

Pointless Personal Pollution *Handout*

Students practice for the FCAT while learning about non-point source pollution

WATER POLLUTION AND YOU

Most people blame water pollution on big factories. They think that all pollution pours out of big pipes, dirtying nearby rivers and streams. But this kind of pollution is only part of the problem. In fact, because it flows out from a single point, this “point source” pollution is fairly easy to fix. It is much harder to deal with the pollution caused by individual people. This kind of “personal pollution” enters the world in many different ways, so it’s hard to track down. Each of us makes water pollution. So, it’s up to us to reduce our own pointless personal pollution. Why is this pollution “pointless”? In one way of thinking, personal pollution is “pointless” because we don’t need to make it. In another way, it is “pointless” because it does not come from a single point, like a factory pipe. So how do people cause this pointless water pollution? They don’t think about the fact that everything that goes into a storm drain or ditch washes out into a river, lake, or the ocean. People know that pouring car oil into a storm drain is bad for the environment, but what about letting your car leak oil on the driveway? When it rains, the dripped oil washes into the storm drain. And you know where it goes from there! Sometimes people also use too much weed killer and fertilizer on their yards. When it rains, these chemicals wash right into a storm drain, causing pollution. Many people know that trash can wash into a storm drain and cause problems, but they never think about the issues caused by pet droppings. All it takes is one good rain, and you know where that waste is headed!

Now you know how people make personal pollution. But what problems do these pollutants cause in nature? Car oil and antifreeze can kill underwater plants and animals. Pesticides (bug-killing chemicals) can hurt animals too. For example, an old pesticide called DDT caused eagles to lay eggs with very thin shells. When the mother eagle sat on the nest, her eggs would break. Today, there is a law against using DDT. People solved that problem! But fertilizers and animal droppings cause other problems by adding too many minerals to the water. These minerals make algae plants grow like crazy, turning lakes green and slimy.

So how can people stop this pointless personal pollution? They can keep their vehicles in good condition so their cars don’t leak fluids. They can read the fertilizer label, and not over fertilize! And they can choose the best time to fertilize their yards — on days when it doesn’t rain. Rain washes the fertilizer right off the yard and into the ditch. Instead, people should fertilize on dry days. Sprinklers will carry the fertilizer down to the grass roots where it should be, making the yard green. Finally, when walking Fido, people should clean up the waste so it doesn’t wash into a ditch (or get squashed on someone’s shoe!)

These easy steps aren’t just decreasing water pollution; they’re making you a good neighbor. Your driveway won’t be stained and dirty; your grass still will be green and beautiful; and people can walk through your yard without stepping in animal waste. To find out more, visit the Hillsborough Watershed Atlas Website at <http://www.Hillsborough.WaterAtlas.org>, then click on Education > General Documents and Links, and then scroll to Pointless Personal Pollution.

Name:

Date:

Pointless Personal Pollution *Handout*

RESOURCE: "Pointless Personal Pollution," by the Florida Department of Environmental Protection, linked on www.Hillsborough.WaterAtlas.org. Visit this and other outstanding educational sites via the Hillsborough Watershed Atlas Website, www.Hillsborough.WaterAtlas.org > Education > Educational Documents and Links > Scroll down to Pointless Personal Pollution. Note that you will have to change pages when scrolling through the Educational Tools documents.

READING QUESTIONS:

1. The phrase "Pointless Personal Pollution" uses the word "pointless" as a pun. Read the following sentences, quoted from the article's first paragraph.

"In one way of thinking, personal pollution is "pointless" because we don't need to make it. In another way, it is "pointless" because it does not come from a single point, like a factory pipe."

Based on your understanding of this quotation, circle the best definition of the word "pun?"

- a. A phrase that uses opposites to make its point
- b. A phrase that is clever because it has two meanings
- c. A phrase that avoids using alliteration
- d. A phrase that uses quotations to strengthen a point

2. This article provides information about three different topics. First, it describes ways that people cause pollution. Second, it describes how those pollutants hurt the environment. Third, it describes how people can prevent this pollution. Based on your reading of the article, complete the following table with information about three pollution problems.

Ways People Cause Pollution	How Pollutants Hurt the Environment	How People Can Prevent Pollution

Name:

Date:

Pointless Personal Pollution *Handout*

3. Based on your reading of the article, with which of the following statements do you think the author would agree?

- a) Most pollution is created by large factories.
- b) Individual people create all of the world's water pollutants.
- c) Most people create pollution on purpose.
- d) Most people do not realize they are creating water pollution.

4. Use details from the article to prove that the following statement is false. "Ordinary people cannot do anything to prevent water pollution."

WRITING PROMPTS

1. Water can be polluted by many different things. Think about a time you saw water that seemed dirty or polluted. Explain the reasons you thought the water was polluted.

2. One slogan about pollution is "If we all do a little, we can do a lot." Think about how this statement applies to the problem of pollution. Explain the relationship between this statement and the problem of pollution.

3. Human beings cause pollution problems, and they have the power to solve these problems too. Think about a pollution problem you could improve without spending any money. Write a story about a boy or girl that tries out your solution.

4. All living things need water to survive. Think about how thirsty you feel when exercising on a hot day. Write a story about a girl or boy who is competing in a race in the middle of a hot summer afternoon.

Name:

Date:

Pointless Personal Pollution *Handout*

MATH QUESTIONS

Animal waste (manure) from farms is called “point source pollution” because the waste is generated at a specific location (or point) — the farm. Almost all Floridians contribute to this point source pollution, even those who don’t live on farms. How? If you drink milk, eat ice cream, or enjoy hamburgers, you are using products that come from cattle ranches. By buying and using these items, you are contributing to the pollution created there. Since most people never see the pollution they are helping to create, it is called “hidden” pollution.

1. One 1,000-pound dairy cow can produce about 80 pounds of waste (manure) each day. In one year, how much waste would a herd of 200 cows create? Assume that each cow in this herd weighs about 1,000 pounds. [Note: 1 year = 365 days.] Use the space below to show your work.

2. Animal waste runoff can be controlled by building strong walls around the manure areas. These walls prevent the waste from washing into a ditch or river. Assume that a farmer has enough materials to build 320 feet of fencing. What is the largest square area he can fence to prevent waste runoff? Be sure to show your work. [Note: Perimeter of a square = $4 \times \text{length of one side}$.
Area of a square = $(\text{length of one side}) \times (\text{length of one side})$]

Name:

Date:

Pointless Personal Pollution *Handout*

3. Animal manure can become a serious water pollutant when it washes into rivers and lakes. Based on the data in the table titled "1999 Manure Totals," which of the following describes the relationship between the amount of manure produced by Beef cows and the amount produced by Dairy cows? Circle your answer.

- a. Beef cows produced 1.53 times more manure than Dairy cows.
- b. Dairy cows produced 1.53 times more manure than Beef cows.
- c. Beef cows produced less than half as much manure as Dairy cows.
- d. Dairy cows produced less than half as much manure as Beef cows.

1999 Manure Totals

<i>Type of Farm Animal</i>	<i>Manure Produced in 1999</i>
Beef cows	624 Billion Pounds
Dairy cows	409 Billion Pounds
Pigs	242 Billion Pounds
Poultry (Chickens, Turkeys, etc.)	146 Billion Pounds

Name:

Date: