

US EPA ARCHIVE DOCUMENT

# Making Water Safe to Drink

## 1 Is Our Water Safe to Drink?

*Directions:* Read or act out the following passage.



It is early morning. Emma and Marek Sowinski are a young married couple. They are eating breakfast at the kitchen table. Emma is four months pregnant. She's very hungry this morning.

*Emma:* Marek, may I please have more orange juice?

*Marek:* Of course.

*Emma:* I'd like more toast and butter, too.

*Marek:* I'll get it for you.

*Emma:* Is there more fruit? I'd like another piece. I'm really hungry today.

*Marek:* Is there anything else you'd like? Some milk? Some bacon? A glass of water?

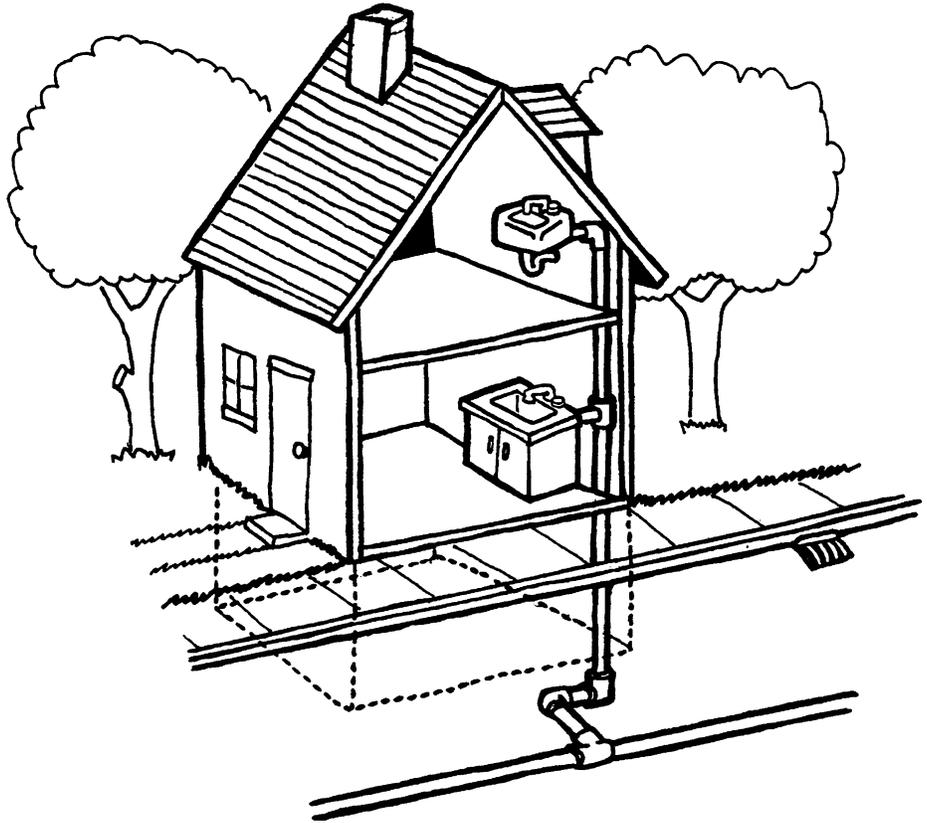
*Emma:* No thanks. I'm fine.

*Marek:* I'm thirsty. I think I'll have a glass of water. [*Marek stands at the sink. He turns on the faucet and fills his glass.*]

*Emma:* Hey, Marek. Do you think we should drink bottled water?

*Marek:* Why?

*Emma:* Shira told me she has lead in her water.  
*Marek:* Shira lives on this street, doesn't she?  
*Emma:* Yes, she does. Somebody tested her water last month.  
*Marek:* [Looks at his glass of water.] Do you think we have lead in our water, too?



*Emma:* Maybe. This house is 50 years old. Shira said many old homes have lead pipes.  
*Marek:* Perhaps Shira can help us. Let's call her.  
[Emma picks up the phone and calls Shira.]  
*Shira:* Hello.  
*Emma:* Hello, Shira. This is Emma.  
*Shira:* Hi, Emma. How are you?  
*Emma:* I'm fine, thanks. I'm four months pregnant and I feel great!  
*Shira:* I'm so glad.  
*Emma:* I want to ask you something. How did you test your water for lead. Marek and I are worried. We live in an old house. We want to test our water.  
*Shira:* It was easy. First, I called the landlord. The landlord told me the name of the water supplier. The water supplier told me the name of a certified laboratory. Then, I called the lab. Soon, someone from the lab sent me a kit to test my water. The test cost about \$15.  
*Emma:* We need to do this.  
*Shira:* Yes, you do because you are pregnant. Lead can hurt you and the baby. Lead poisoning is very dangerous.

*Emma:* Thanks, Shira. We will call today.  
*Shira:* There are simple things you can do now. Turn on the water for 30 to 60 seconds before drinking it, or cooking with it. Also, always use cold water for cooking. This helps reduce the lead.  
*Emma:* Those are good ideas. Thanks a lot!  
*Shira:* Goodbye.

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## 2 Vocabulary

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**Directions:** Review the vocabulary words below and define each using simple English terms.

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kitchen(s) (n.)	table(s) (n.)
breakfast(s) (n.)	eat (v.)
toast (n.)	butter (n.)
fruit (n.)	hungry (adj.)
juice (n.)	milk (n.)
glass(es) (n.)	water (n.)
lead (n.)	faucet(s) (n.)
sink(s) (n.)	fill (v.)
pipe(s) (n.)	test(s) (n.); test (v.)
dollar(s) (n.)	cost (v.)
determine (v.)	laboratory(ies) (n.)
telephone(s) (n.)	water supplier(s) (n.)
certified (adj.)	pregnant (adj.)
well (n.)	tap (n.)

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## 3 Review and Discuss

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**Directions:** Review “Is Our Water Safe to Drink?” and answer the following questions.

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1. What are Marek and Emma eating for breakfast? \_\_\_\_\_

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\_\_\_\_\_

2. Where do Emma and Marek live? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Who is Shira? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. How does lead get into Emma and Marek's drinking water? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Why is Emma worried about the lead in the water? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. How can Emma and Marek test their water for lead? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. How much did Shira pay for the test? Do you think this is expensive? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## 4

# Testing for Lead in Your Water

**Directions:** Read the directions below to test your water for lead. Follow the directions and collect water samples from home. Bring your samples to the next class. The teacher will locate the nearest certified testing laboratory and mail class samples for testing.

You think your water may contain lead. Ask your local water supplier for the names of certified laboratories that will test your water. The U.S. Environmental Protection Agency considers water safe if it has less than 15 parts per billion\* (ppb) of lead. Some doctors suggest that anything greater than 10 ppb is unsafe. You should test if you have water from a drinking well, pipes with lead solder, or water that is very corrosive. Collect two samples of water: one that was standing in the plumbing lines overnight, and another that ran for several minutes to flush the lines.

You can also call the U.S. Environmental Protection Agency Safe Drinking Water Hotline if you have any questions (1-800-426-4791).

\* one billion = 1,000,000,000 =  $10^9$

If your water contains *less than 5 ppb of lead*, then let your water run for one minute before using it for drinking or cooking.

If your water contains *between 5 and 14 ppb of lead*, then let your water run for one minute before using it for cooking or drinking and ask everyone in your family to drink less than 16 ounces of this water each day.

If your water contains *more than 15 ppb of lead*, then do not drink the water or use it for cooking. Consult your local or state health department for advice.

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## **5** Reviewing the Water Test Results

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**Directions:** Read or act out the following passage.

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It is three weeks later. Emma and Marek just received the results of the two water samples. Emma, Marek, and Shira are at the kitchen table. They are talking about the test results.

*Marek:* The test results say that our water contains lead.

*Emma:* Yes. This is serious. There were 14 ppb of lead in the morning sample and 6 ppb in the water that did not sit in the pipes.

*Marek:* Maybe we can buy a water filter.

*Shira:* Some water filters do not remove lead from the water. You can call the U.S. Environmental Protection Agency for information about water filters.



- Emma:* Did you call them?
- Shira:* Yes, I also called the health department officials. They had lots of good suggestions. They told me not to drink, cook, or make baby formula with water from the hot water faucet. Hot water contains more lead than cold water.
- Emma:* What else did they say?
- Shira:* The health department officials also told me to turn on the cold water for 30 to 60 seconds before I use it.
- Emma:* That's a good idea. Do you think I should drink water from the faucet? I'm afraid it could hurt the baby.
- Shira:* You should ask your doctor. Maybe you should buy bottled water.
- Marek:* Thanks, Shira. You have lots of good ideas.



## 6 Vocabulary

**Directions:** Review the vocabulary words below and define each using simple English terms.

- |                                    |                                           |
|------------------------------------|-------------------------------------------|
| hotline(s) ( <i>n.</i> )           | sample(s) ( <i>n.</i> )                   |
| corrosive ( <i>adj.</i> )          | test(s) ( <i>n.</i> ); test ( <i>v.</i> ) |
| drink ( <i>v.</i> )                | flush ( <i>v.</i> )                       |
| mail ( <i>v.</i> )                 | safe ( <i>adj.</i> )                      |
| water filter(s) ( <i>n.</i> )      | expensive ( <i>adj.</i> )                 |
| collect ( <i>v.</i> )              | bottle(s) ( <i>n.</i> )                   |
| health department(s) ( <i>n.</i> ) | waste ( <i>v.</i> )                       |
| harm ( <i>v.</i> )                 | baby(ies) ( <i>n.</i> )                   |
| prevent ( <i>v.</i> )              | risk ( <i>n.</i> )                        |
| plumbing ( <i>n.</i> )             |                                           |

**7**

# Pick the Correct Response

*Directions:* Read each statement and choose the correct answer.

1. Emma and Marek mailed their water sample to the
  - a. U.S. Environmental Protection Agency
  - b. local health department
  - c. certified laboratory
  - d. doctor
  
2. Emma and Marek's water contains
  - a. no lead
  - b. 10 parts per billion of lead
  - c. 14 parts per billion of lead
  - d. 30 parts per billion of lead
  
3. In a house with lead plumbing, hot water
  - a. contains more lead than cold water
  - b. is good for washing fruits and vegetables
  - c. contains less lead than cold water
  - d. is good for making baby formula
  
4. One way to reduce the risk of lead in the water is to
  - a. buy a water filter
  - b. boil the water
  - c. wash fruits and vegetables in hot water
  - d. turn on the cold water for 60 seconds before drinking it or using it for cooking



5. Emma and Marek are very careful
  - a. because Shira is sick
  - b. because Emma is pregnant
  - c. because bottled water is expensive
  - d. because they don't want to waste water

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*Note to Student:* More information on the effects of lead poisoning can be found in the units “Going to the Doctor” and “Identifying Symptoms of Illness.”

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