***Drugs Down the Drain: The Drugs You Swallow, the Water You Drink***

**Directions:**  *Before reading*, in the first column, write “A” or “D” indicating your agreement or disagreement with each statement. As you read, compare your opinions with information from the article. In the space under each statement, cite information from the article that supports or refutes your original ideas.

|  |  |  |
| --- | --- | --- |
|  **Me** | **Text** | **Statement** |
|  |  | 1. Pharmaceuticals have been found in U.S. drinking water at doses up to one-tenth of the therapeutic dose.
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|  |  | 1. There is no evidence that dissolved pharmaceuticals harm fish.
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|  |  | 1. Wastewater treatment plants effectively remove pharmaceuticals from water.
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|  |  | 1. Detectable levels of pharmaceuticals, insecticides, and fire retardants are found in less than 50% of U. S. waterways.
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|  |  | 1. Chlorine can react with pharmaceuticals to form toxic compounds such as chloroform.
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|  |  | 1. Changing the pH level of water has no effect on the effectiveness of chlorine to remove some drugs.
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|  |  | 1. Activated charcoal filters and ozone remove many unwanted chemicals from drinking water.
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|  |  | 1. Ozone treatment continues to work even after water is treated with ozone.
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**Directions:**  As you read, please complete the chart below describing why we should be concerned about drugs in our water, how drugs get into our water, and possible solutions to the problem of drugs in our water. Use bullets for each new idea.

|  |  |
| --- | --- |
| **Questions** | *Provide at least two answers for each question.* *Use bullets or numbers.* |
| **Why should we care about drugs in our water?** |  |
| **How do drugs get into our water?**  |  |
| **How can we remove drugs from our water?** |  |
| **How can we prevent drugs from getting into our water in the first place?** |  |

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* 1. How does the concentration of pharmaceuticals detected in U.S. drinking water compare to the therapeutic dose of any of the pharmaceuticals?
	2. What are some examples of how pharmaceuticals dissolved in freshwater have affected fish?
	3. What happens to the active ingredients in a drug when you take it?
	4. Describe the path wastewater takes when it leaves your home, to when drinking water enters your home again.
	5. What did stream testing in 1999 and 2000 in the U.S. reveal?
	6. What are some drawbacks to using chlorine to disinfect wastewater?
	7. What are some of the methods scientists are working on to remove pharmaceuticals from drinking water?
	8. What are some pros and cons of using ozone as a water disinfectant?
	9. Describe the guidelines for disposing of unused medications.