

Using NewsHour Extra Feature Stories

STORY

Dozens of Pharmaceuticals Detected in Drinking Water, 03/12/08

http://www.pbs.org/newshour/extra/features/health/jan-june08/drugs_3-12.html

Estimated Time: One 45-minute class period with possible extension

Student Worksheet (reading comprehension and discussion questions without answers)

PROCEDURE

1. WARM UP

Use initiating questions to introduce the topic and find out how much your students know.

2. MAIN ACTIVITY

Have students read NewsHour Extra's feature story and answer the reading comprehension and discussion questions on the student handout.

3. DISCUSSION

Use discussion questions to encourage students to think about how the issues outlined in the story affect their lives and express and debate different opinions.

INITIATING QUESTIONS

1. Where does our tap water come from?

2. Why do you think so many people use water filters now?

3. What are some of the types of pollution that might affect lakes and rivers?

READING COMPREHENSION QUESTIONS – **Student Worksheet**

1. What was found in the water supply of 24 major cities?

ANSWER

Low concentrations of a range of drugs, including antibiotics, birth control and anti-convulsants, are present in the drinking water supplies of 24 major cities.

The water that tested positive for traces of drugs serves at least 41 million people, according to an Associated Press investigation.

2. How concentrated were the drugs?

ANSWER

The concentration levels of the pharmaceuticals found in the water were much lower than a medical dose, akin to "a teaspoon in three or four Olympic-sized swimming pools," AP reporter Jeff Donn, who worked on the article, told the NewsHour.

3. How do pharmaceuticals get into the water?

ANSWER

The drugs enter the water supply through several routes, including the improper disposal of unused drugs.

But the majority comes from regular use of medications. When people take a pill, their body absorbs some of it, but the rest is passed through the body into waste and flushed down the toilet.

Drugs can also end up in the water cycle when farm animals are given drugs, hormones or steroids.

Wastewater is treated, then released into rivers and lakes, where it can get back into the drinking water cycle.

4. Are bottled water and filtered water safer? Why or why not?

ANSWER

The U.S. government doesn't require drug testing of tap water or bottled water – which is often simply filtered tap water.

Getting rid of the drugs is also difficult for the consumer, as most at-home water filters do not remove pharmaceuticals.

5. What do we know about the possible effects on humans?

ANSWER

The effect of low level exposure in humans is still up for debate. Pharmaceutical industry representatives argue that the trace amounts will not have a negative effect.

But recent studies show that small amounts of medication can affect human embryonic kidney cells, human blood cells and human breast cancer cells.

6. What are the unusual traits or changes that have been seen in fish?

ANSWER

Male fish in several parts of the country have developed female sexual traits, potentially from estrogen in birth control pills.

The sex ratios in some aquatic populations have shifted dramatically, and sexually abnormal bass that produce cells for both sperm and eggs have also been found.

7. What is the government doing about the problem?

ANSWER

In response to the AP report, two U.S. senators called for hearings to address public safety.

New Jersey Democrat Frank Lautenberg, chairman of the Transportation, Safety, Infrastructure Security and Water Quality Subcommittee, said hearings would be held in April.

"Our families deserve water that is clean and safe. Our hearing will examine these problems and help ensure the EPA and Congress take the steps necessary to protect our residents and clean up our water supply," Lautenberg said.

DISCUSSION QUESTIONS (more research might be needed)

1. Do you think knowledge of the pollution in our environment is a good thing? Does it make you feel helpless or inspire you to take action? Explain.

2. Find out if your city or area was on the list of the AP investigation. What drugs did they find in the area? How do you feel about drinking your water? If your area was not in the investigation, do you feel safe drinking your water? Why or why not?

3. What do you think the government should do in response to this investigation?

4. What other types of pollutants are found in our water system and how do they get there? Give two examples.

Extension Activity

Have students write a 300-500 word essay on this topic providing clear examples. Send your completed editorial to NewsHour Extra (extra@newshour.org). Exceptional essays might be published on our Web site.