

Pollution Prevention Hero

Subject: Social Studies, Science



OBJECTIVES:

- To introduce students to the human causes of pollution
- To provide youth with the opportunity to make changes in their daily lives that help prevent pollution



MATERIALS:

- I am a Hero coloring sheet
- Pictures of polar bear and air pollution



SETTING: indoors



ESTIMATED TIME:
1-2 class periods



VOCABULARY:

- Pollution
- Climate change or global warming



ACTIVITY SOURCE:

Alameda County Safe Routes to Schools

OVERVIEW:

Students will become more familiar with pollution and global warming and will analyze individual actions they can take to help with these crises.

BACKGROUND:

Climate change has emerged as one of the most challenging issues of our time. To briefly summarize this complex issue, the Earth's atmosphere is overloaded with heat-trapping carbon dioxide from burning fossil fuels, which threatens large-scale disruptions in climate. Scientists estimate that the earth's climate has already been raised 1.9 degrees, and we are already feeling the affects through longer droughts, more severe storms and melting ice caps that could raise sea levels up to three feet by 2100 or sooner. The consequences of a drastic temperature hike of 3 to 9 degrees by the century's end could be disastrous, which is why many scientists agree that reducing greenhouse gas emissions by 80% by 2050 or sooner is crucial for humans to survive on this planet.

Transportation plays a key role in ensuring that this goal is met. For every mile driven, one pound of greenhouse gas is emitted. Substituting walking, bicycling and taking public transit for driving plays a key role in ensuring that we meet this goal. We are also preventing pollution when we don't drive; cars are the number one cause of air pollution in Sonoma County.

Did you know: If at 50 schools every family walks to school just once a week we will remove over **200 TONS** of carbon dioxide from the air in Sonoma County in just one year.

NOTE:

A list of resources around environmental issues, including websites and books, can be found in the back of this Teachers Guide.

LESSON SET-UP:

1. Put up three signs in different parts of the room that say: "already do it", "yes", "no" and "maybe."
2. Photocopy Pollution Prevention Hero coloring page for each student.

STATE STANDARDS

Social Studies:

2.5 Students understand the importance of individual action and character.

Science:

3d: Students know living things cause changes in the environment in which they live; some of these changes are detrimental to the organism or other organisms, and some are beneficial.



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DISCUSSION:

1. In life sometimes we have choices about how we get around and what we do. What are some choices that we make everyday or that our parents make for us? (*Examples of answers: the kinds of foods that we eat, the kinds of toys that we buy, how we get to school etc.*)
2. Sometimes we make choices that affect the planet that we live on in a good way or bad way. Unfortunately so many people are making so many bad choices that it is affecting the water and air.

Questions to ask:

- ✓ Who has heard of the word pollution?
Pollution is air and water that is dirty from the things that humans do to them.
- ✓ What kinds of things do we do that cause pollution in our local communities?
Drive cars, use electricity, throw trash away instead of recycling it, buy plastic are some examples

OPTIONAL QUESTIONS:

- ✓ How does using electricity cause global warming?
Electricity often comes from coal plants, which is a fossil fuel that is very polluting.
 - ✓ Who has heard of global warming, or climate change? *Climate change is something that is happening to the climate –our weather – around the world.*
3. Explain what climate change is, based on the explanation from the background section. Show the picture of the polar bears in the Arctic.
 4. Discuss the power of individual actions. Climate change and pollution are scary to think about, but the good thing is that many people – including kids from all around the world, are trying to help stop pollution and global warming. Everyone, including all of you, can make choices that can help stop pollution and global warming. Many small changes can lead to one big change! Go over some of the examples provided in the Background section, of small changes leading to one big change.
 5. Ask students to think about ways that their own actions have impacted their local community or an individual. Examples could include students who have picked up trash, helped out their grandparents or those who walk or bicycle to school.

ACTIVITY:

PART I:

1. Put up three signs in different parts of the room that say: “I already do it”, “I wouldn’t do it” and “I might do it”
2. Instruct students that whenever they hear an action they will think about if they already do this action, if they might do it, or if they would definitely not do it. Then they will go stand in the part of the room that indicates their opinion.
3. After each action, discuss with students why they chose one of the three choices. Why would they choose to do this activity? Is it easy to do? Why wouldn’t they do this activity and what is stopping them from doing it?

PART II:

1. Sit the students down and ask them to think of other actions they can take to protect the environment. Write them down on butcher paper.
2. Give students the coloring page and ask them to be a global warming hero. Ask them to choose from the list of actions that they just heard (or from the list they had made up) and commit to doing this action over the next week. They can then color in the page and share this pledge with their classmates.
3. **OPTIONAL:** Have students write a letter to their parents, asking them to help them fulfill their pledge. Make sure they mention why they think their pledge is important and how they could specifically change their habits to fulfill this pledge.

EXTENSION IDEAS:

1. Have students design a poster that reflects their commitment to the environment, including their pledges (instead of the Safe Routes handout).
2. Have students write a paragraph about their experiences in fulfilling or not fulfilling their pledges.
3. Have students research an endangered species. What is its habitat? Why is it endangered? What can we do to help the animal before it becomes extinct?
4. Have students research about a specific topic related to environmental actions. Examples include recycling, solar power (or other renewable energy sources) or energy efficiency..

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POLLUTION-PREVENTION ACTIONS

- ✓ Walk or ride your bike to school.
- ✓ Walk, ride the bus or bike to destinations like the park or your friends' houses on the weekends.
- ✓ Recycle cans, bottles and paper at home and school.
- ✓ Convince your parents to eliminate a car trip at least once a week by walking, riding the bus or riding your bike.
- ✓ Turn off the lights when you leave the room and turn off the TV when you're finished watching it.
- ✓ Turn off your computer at night.
- ✓ If you see trash on the ground, toss it in the trash can or recycling bin.
- ✓ Take a walk in your neighborhood instead of watching TV or playing video games.
- ✓ Talk to your family or friends about what they can do to drive less and help protect the environment.



I AM A HERO



I pledge to:

- Walk or ride my bike to school as much as I can.
- Walk, ride the bus or bike to destinations like the park or friends' houses on the weekends.
- Convince my parents to eliminate a car trip at least once a week by walking, riding the bus or riding my bike.
- Reduce, reuse and recycle all trash.
- Turn off the lights when I leave the room and turn off the TV when I'm finished watching it.
- Turn off computers at night.
- If I see trash on the ground, toss it in the recycling bin or trash can.
- Take a walk in my neighborhood instead of watching TV or playing video games.
- Talk to my family or friends about what they can do to drive less and help protect the environment.
- Other _____

My Pledge Calendar

My Pledge _____

Date I started: _____

Write in each day if you fulfilled your pledge or not.

	Monday	Tuesday	Wednesday	Thursday	Friday
Week One					
Week Two					
Week Three					
Week Four					

Notes about fulfilling my pledge:

