

**SECTION**  
**1**

**Enrichment****Is your water safe?**

A person comes to your door claiming to be taking a water survey in your area. The person asks you to run some tap water into a bottle. He or she then adds a chemical to the water in the bottle. Soon, a sludgelike residue forms at the bottom of the bottle.

The person tells you that this test shows your water is filled with harmful contaminants. He or she offers to sell you a device that will remove 99% of the harmful contaminants in your water. The person implies that you need this device to protect your family.

1. What would you do in this case? How would you find out if the water really is contaminated?

---

---

---

---

---

---

---

---

2. The salesperson added a flocculating agent to the water. What is a flocculating agent and how does it work?

---

3. How might this test be misleading?

---

Your water may not have any dangerous contaminants, but it might be hard. Hard water is water that contains large amounts of dissolved minerals. Common minerals in hard water are compounds of calcium, magnesium, iron, and sulfur. Treated water purchased from a town or city and well water can be hard.

Hard water is not harmful to your health. However, it does have some disadvantages.

It may have a bad taste and an odor. Also, the minerals can settle out and form deposits in pipes, cooking utensils, sinks, and hot-water tanks. Hard water requires more soap and detergent than soft water and can discolor clothes.

Some cities soften water during the treatment process. Devices for softening water can also be purchased or rented for home use.

4. Assume that your water is hard. Would you be willing to pay extra for soft water—either from a treatment plant or by buying or renting a water softener? Explain your answer.

---

---