

Family Fun

Letters from an Otter

Enduring Understanding: Pollution destroys the homes of many animals, including river otters, but we can help keep that from happening.

Materials

- Google images of polluted areas in the San Francisco Bay Area
- Sample letter
- Writing page

Setup:

1. Print writing page.

Program outline:

- A watershed is an area drained by a river or other body of water.

What is the San Francisco watershed?

- Show students images of the San Francisco watershed.
 - Bring up images and map on computer, if available.
- The watershed of the San Francisco Bay area is home to many types of animals, including river otters.

What does pollution look like in our community?

- Show students images of polluted areas in the watershed.
 - This pollution is happening in our community. How does this pollution make you feel?
- Give students sentence frames to help them describe their feelings. "I feel unhappy/angry/sad... because many of the animals, plants, and even people are getting sick."
 - How would you feel if this were your home?

Who is causing this pollution?

- Human beings litter and dump trash on the land and in the water.
- Humans drive cars and use gas for many things that also cause pollution.
- Create a "Causes of Pollution" chart (see sample below).



What happens when animals or humans eat something that has been living in a polluted area?

- Animals eat other animals. For example, river otters eat fish. If the fish is sick because it has eaten dangerous chemicals, the river otters will also get sick.
- Humans eat fish, too. Humans can also get sick from eating fish from polluted water.

What can humans do to stop causing pollution?

- Add “How to Help Stop Pollution” to the chart and record student responses.

Sample Chart

Causes of Pollution

Dumping trash

Driving vehicles (cars, trucks) causes air pollution (smog).

Using fossil fuels such as gas (in cars, to produce heat, and to power things at home)

Running factories also causes smog and pollution.

Spilling sewage and wasting water

Farming uses chemicals that can get into the land.

How to Help Stop Pollution

Throw away trash in correct garbage can.

Take public transportation, ride your bike or scooter, jog, or walk.

Use energy wisely.

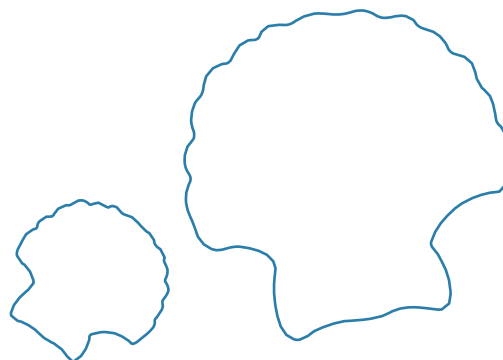
Recycle and reuse items instead of buying new things.

Use water wisely; reduce the amount of water you use.

Eat or grow organic foods.

What can people do to care for Earth and help stop pollution?

- Thinking from an otter’s perspective, students explain why it’s important to take care of the earth
 - Describe at least three ways citizens of San Francisco can help stop pollution.



Read students a sample letter, such as the following.

Dear Citizens of San Francisco,

I am Olivia. I am a river otter. I live in the water of the San Francisco Bay watershed. I am worried. There is a lot of trash in my home. It is very important to take care of the land, water, and air. If we do, we can all be happy and healthy!

There are three things you can do to help keep pollution out of my home. First, you can ride your bike or walk instead of taking a car. Second, you can use energy wisely. For example, you can turn off the lights when you leave a room. Third, you can use less water when you take a shower or brush your teeth. Doing these things will really help my home and yours!

Sincerely,
Olivia Otter

Provide students with the writing page.

- Take a picture and post it online with the #aquariumofthebay.



San Francisco Bay Watershed

A watershed is a region that drains into a river, river system, or another body of water. Watersheds are valuable because they provide water to bigger bodies of water. The San Francisco Bay watershed comprises several waterways, including the San Joaquin and Sacramento Rivers. It is approximately 500 miles long and stretches from the Cascade Range in the north to the Tehachapi Mountains in the south. The Sierra Nevada and Coast Range also surround it. This watershed serves as a main source of water for millions of people, animals, plants, and organisms living in California. It is a very valuable resource.

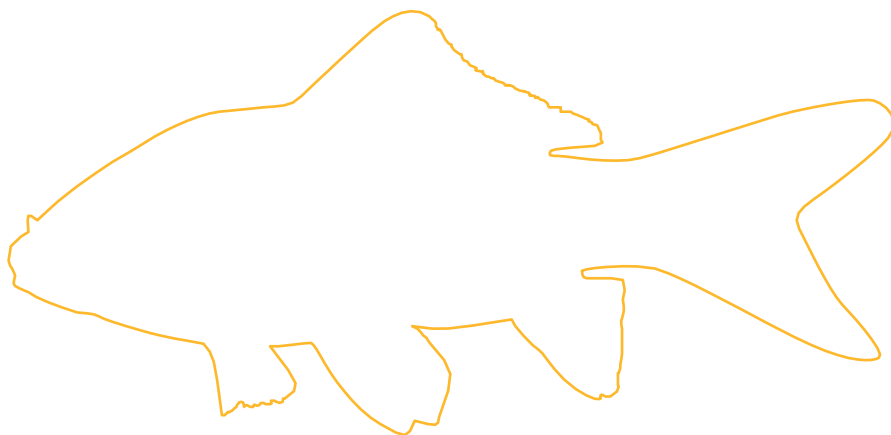
Unfortunately, various types of air, water, and land pollution have damaged the San Francisco Bay watershed. As a result, many toxins from pesticides, vehicles, and trash have seeped into the land and water. This pollution negatively affects marine wildlife and surrounding habitats.

Air, Water, and Land Pollution

Earth is surrounded by various gases that make up the atmosphere, which helps protect the planet. For instance, the atmosphere prevents the sun's heat from burning up organisms on Earth. Air pollution occurs when air becomes contaminated by fumes or gases entering the atmosphere. Human actions and pollution from factories, cars, and other vehicles put harmful gases into the air and negatively change the atmosphere's balance.

Human interaction with Earth has also caused water pollution. This happens when bodies of water are contaminated. This contamination occurs when chemicals enter bodies of water without effective methods to remove these harmful pollutants. Industrial waste, sewage, mining and farming activities, oil leaks, animal waste, and urban development are several major causes of water pollution.

Finally, land pollution, also typically caused by human activity and interaction with Earth, is the deterioration of Earth's land surface. It occurs most often when waste is not removed properly or when pollutants seep into the soil. Some common sources of land pollution include agricultural waste and pesticides, industrial waste, deforestation, chemical and nuclear plant waste, and landfill waste.



Name: _____

The river otter



Directions: Pretend you are a river otter. Write a letter to the citizens of San Francisco. Tell them how the pollution in your home makes you feel. Tell them at least three things they could do to help take care of your home and the planet that we share and live on together.

Dear Citizens of San Francisco,

Three things you could do to help take care of river otters' homes are

(1) _____

(2) _____

(3) _____

Sincerely,
