down clothes and boots in your size. The style is not what you would have picked and you would really like some new ones that you saw in a shop window. What would you do and why?

Would you:

- Take the used boots and not complain? (They will probably only fit for one winter season, anyway.)
- Ask your mother to buy you the new ones you saw but wear the old ones if she says "No?"
- Pretend your cousin's used boots don't fit (even though they do) so you can insist on getting a new pair?
- Other? (explain)

### Here's Your Dilemma

As your class is going to lunch, you notice that the lights are still on in the classroom. What would you do and why?

Would you:

- Turn off the lights yourself?
- Point it out to the teacher?
- Start a class discussion about saving energy?
- Do nothing?
- Other? (explain)

### Here's Your Dilemma

Your parents keep telling you to turn off the water faucet while you are brushing your teeth or loading the dishwasher. Could that really be wasting much water? It's a lot easier to just keep them on until you are done. What would you do and why?

Would you:

- Change your habits and only run the water when it's necessary?
- Do what your parents ask when they are looking, but go back to your way when they are not?
- Do nothing?
- Other? (explain)