

Barriers to Healthy Ecosystems

Is your community ready to bloom? Have your students identify issues and challenges that stand in the way of a flourishing ecosystem.

Objective

Students will identify real-world challenges that put their community's health and sustainability at risk.

Time

PART A 45 minutes

PART B 45 minutes

Materials

- Bloom! Power video (optional)
- Make Your Community Bloom poster (optional)
- Create Plant-Based Solutions activity sheet and/or Identify the Challenge activity sheet
- Map Your Community's Challenges activity sheet
- Planting Your Solution activity sheet



PART A

1 Share the following list of issues with your students: flooding, polluted water, polluted air, hunger, mudslides, greenhouse gases, hurricanes. Ask them to guess what the items on the list have in common. Explain that these are just a few community issues whose impacts can influence an ecosystem.

Optional: Supplement with the discussion with the **Bloom! Power video** and/or the **Make Your Community Bloom poster**.

2 Distribute the **Create Plant-Based Solutions activity sheet**, or use the **Identify the Challenge activity sheet** to increase the difficulty level. After students have described how each environmental challenge impacts humans, have them gather in small groups to discuss.

3 Instruct students to research environmental challenges in their state. Provide 15 minutes for students to grab quick facts on what the challenges are and how communities are addressing them. Afterward, allow time for groups to share what they learned with the class.

PART B

1 Ask students to reflect on their research and brainstorm additional environmental issues in various communities (e.g., communities that are urban, suburban, or rural; colder or hotter; on other coasts, in other countries or continents). Use the below

prompts to get the ideas flowing:

- ▶ Smog is a big problem.
- ▶ There isn't a place for kids to play in my neighborhood.
- ▶ I want more birds in my backyard.
- ▶ Construction downtown is making everything gritty.
- ▶ Large portions of the rain forest have been cut down.
- ▶ Some people don't have access to fresh fruits and vegetables.
- ▶ Our city has no plants or grass, just concrete everywhere.

2 Hand out the **Map Your Community's Challenges activity sheet**. In their community maps, students should include details of any environmental challenges they can think of. Have them share their drawings in groups and help refine one another's ideas.

3 Distribute the **Planting Your Solution activity sheet**. Have students draw a possible solution to one of the local environmental challenges they identified in their drawings. Again, provide an opportunity for peer review and feedback.

DIGITAL GAME

Students will pair plants with the community challenge they can solve at [scholastic.com/bloom/plantpower](https://www.scholastic.com/bloom/plantpower).

Make Your Community Bloom

Connect the projects below with the areas of the community that could be improved with plant power.



A

Add greenery to roadways to dampen sound from traffic and lessen the amount of pollution that enters the air and nearby waterways.



B

Remove dangerous materials and waste from a dump, and plant trees, shrubs, and grasses to return the land to its natural state.



C

Plant vacant city lots and start green markets where neighbors can get together and share/buy fresh fruits, vegetables, and flowers.



D

Plant by riverbanks to help keep runoff and effluent out of the water. Plant tall grasses to increase food and habitat for wetland critters.



E

"Crank up" the variety of trees and plants in suburban neighborhoods to break up sprawling lawns and increase local biodiversity.

Extra Credit: Do you see plant solutions that have already taken root? Can you spot even more room to grow?

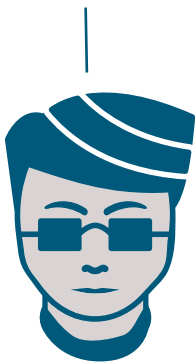
Answer key is located in Lesson 2.

Name _____

Create Plant-Based Solutions

The community needs your help! Consider each issue, then suggest plant-based solutions. Explain your choices on a separate sheet.

"The sidewalk and road outside my school is noisy, dusty, and hot. I can't even hear myself think."



1. Student

"My neighborhood looks abandoned, with nothing but weed-filled lots and broken concrete sidewalks."



2. Teen

"On our farm, we're losing topsoil to wind and water erosion. Our crops need the nutrients in that soil to flourish and grow."



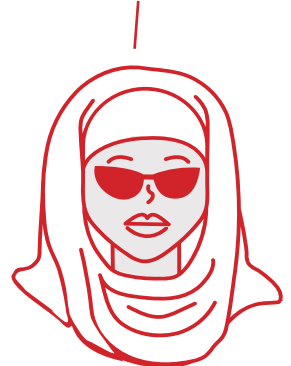
3. Farmer

"In our city, it's easy to buy a box of cereal or a can of soup. But our local market doesn't carry fresh fruit or vegetables."



4. Dad

"After a heavy rain, my basement floods, and all my neighbors have the same problem."



5. Mom

Choose one or more plant-based solutions

a) URBAN GARDENING Grow fresh and nutritious fruits and vegetables locally in urban centers using sustainable practices.

b) NEW PLANTING Plant a variety of diverse trees, shrubs, and flowers to break up sprawling lawns, provide windbreaks, and increase biodiversity.

c) MEDIAN PLANTING Add shrubs, grasses, small trees, and flowers to medians on the roadways to diminish traffic sounds as well as pollution.

d) GREENHOUSE GARDENING Extend the growing season for fruits and vegetables by

growing in greenhouses and other climate-controlled environments (such as hydroponics).

e) RAIN GARDEN PLANTING Plant shrubs, trees, and grasses to absorb rain and slow down soil runoff. Rain gardens are great for reducing flooding and erosion.

f) TREE PLANTING Plant trees. Their canopies block wind, slow heavy rain, provide habitat and shelter for wildlife, and offer shade. Their roots protect against erosion. Trees improve air quality and reduce noise pollution.

RESEARCH YOUR REGION! Choose a plant that grows well in your region and find out which climate and growing conditions it prefers. How could your plant create a solution in your community, school, or home?

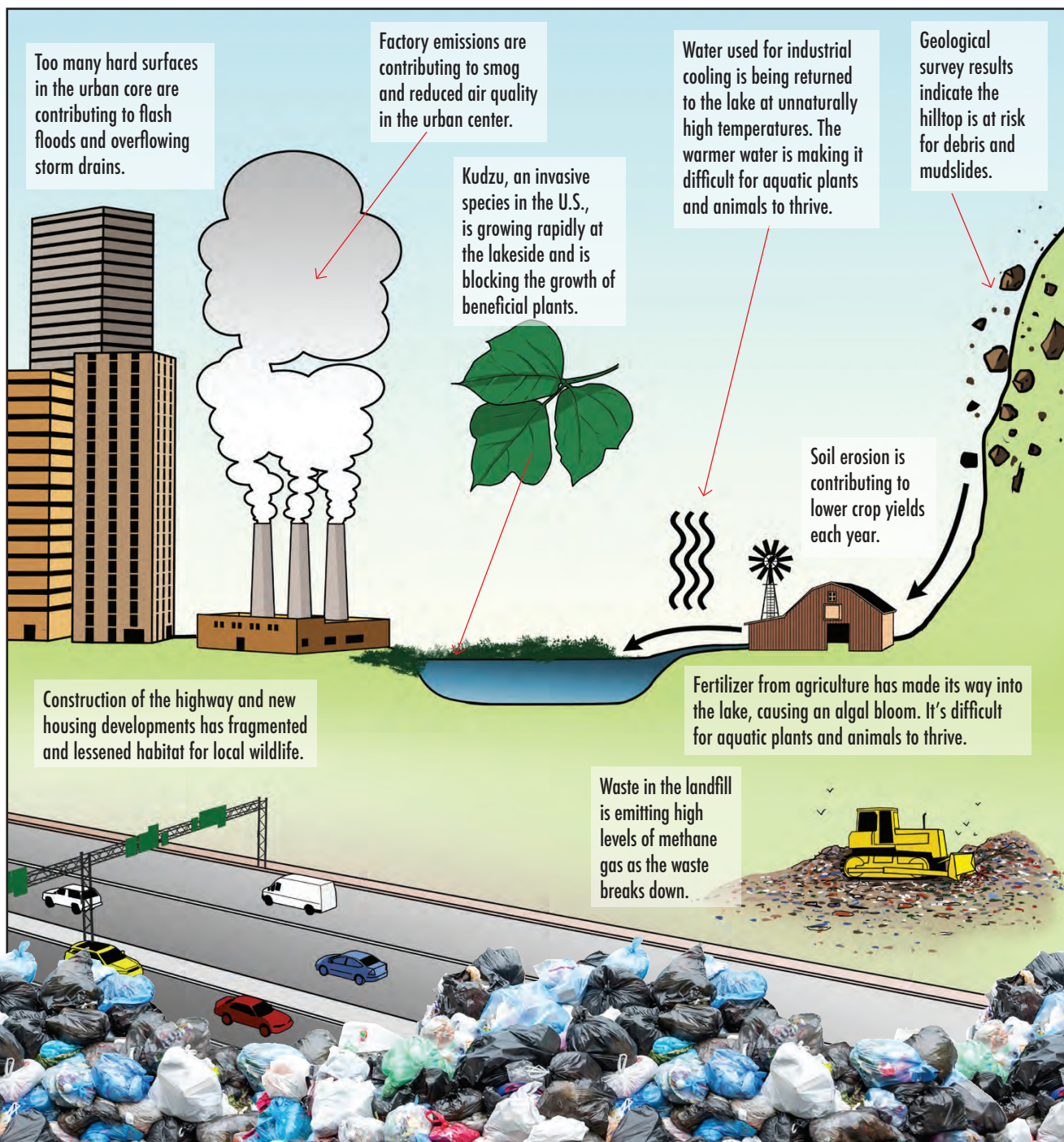
Identify the Challenge

Research the amazing power of plants to see how they can help address one of the community concerns below.

Get Ready Read about environmental risks below. Which do you feel are most concerning? Least concerning? Why?

Get Set Conduct research to see which of the below environmental risks is happening in your state.

Go! On a separate sheet of paper, write one or two paragraphs about how people are addressing this risk. Which “green collar” plant professionals are developing solutions?



Uh-oh! You have identified an eco-challenge in your community. Draw a plant-based solution to address the challenge. Then explain how your solution will help. You can create a solution for one of the challenges below or identify a new challenge.

[illegible]

Name _____

Map Your Community's Challenges

You've been selected to develop a plant-based solution for a space in your community. Start by identifying the eco-challenges in your neighborhood.

Get Ready Review the community considerations below. Which challenges exist in your community? What other environmental challenges does your community face?

Get Set Sketch an overhead view of your community's environmental challenges. Label each challenge.

Go! Write a few short paragraphs describing the impacts that the environmental challenges you've identified have on your community. Which "green collar" plant professionals would you enlist to help address these challenges?

Community Considerations	Draw Your Environmental Challenges
<ul style="list-style-type: none"> ▶ Are there places for people to grow fruits and vegetables? ▶ Are there areas where the soil is eroding? ▶ Is there enough shade for people and small animals? ▶ Is the water clean and healthy for wildlife? ▶ Are there patchy spots of grass in yards and parks? ▶ Are there plants that help clean pollution from the air? ▶ Are there spaces that attract pollinators, birds, and wildlife? 	

